CITY OF ANN ARBOR
ENGINEERING

2020 2021
SEWER LINING PROJECT

BID No. ITB 4693, FILE No. 2020039 & 2021006

PREPARED UNDER THE SUPERVISION OF

IGOR V. KOTLYAR, P.E. - MI LICENSE No. 43287
PROJECT ENGINEER

9/22/2021
DATE

STATE OF MICHIGAN — IGOR V. KOTLYAR ENGINEER No. 43287 — LICENSED PROFESSIONAL ENGINEER

Know what's below. Call before you dig. 811

NO	REV.	BID SET	DESCRIPTION	9-22-21	DATE	ARG	DRAWN	IVK	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-1

SHEET No. 1 OF 362

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:47:49 PM

CITY OF ANN ARBOR
ENGINEERING

2020 SEWER LINING PROJECT

BID No. ITB 4693, FILE No. 2020039

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, IT'S DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

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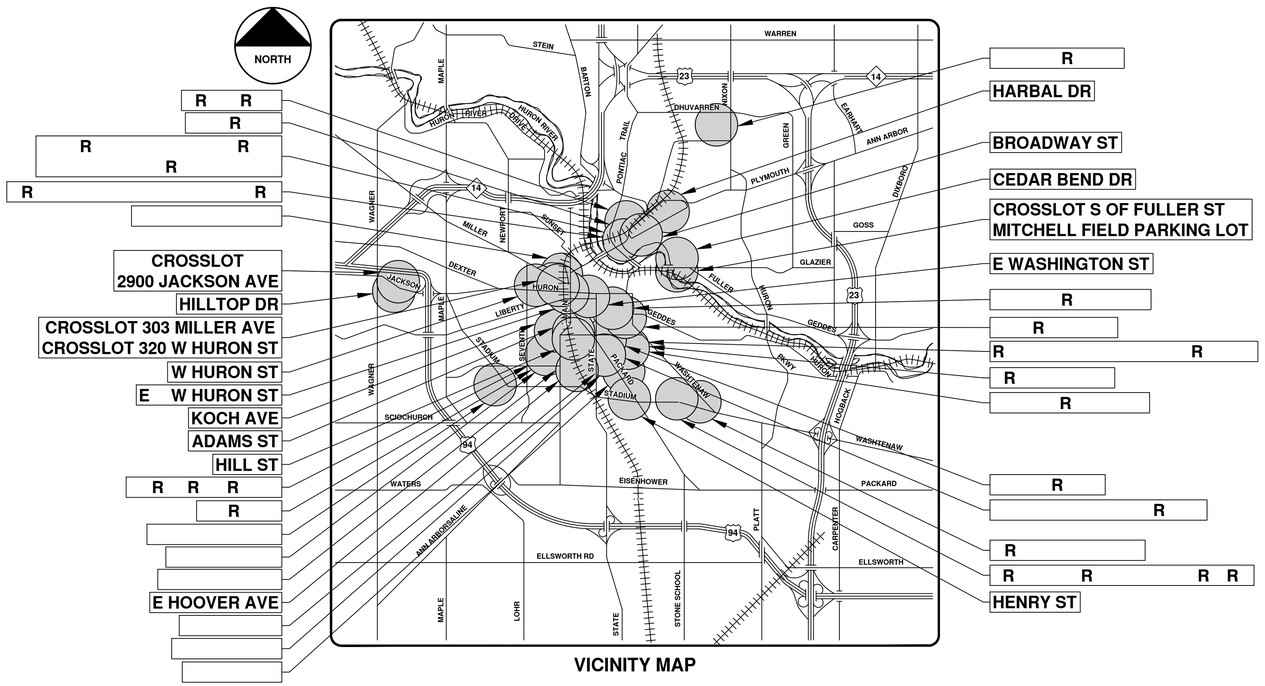

R R
R
R R
R
R R
CROSSLOT
2900 JACKSON AVE
HILLTOP DR
CROSSLOT 303 MILLER AVE
CROSSLOT 320 W HURON ST
W HURON ST
E W HURON ST
KOCH AVE
ADAMS ST
HILL ST
R R R
R
E HOOVER AVE

R
HARBAL DR
BROADWAY ST
CEDAR BEND DR
CROSSLOT S OF FULLER ST
MITCHELL FIELD PARKING LOT
E WASHINGTON ST
R
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R R
R R R R
HENRY ST

VICINITY MAP

Know what's below. Call before you dig. 811

00	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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301 EAST HURON STREET
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

PROJECT DESCRIPTION AND LIMITS

SCALE

DRAWING No.
2020039-2

SHEET No.
2 OF 362

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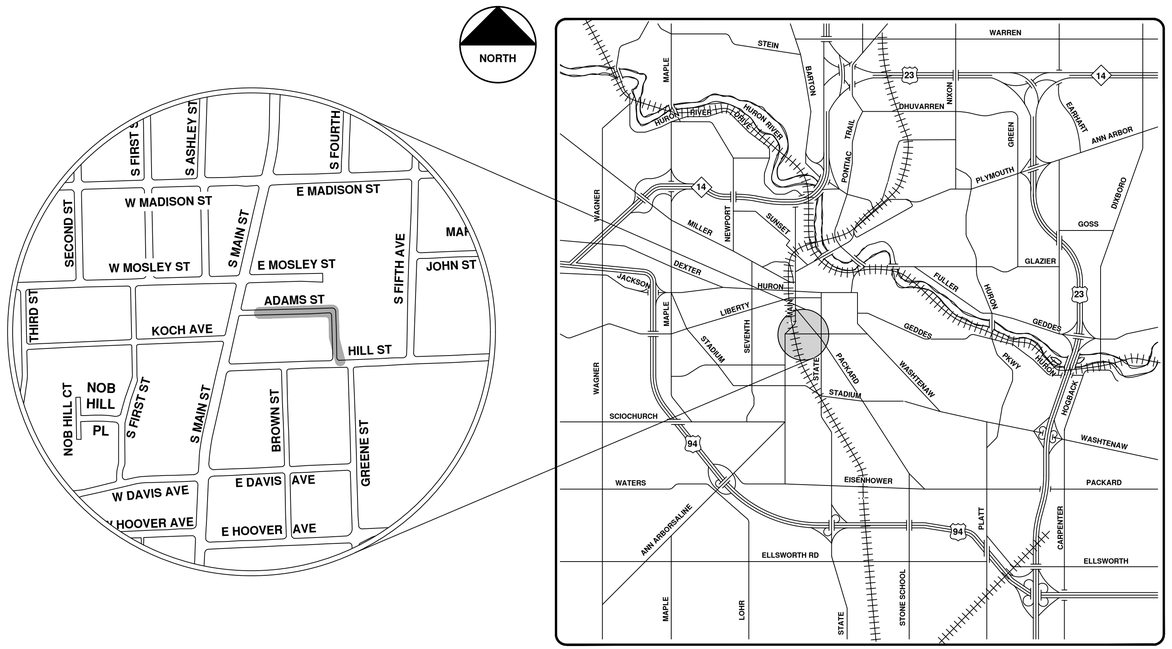
2020 SEWER LINING PROJECT

ADAMS ST



VICINITY MAP

811 Know what's below. Call before you dig.

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
	BID SET		9-22-21	ARG	IVK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-3

SHEET No. 3 OF 362

ENGINEERING
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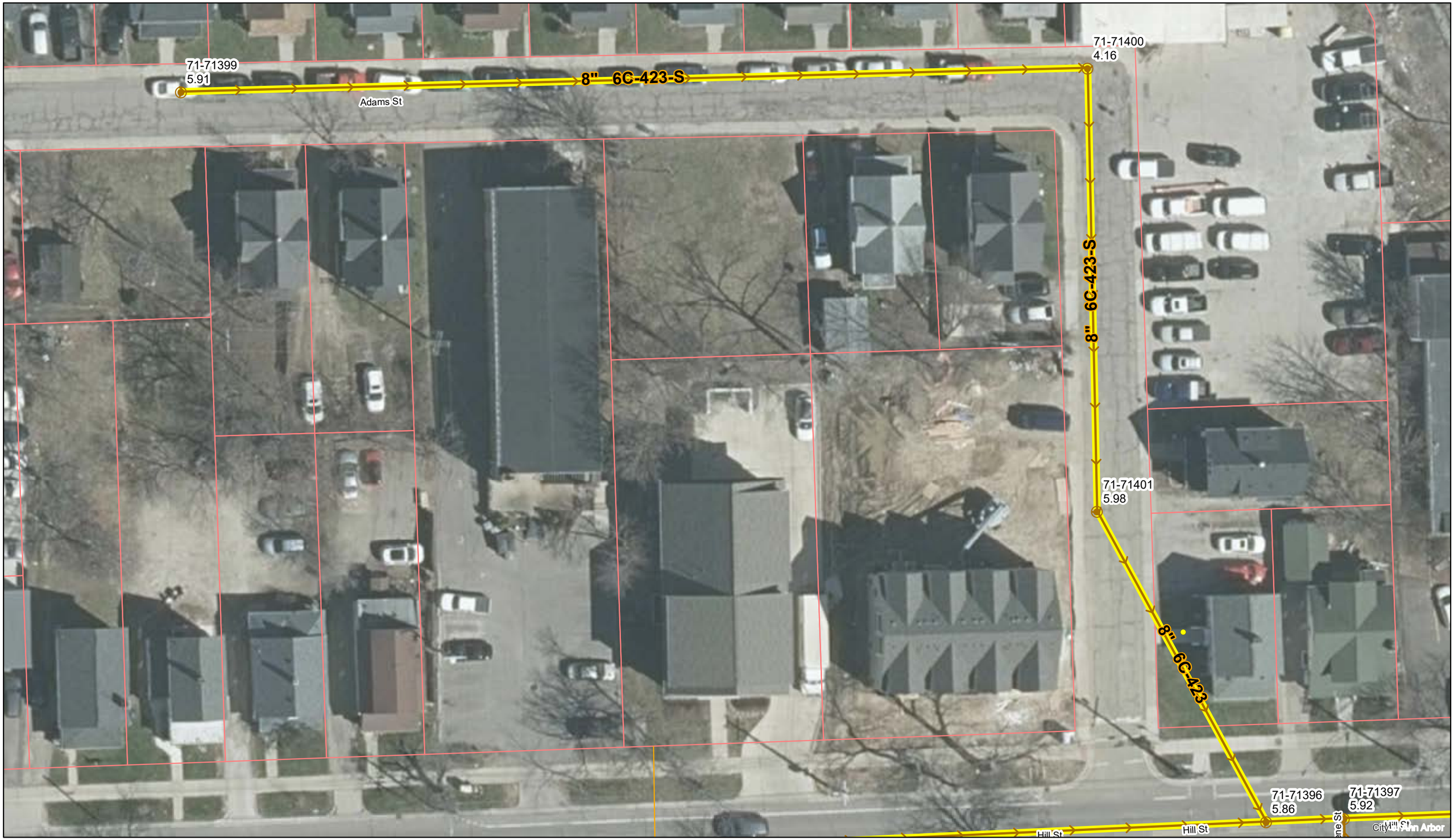

Adams St.

Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

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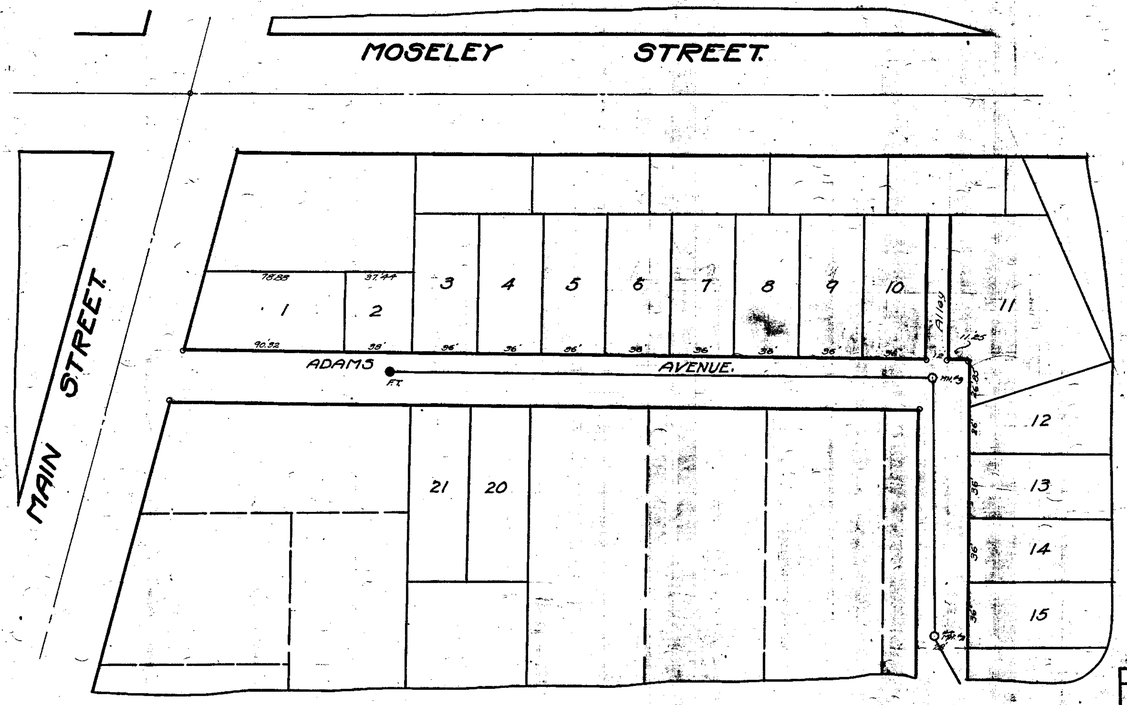
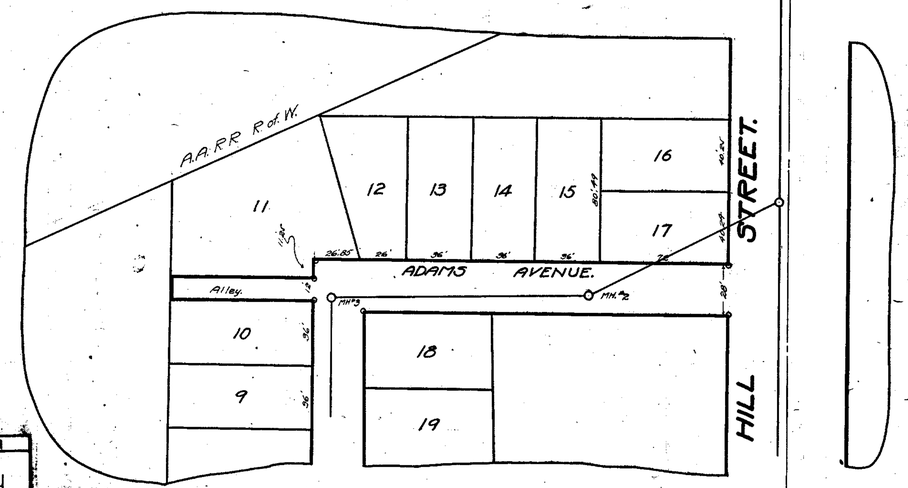




REFERENCE LINE FOR
TWO INCHES.
0 1 2
PHOTOGRAPHED DRAWINGS

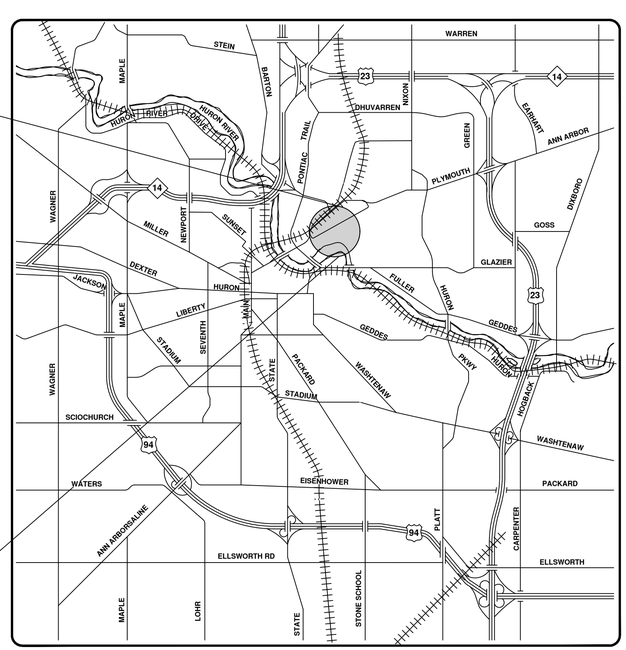
INDEX No.	1053
SHELF No.	6
SIZE	C
SUB No.	428
Drawn by	
Traced by	
Checked by	

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ADAMS AVE.
HILL ST. TO MAIN ST.
Geo. H. Sanderburgh, City Eng.
1918
Scales - Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

Digital Status
Scanned On: 4-7-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

BROADWAY ST



VICINITY MAP

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-6

SHEET No. 6 OF 362

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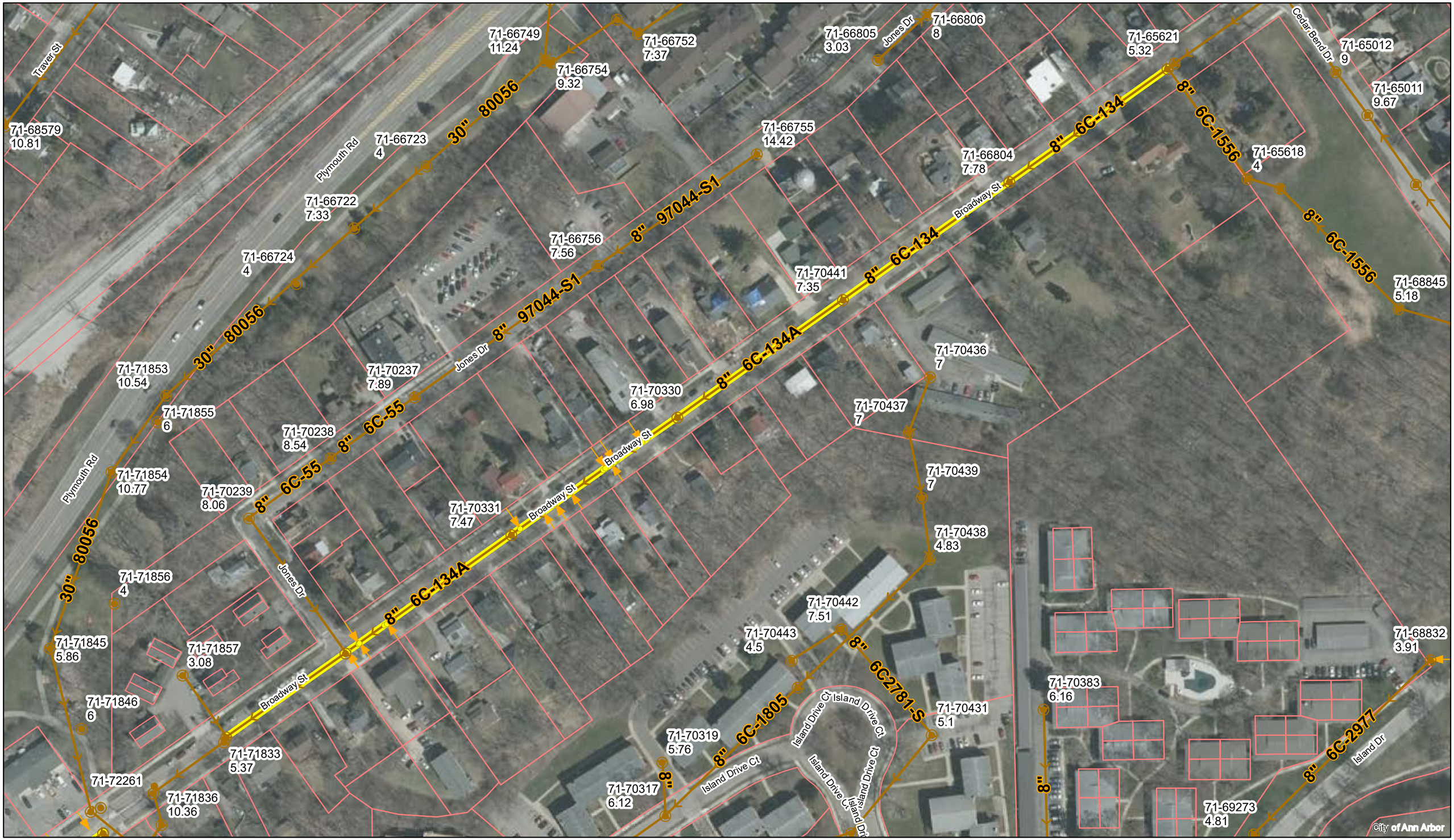
Broadway St.



City of Ann Arbor

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 65 130 260 390 520 Feet

N

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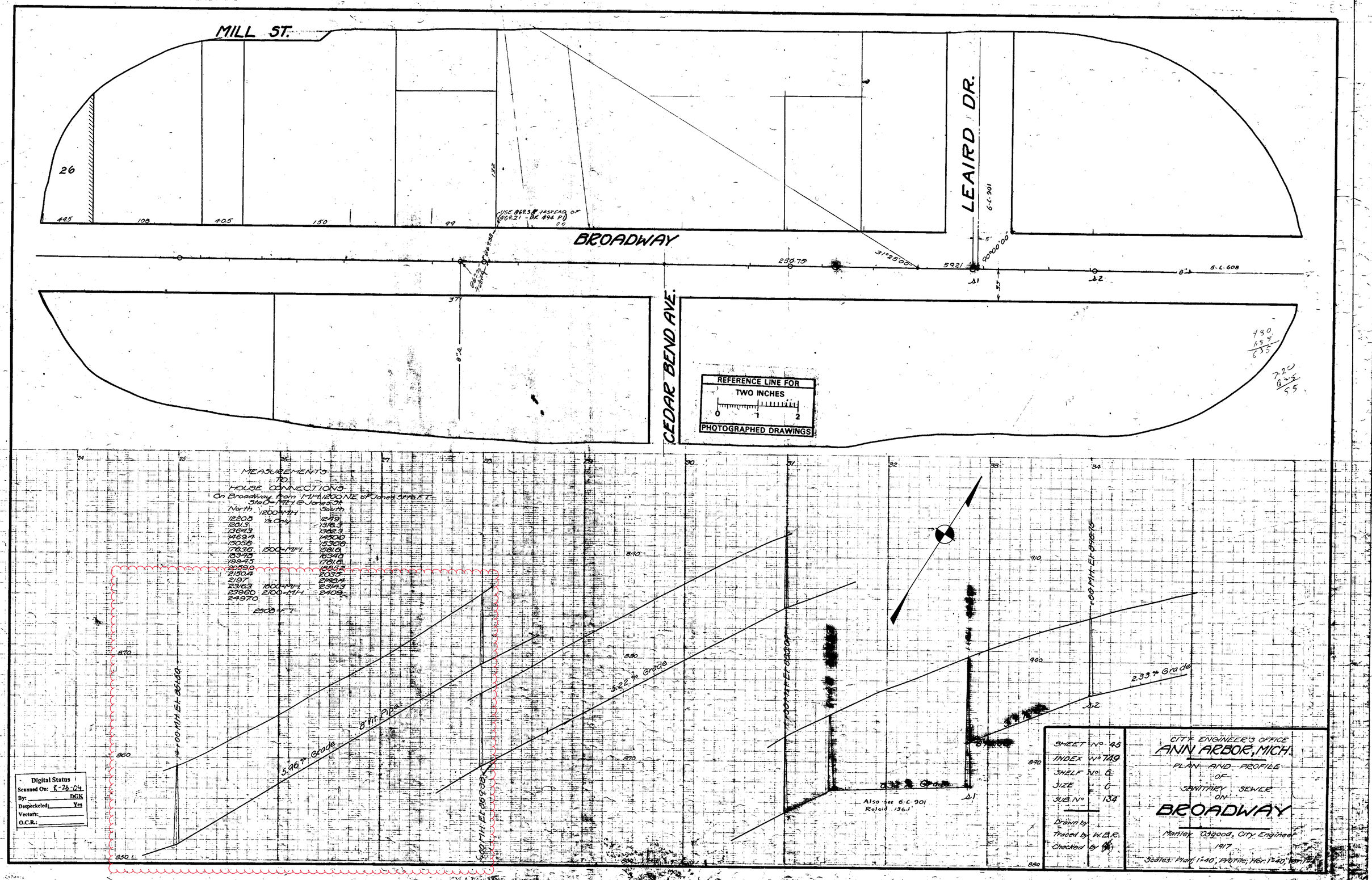
MILL ST.
LEAIRD DR.
BROADWAY
CEDAR BEND AVE.
26
44.5
108
40.5
150
99
USE 869.38 INSTEAD OF (869.21 - BK 494 P1)
250.75
31°25'00"
59.21
90°00'00"
6-L-901
6-L-608
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
MEASUREMENTS
TO
HOUSE CONNECTIONS
On Broadway from M.H. 1200 N.E. of Jones St. to F.T.
Sta. 0 = M.H. @ Jones St.
North 1200 = M.H. South
1220.8 1249
1281.3 Ys. Only 1318.3
1364.3 1382.3
1469.4 1450.0
1505.6 1530.6
1763.6 1500 = M.H. 1561.6
1834.8 1634.0
1994.5 1761.6
2059.0 1885.2
2150.4 2035
2197 2148.4
2316.3 1800 = M.H. 2314.3
2396.0 2100 = M.H. 2409
2497.0
2508 = F.T.
5.96% Grade
8" Vit. Pipe
5.22% Grade
2.33% Grade
Also see 6-L-901
Relaid 136.1'
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No. 45
INDEX No. 749
SHELF No. 6
SIZE C
SUB. No. 134
Drawn by
Traced by W.B.R.
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
BROADWAY
Manley Osgood, City Engineer
1917
Scales: Plan 1"=40', Profile, Hor. 1"=40', Ver. 1"=4'

MILL STREET

TRAVER'S ADDITION

JONES ST.

BROADWAY

48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26
49.5	49.5																				49.5	49.5
29.75	181.5																				181.5	
49.5	49.5																					

33 33 33

54	55	56	57	58	59	60	61	62	63	64	65	66	67
172	132	99	66	99	33 33	66						66	132

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS On Broadway from Jones St NE

North		South
290	To Only	10
754		123.3
1383		190.3
1801		211.0
2915		273.5
300	900-MH	209.5
3110		352.5
3783		406.8
4020		510.2
4946		519.2
5423		707.9
600	600-MH	604.9
6256		655.6
7362	900-MH	900
8374		959
8613		1022
9760		1098.5
10579		1151
11025	1200-MH	1200

100 MH El 779.6

8" Vit. Pipe

3.86 % Grade

100 MH El 775.38

100 MH El 809.81

5.59 % Grade

100 MH El 823.63

7.07 % Grade

8" Vit. Pipe

8.0 % Grade

8" Vit. Pipe

Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

SHEET No 44
INDEX No 748
SHELF No 6
SIZE C
SUB No 134A

Drawn by
Traced by W.B.R.
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
BROADWAY
Manley Osgood, City Engineer
1917
Scales: Plan 1"=40'; Profile; Horiz 1"=30' Ver. 1"=4'

Broadway St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)
1.00 (Manhole Depth)

Feet
0 20 40 80 120 160

N

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City of Ann Arbor

BROWN AND FULLER'S ADDITION

BROADWAY

MOORE ST.

WALL ST.

MAIDEN LANE

TRAVER'S SUB'D OF BROWN AND FULLER'S ADD.

TRAVER'S ADD.

TRAVERS CREEK

FIELD VERIFIED PIPE NOT BULKHEADED

6-C-345

18" (81046-S3)

BULKHEADED

62.5' TO ℄ CULVERT

LIGHTHOLE

SEE G.W. 1293

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

0 1 2 3 4 5 6 7 8 9 10 11 12

10" Vit. Pipe

?0.19% .5% Grade

?10" 8" Vit. Pipe

?0.42% 4.2% Grade

2.9% Grade

3.5% Grade

Culvert

+03 MH El. 766.40

+00 MH El. 766.90

+28 MH El. 767.40

+56.6 MH. El. 768.77

+56.6 L.H. El. 767.60

+17 MH El. 769.80

MEASUREMENTS TO HOUSE CONNECTIONS
On Broadway from Wall St to Culvert at Traver's Creek
Sta. 0 = MH @ Wall St.

East	Ys Only	West
149.5		36.5
177.5		75.0
197.6	1976 = MH	111.8
327.9		147.5
379.0		248.0
416.2		276.4
457.3		350.6
505.5		395.1
572.5		466.5
656.5	525 = MH	525
724.8		597
788.1	8536 = MH	679.5
		790.1

From Culvert at Traver's Creek To Jones St.
Sta. 0 = MH East of Creek

22.5	24.0
62.3	103.0
141.5	281.0
256.0	

3484 = MH

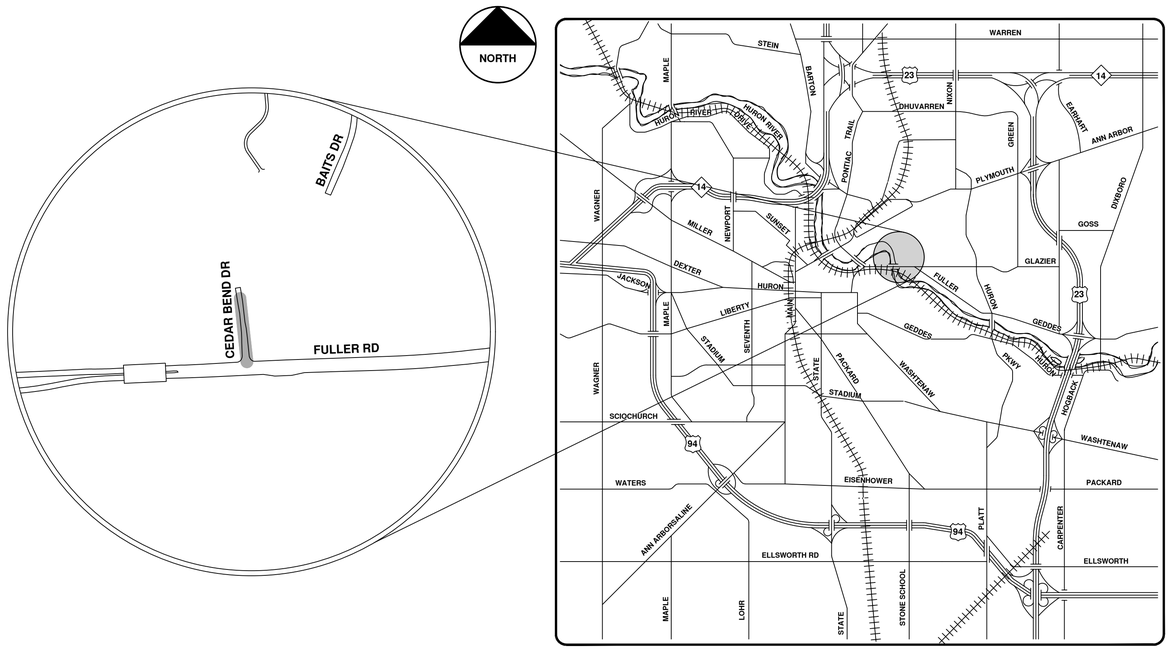
SHEET N°	43
INDEX N°	747
SHELF N°	6
SIZE	C
SUB N°	133
Drawn by	
Traced by	W.B.R.
Checked by	

REV. JJM 2/26/03

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
BROADWAY
FROM WALL ST. NORTH
Manley Osgood, City Engineer
1917-3-19
Scales: Plan; 1"=40', Profile, Hor. 1"=40', Ver. 1"=4'

2020 SEWER LINING PROJECT

CEDAR BEND DR



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-12

SHEET No. 12 OF 362

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71-68957
11

8" 6C-1674-S

Cedar Bend Dr

71-68953
8.87

Fuller Rd

Fuller Rd

Fuller Rd

71-68950
11.51

15" 90032-S1

15" 90032-S1

City of Ann Arbor

Cedar Bend Dr.

N

Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)
1.00 (Manhole Depth)

Feet
0 15 30 60 90 120

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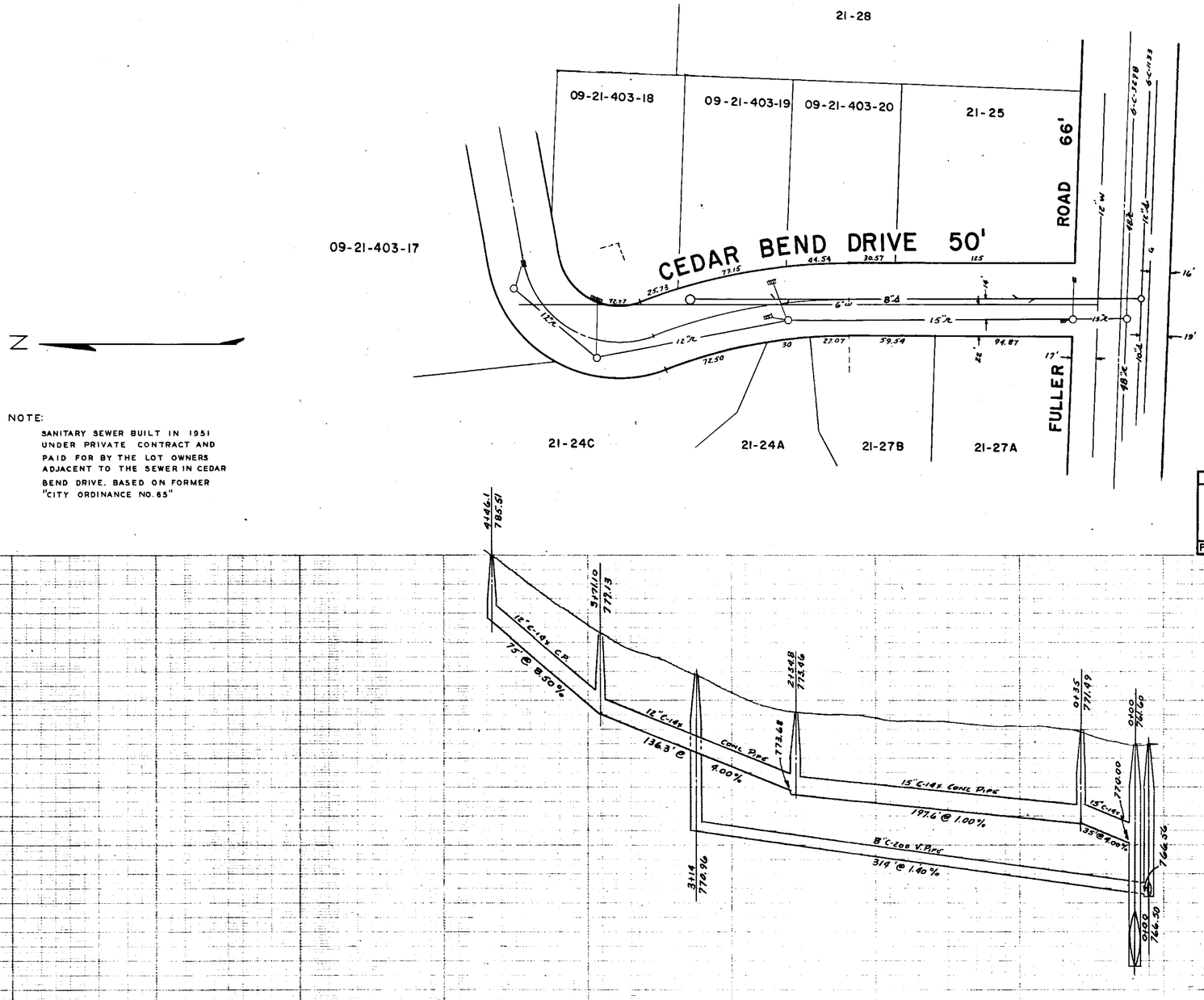


NOTE:
SANITARY SEWER BUILT IN 1951 UNDER PRIVATE CONTRACT AND PAID FOR BY THE LOT OWNERS ADJACENT TO THE SEWER IN CEDAR BEND DRIVE. BASED ON FORMER "CITY ORDINANCE NO. 65"

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 4/21/05
By: JJM
Despeckeled: YES
Vectors:
O.C.R.:

	DATE	SHEET NO.
DR. BY d.	12-64	INDEX NO. 3453
TR. BY		SHELF NO.
CH. BY		6-C-1674
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'

SANITARY AND STORM SEWERS

CEDAR BEND DRIVE

FULLER ROAD NORTHERLY

FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

LEGEND:		
UNDERGROUND UTILITIES	EXISTING SANITARY; PROPOSED SANITARY; EXISTING STORM; PROPOSED STORM; EXISTING GAS; EXISTING WATER	
PROFILES	CENTER LINE; LEFT PROPERTY LINE; RIGHT PROPERTY LINE	

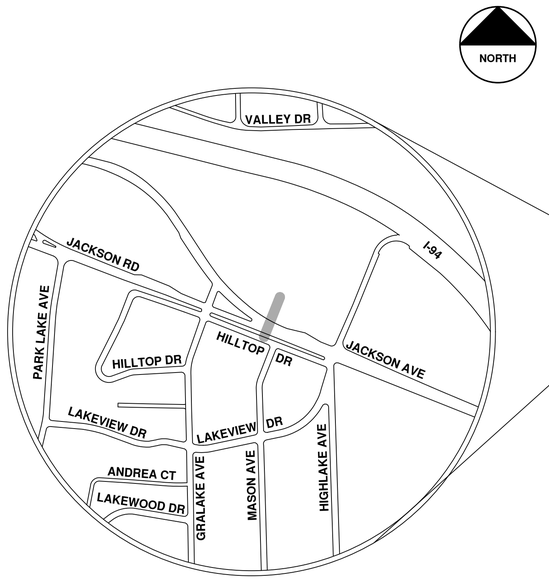
REFERENCES: BENCH MARK ____ PROFILES BY ____
DRAWINGS ____ FIELD BOOK 842

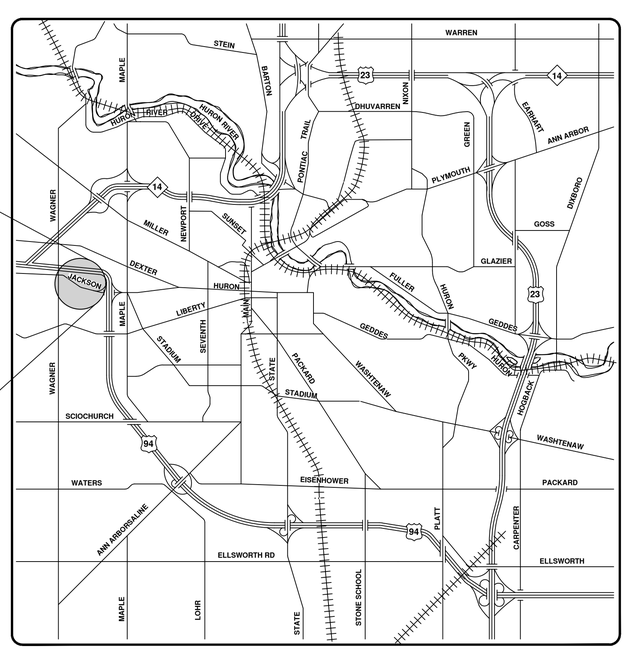
JOB ____ DIST. ____
JOB ____ DIST. ____
JOB ____ DIST. ____
JOB ____ DIST. ____

PREPARED BY
APPROVED BY

2020 SEWER LINING PROJECT

CROSSLOT 2900 JACKSON AVE





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-15

SHEET No. 15 OF 362

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71-67023
7.88

8" 6C-2722-S

Jackson Rd

Jackson Rd

Jackson Ave

8" 6C-2722

8" 6C-5671-S

Hilltop Dr

Mason Ave

Hilltop Dr

8" 6C-1875-S;R

City of Ann Arbor

Crosslot 2900 Jackson Ave.

N

CITY OF ANN ARBOR MICHIGAN

Manhole

Sanitary Main

Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

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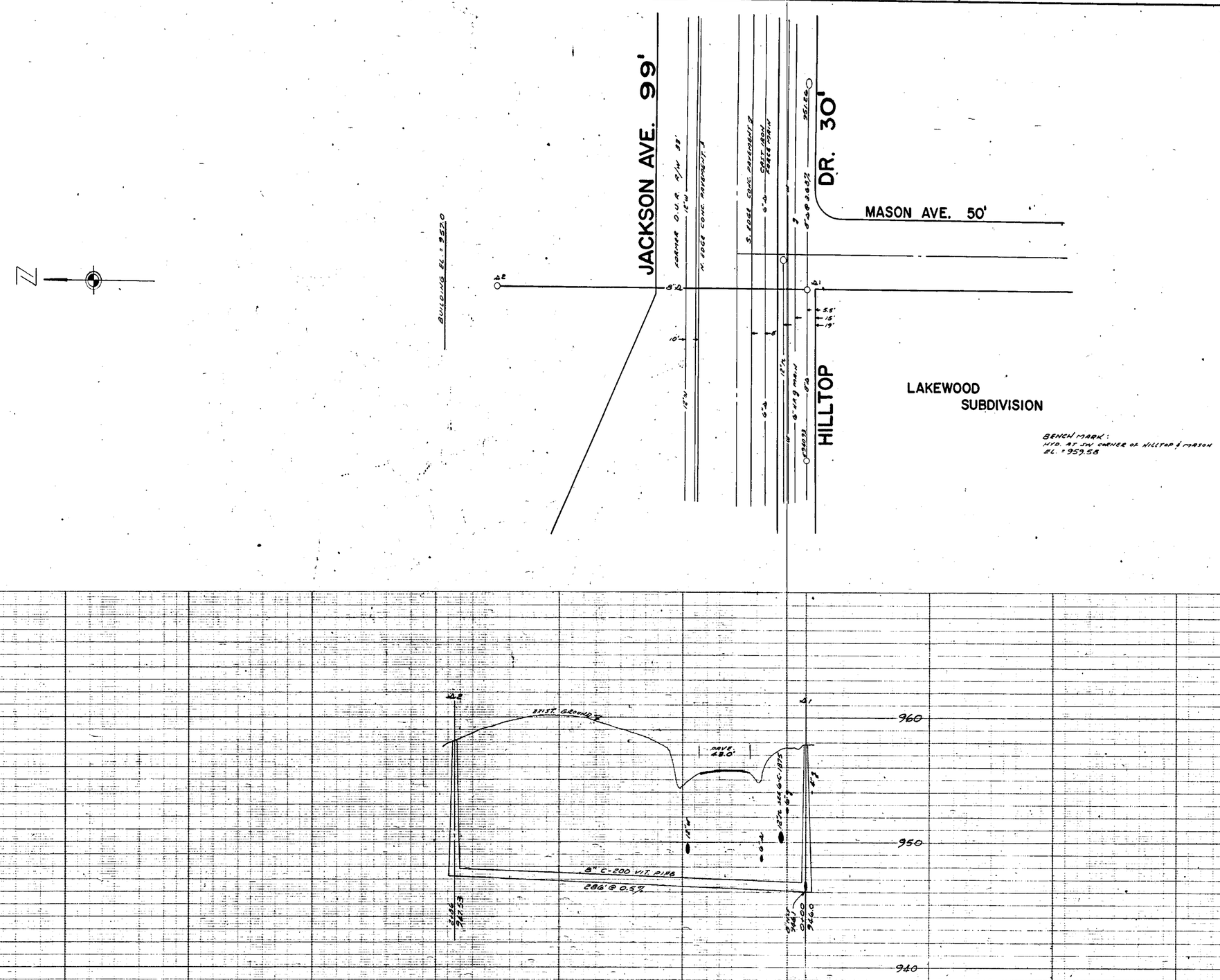


REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

PREPARED BY ATWELL-HICKS, INC.

	DATE	SHEET NO.
DR. BY W.B.M.	6/61	INDEX NO. 4691
TR. BY W.B.M.	6/61	SHEET NO.
CH. BY T.H.	6/61	6-C-2722
REVISIONS AS BUILT JUNE 1962		SCALE: HORIZONTAL 1" = 40 VERTICAL 1" = 4

SANITARY SEWER

CROSSLOTS

HILLTOP DR. TO HOLIDAY INN

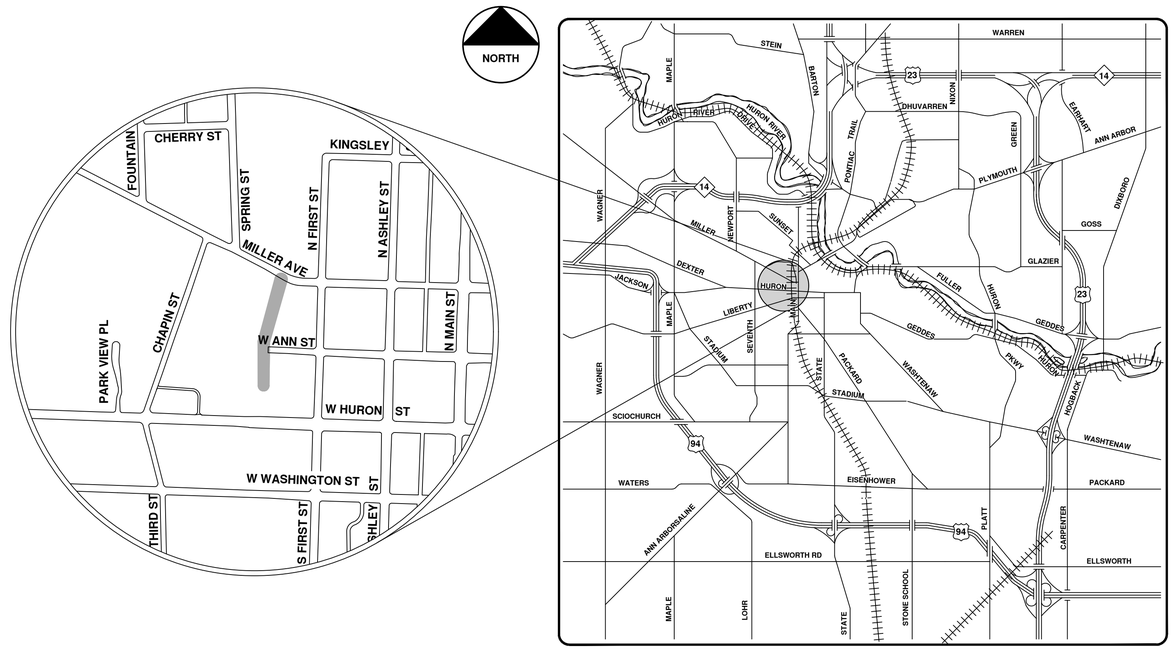
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

Digital Status
Scanned On: 6-3-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

CROSSLOT 303 MILLER AVE
CROSSLOT 320 W HURON ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-18

SHEET No. 18 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:48:19 PM

Crosslot 303 Miller Ave.
Crosslot 320 W Huron St.

N

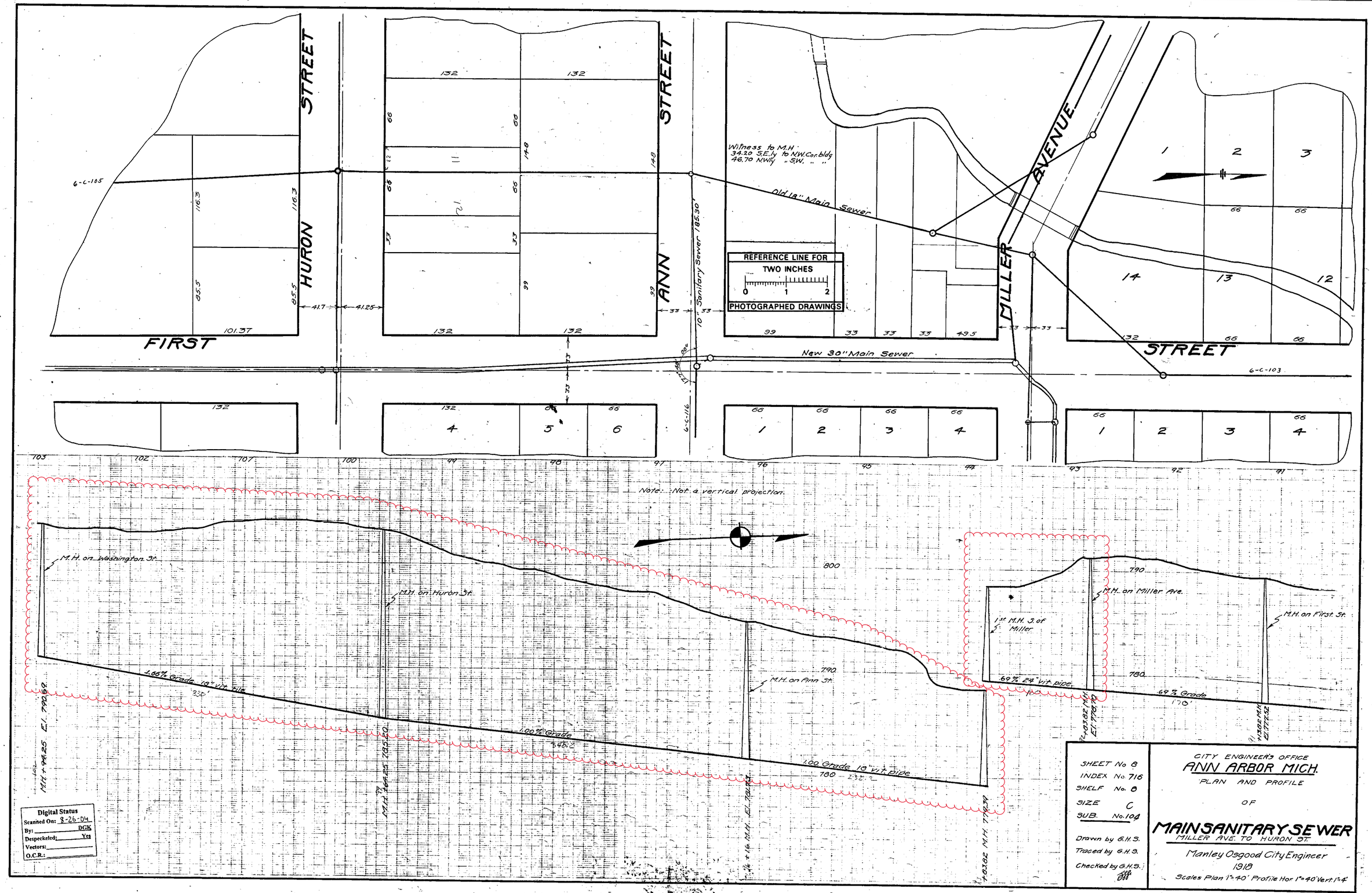
Manhole
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

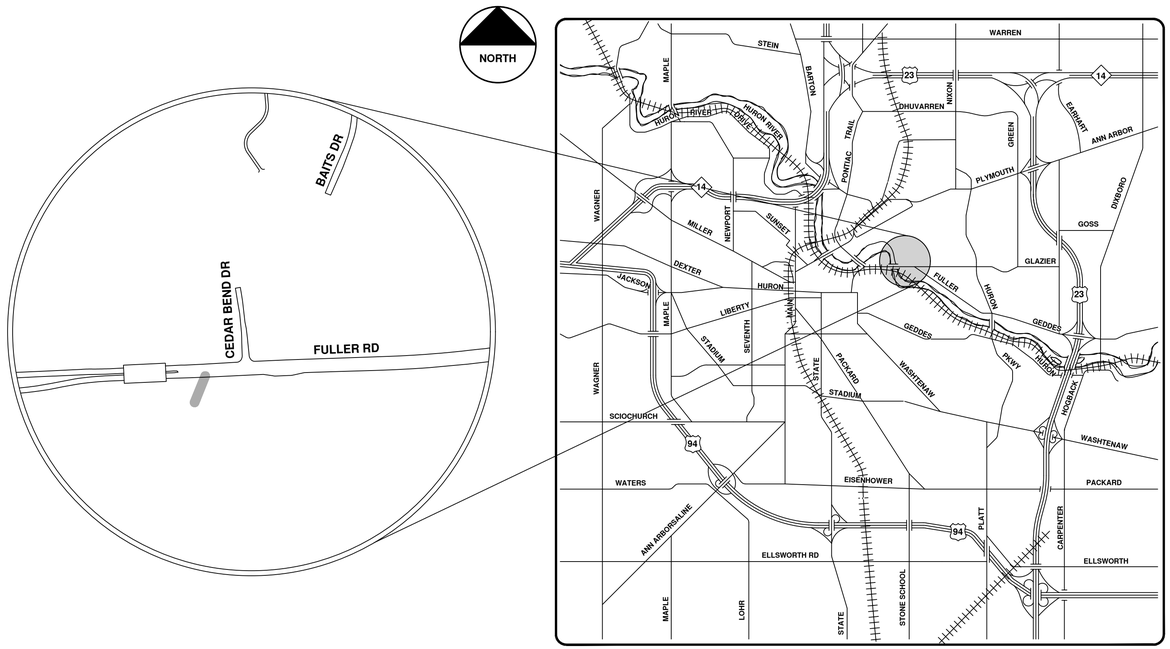
0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms


FIRST STREET
HURON STREET
ANN STREET
MILLER AVENUE
STREET
Witness to M.H.
34.20 S.E.ly to N.W.Cor.bldg
46.70 N.Wly " S.W. " "
Old 18" Main Sewer
New 30" Main Sewer
10" Sanitary Sewer 185.30'
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
6-C-105
6-C-103
6-C-116
Note: Not a vertical projection.
M.H. on Washington St.
M.H. on Huron St.
M.H. on Ann St.
M.H. on Miller Ave.
M.H. on First St.
1st M.H. S. of Miller
1.66% Grade 18" vit. tile
1.00% Grade
1.00 Grade 18" vit. pipe
.69% 24" vit. pipe
.69% Grade
M.H. +94.25 El. 790.69
M.H. +64.25 785.20
+16 M.H. El. 781.73
+83.82 M.H. 779.39
+83.82 M.H. El. 778.70
+13.82 M.H. El. 777.52
SHEET No. 8
INDEX No. 716
SHELF No. 8
SIZE C
SUB. No. 104
Drawn by G.H.S.
Traced by G.H.S.
Checked by G.H.S.
CITY ENGINEER'S OFFICE
ANN ARBOR MICH.
PLAN AND PROFILE
OF
MAIN SANITARY SEWER
MILLER AVE. TO HURON ST.
Manley Osgood City Engineer
1918
Scales Plan 1"=40' Profile Hor 1"=40' Vert 1"=4'
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

CROSSLOT S OF FULLER ST
MITCHELL FIELD PARKING LOT



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-21

SHEET No. 21 OF 362

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Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Crosslot S of Fuller St.
Mitchell Field Parking Lot

0 20 40 80 120 160 Feet

N

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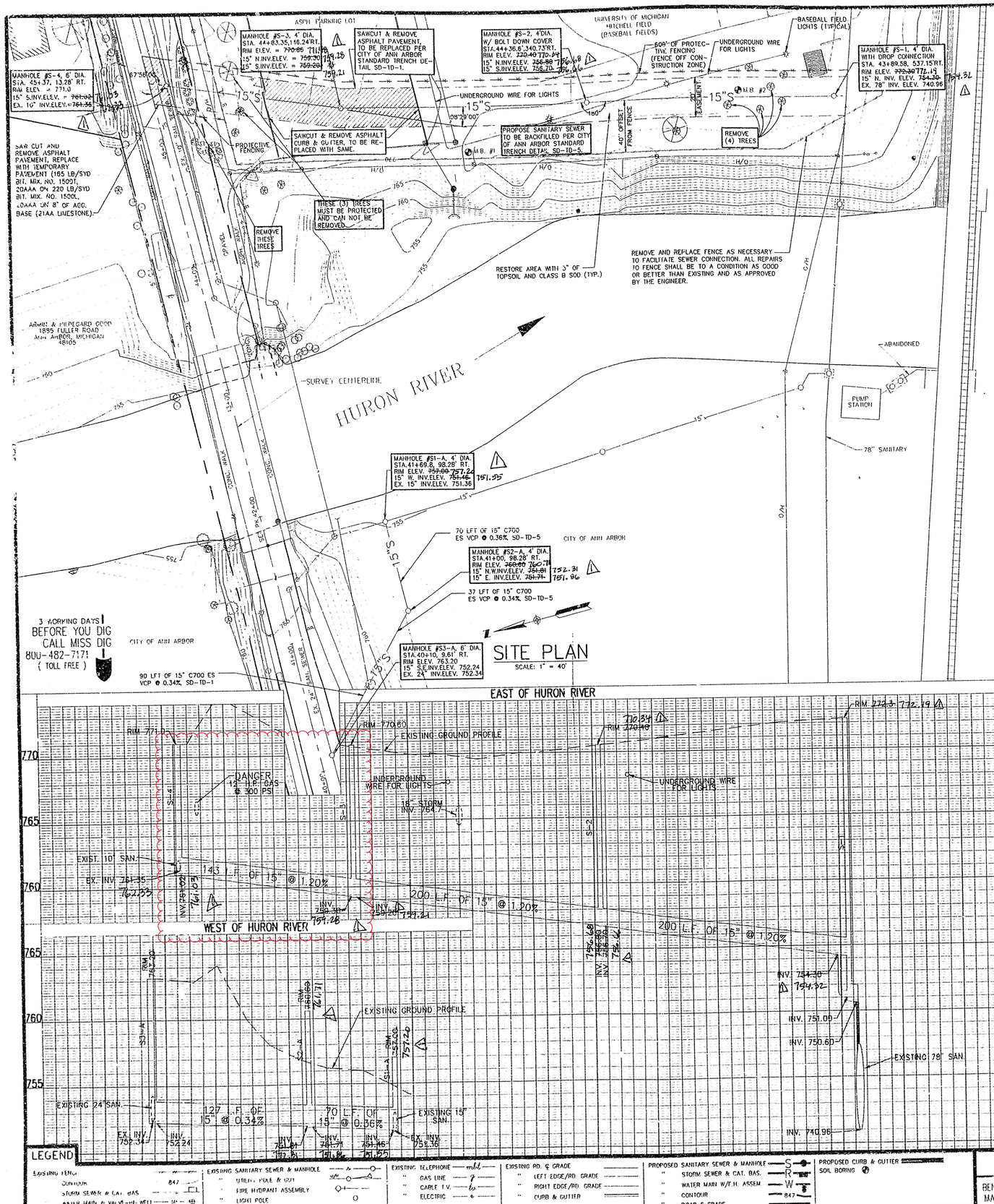
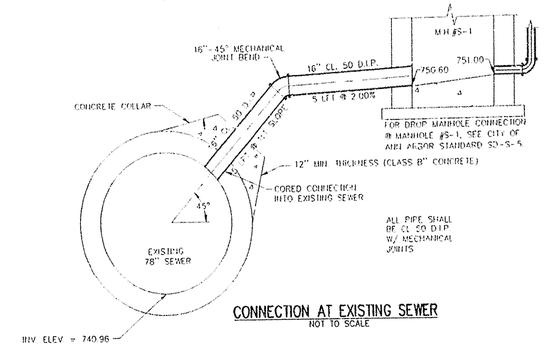




CONNECTION AT EXISTING SEWER
NOT TO SCALE

NOTE
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

GRAPHIC SCALE
TWO INCHES
0 1 2

SUMMARY OF SANITARY SEWER QUANTITIES

ITEM	PAY UNIT	QUANTITY	NOTES
TYPE I MANHOLE (0-10' DEEP)	EACH	5	4' DIAMETER STRUCTURES ANN ARBOR STANDARD SD-S-1
TYPE I MANHOLE ADDITIONAL DEPTH	LFT	14	
TYPE II MANHOLE 6' DIA (0-10' DEEP)	EACH	2	ANN ARBOR STANDARD SD-S-2
TYPE II MANHOLE 6' DIA ADDITIONAL DEPTH	LFT	1	
C700 ES VCP, 15" DIA. SD-1D-1	LFT	265	UNDER PROPOSED AND EXISTING PAVEMENTS
C700 ES VCP, 15" DIA, SD-1D-5	LFT	475	
DROP CONNECTION 8" DIA	LFT	3.3	ANN ARBOR STANDARD SD-S-5
SEWER TAP, 78"	EACH	1	PAY ITEM INCLUDES ALL FITTINGS D.I.P., MATERIALS EQUIPMENT AND LABOR
PROTECTIVE FENCING	LFT	600	
TOPSOIL SURFACE, 3"	SYD	1000	
CLASS B SODDING	SYD	1000	

NOTES:

1. ALL SANITARY SEWER WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS APPLICABLE UNLESS OTHERWISE INDICATED IN THE PLANS OR SPECIFICATIONS. PAY ITEMS SHALL BE PER CITY OF ANN ARBOR P.S.D. DESCRIPTIONS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED.
2. 15" DIA. PIPE SHALL BE V.C.P. IN ACCORDANCE WITH ASTM C700, EXTRA STRENGTH WITH COMPRESSION JOINTS CONFORMING TO ASTM C425.
3. ALL MANHOLES SHALL BE PRECAST REINFORCED CONCRETE SECTIONS AS SPECIFIED IN THE CITY OF ANN ARBOR D.P.S. STANDARD SPECIFICATIONS WITH APPROVED PIPE TO MANHOLE CONNECTION DEVICES.
4. SEWER TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF ANN ARBOR D.P.S. SPECIFICATIONS.
5. ALL STATION AND OFFSET ARE FROM SURVEY CENTERLINE.
6. ALL MANHOLE COVERS SHALL BE E.J.I.W. 1040 WT AND SHALL BE INCLUDED IN THE PAY ITEM FOR THE RESPECTIVE MANHOLE STRUCTURE.
7. THE CONTRACTOR SHALL SHEET AND SHORE AS NECESSARY TO KEEP THEIR CONSTRUCTION ACTIVITIES WITHIN THE CONSTRUCTION ZONE AS SHOWN ON THE PLANS.
8. THE CONTRACTOR SHALL PERFORM HIS OPERATIONS SUCH THAT DISRUPTION TO THE MITCHELL FIELD IS MINIMIZED. THE WORK AREA SHALL BE CLEANED DAILY BY REMOVING STOCKPILES OF EXCAVATED MATERIAL AND SHALL BE MADE SAFE FOR USERS OF THIS AREA.
9. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THE AREA BETWEEN THE EXISTING FENCE AND THE TEMPORARY CONSTRUCTION FENCE.
10. THE EXCAVATED AREA FOR THE SEWER TRENCH MUST BE RESTORED IMMEDIATELY UPON COMPLETION OF ALL SEWER TESTING WITH 3" OF TOPSOIL AND CLASS B SOD.
11. THE CONTRACTOR MUST MAINTAIN AT LEAST ONE LANE OF THROUGH TRAFFIC AT ALL TIMES DURING THE "TIE IN" OF THE PROPOSED SEWER IN FULLER ROAD.

LEGEND

EXISTING FENCE
CONTOUR 847
STORM SEWER & CAT. BAS.
WATER MAIN & VALVE-IN-WELL
WATER MAIN & VALVE-IN-BOX
EXISTING SANITARY SEWER & MANHOLE
UTILITY POLE & GUY
FIRE HYDRANT ASSEMBLY
LIGHT POLE
END SECTION
EXISTING TELEPHONE mtl
GAS LINE g
CABLE T.V. tv
ELECTRIC e
EXISTING RD. & GRADE
LEFT EDGE/RD. GRADE
RIGHT EDGE/RD. GRADE
CURB & GUTTER
PROPOSED SANITARY SEWER & MANHOLE S
STORM SEWER & CAT. BAS. R
WATER MAIN W/F.H. ASSEM W
CONTOUR 847
ROAD & GRADE
PROPOSED CURB & GUTTER
SOIL BORING

BENCH MARK	SURVEY BOOK

REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
		3-93	J.C.R.	C.S.
1	As Built	8/94	D.P.E.	

S.D.A. FILE NO.: RB930108

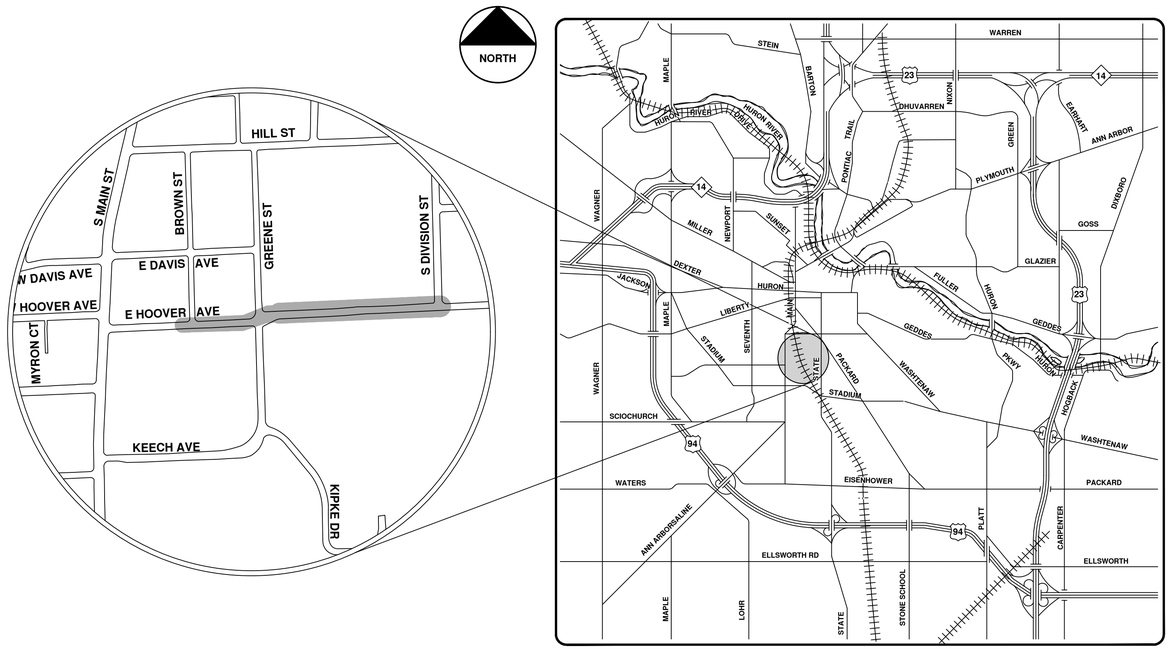
ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

FULLER ROAD BRIDGE over the HURON RIVER
PHASE I
SANITARY SEWER DETAILS

SCALE HORIZ. 1"=40' VERT. 1"=4'
INCH 0 1
DRAWING NO. 92050-SS-1
SHEET NO. 8 OF 36

2020 SEWER LINING PROJECT

E HOOVER AVE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO.	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-24

SHEET No. 24 OF 362

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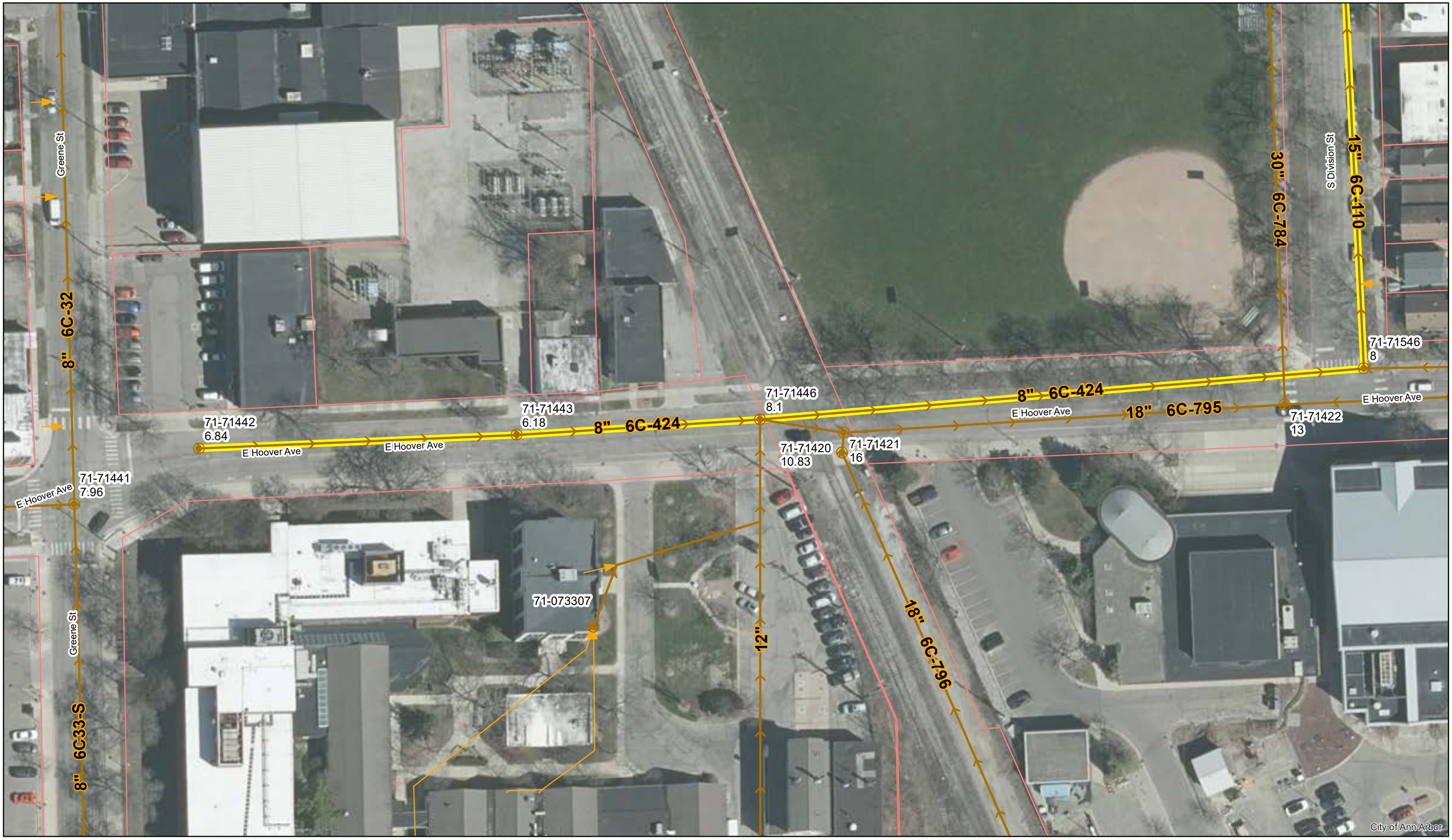


E Hoover Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

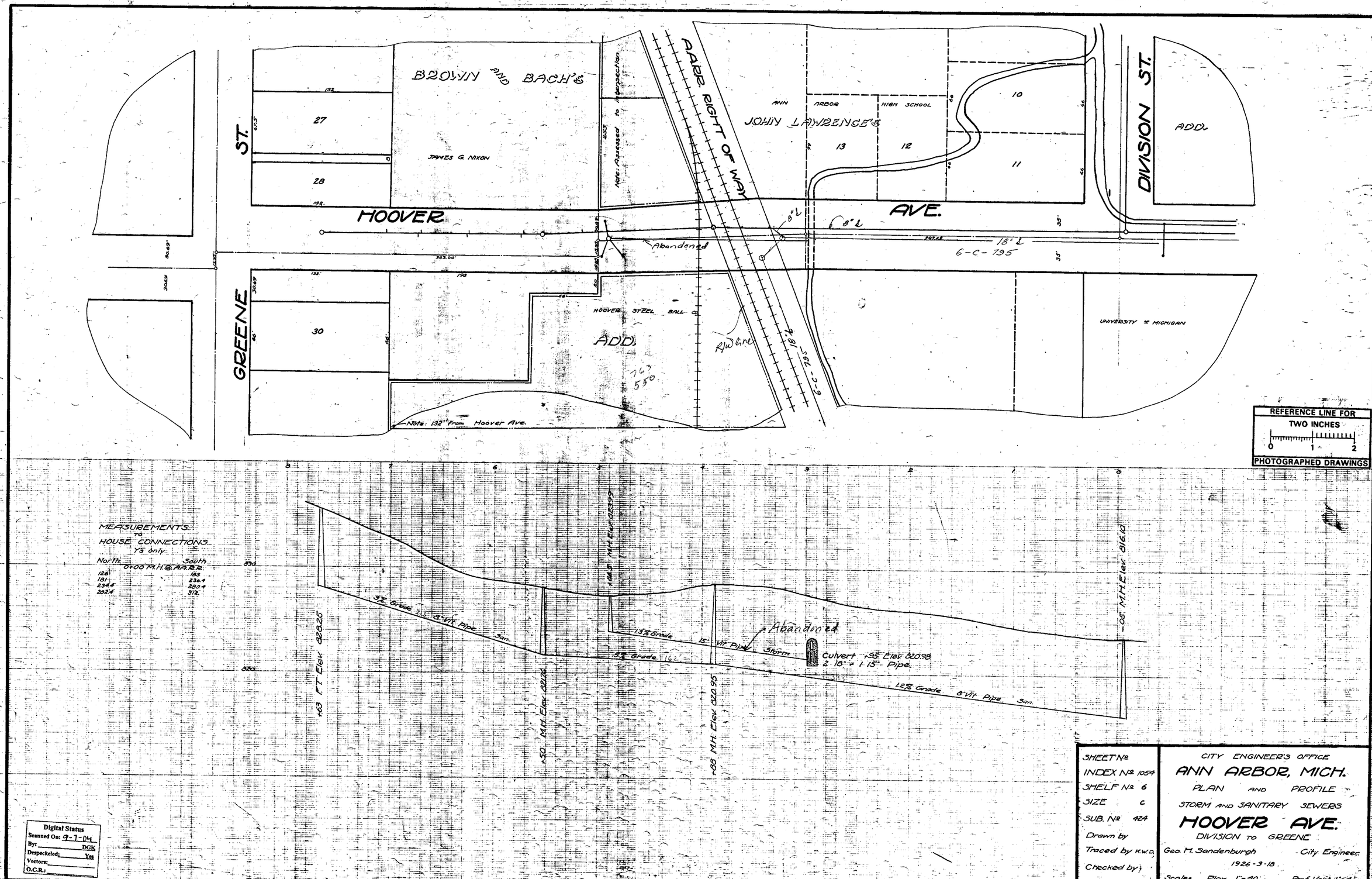
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

For terms and conditions please visit www.a2gov.org/terms

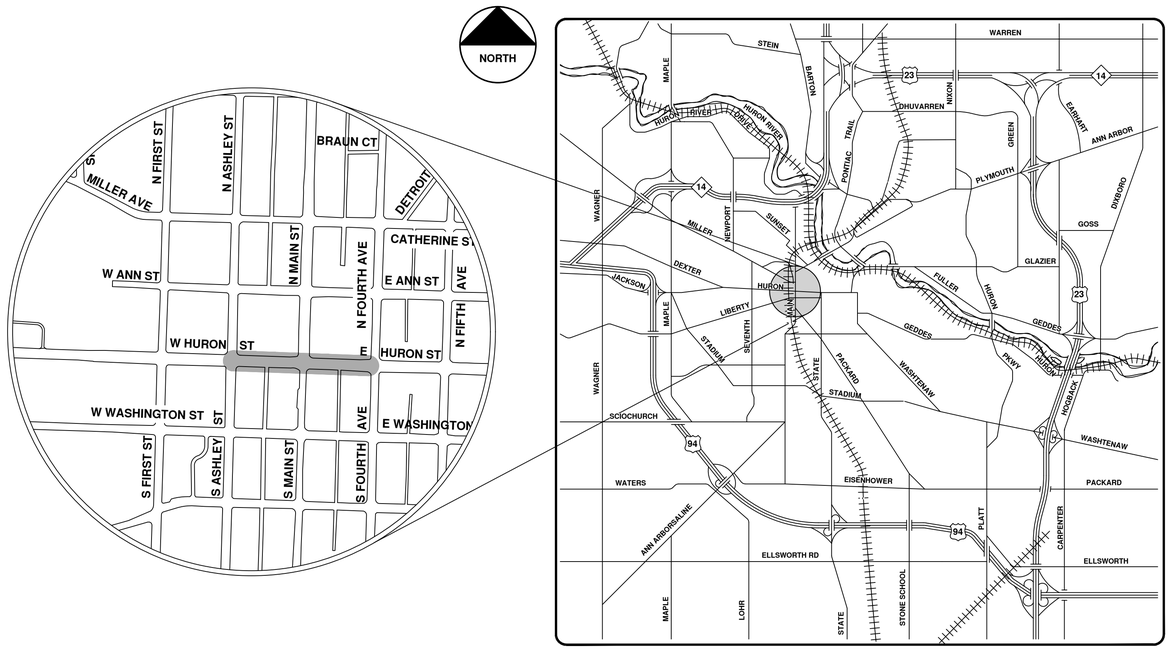


SHEET No.	CITY ENGINEER'S OFFICE
INDEX No. 1054	ANN ARBOR, MICH.
SHELF No. 6	PLAN AND PROFILE
SIZE C	STORM AND SANITARY SEWERS
SUB. No. 424	HOOVER AVE.
Drawn by	DIVISION TO GREENE
Traced by K.W.D.	Geo. H. Sandenburgh City Engineer
Checked by	1926-3-18
	Scales Plan 1"=40' Prof. Vert. 1"=4'

Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

E W HURON ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO.	REV.	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
				9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-27

SHEET No. 27 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:48:34 PM

E & W Huron St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

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BIN R2E

BIN R3E

BIS. R2E

BIS. R3E.

BIS. R4E.

HURON ST.

FIRST ST.

ASHLEY ST.

MAIN ST.

FOURTH AVE.

COURT HOUSE SQUARE.

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

BULKHEAD SEE 6-C-777

6-C-221

Measurements to house connections

0.0 at Main Sewer Manhole			0.0 Main St. Sewer	
North		South	North	South
47.8		96.3	15.75 Manhole	82.4
111.7		99.0		92.4
113.7		100.5		93.5
0.0 First St. Manhole				113.2
76.5		75.4		122.5
110.7		123.4		142.5
170.4		147.5		162.5
208.6		171.1		182.4
235		176.9		202.4
264.2		251.9		242.4
0.0 Ashley St. Manhole				262.4
56		39		282.4
85		94		302.4
113.3		117.8		322.4
141.5		174.6		342.4
169.1		195		362.4
198.3		222.7		
229		266.5		
251				
278.9				

BENCH MARKS (U.S.G.S.)
Plate @ SE corner Court House 842.80
Hyd. @ x of Huron and First St. 81.639

M.H. at Main Sewer 783.21
10" Vit. Pipe
10.5 % Grade
E First St.
+20.5 M.H. 809.21
10" Vit. Pipe
+23 % Grade
+69.7 L.H.
+82.5 L.H.
+99.5 L.H.
+126.0 M.H. 818.21
10" Vit. Pipe
1.3 % Grade
+57.60 E Main
+72.60 M.H. 823.86
+92.6 L.H.
+99.82 M.H. 828.12

Digital Status
Scanned On: 5-27-04
By: DGK
Despeckled: Yes
Vectorn
O.C.R.:

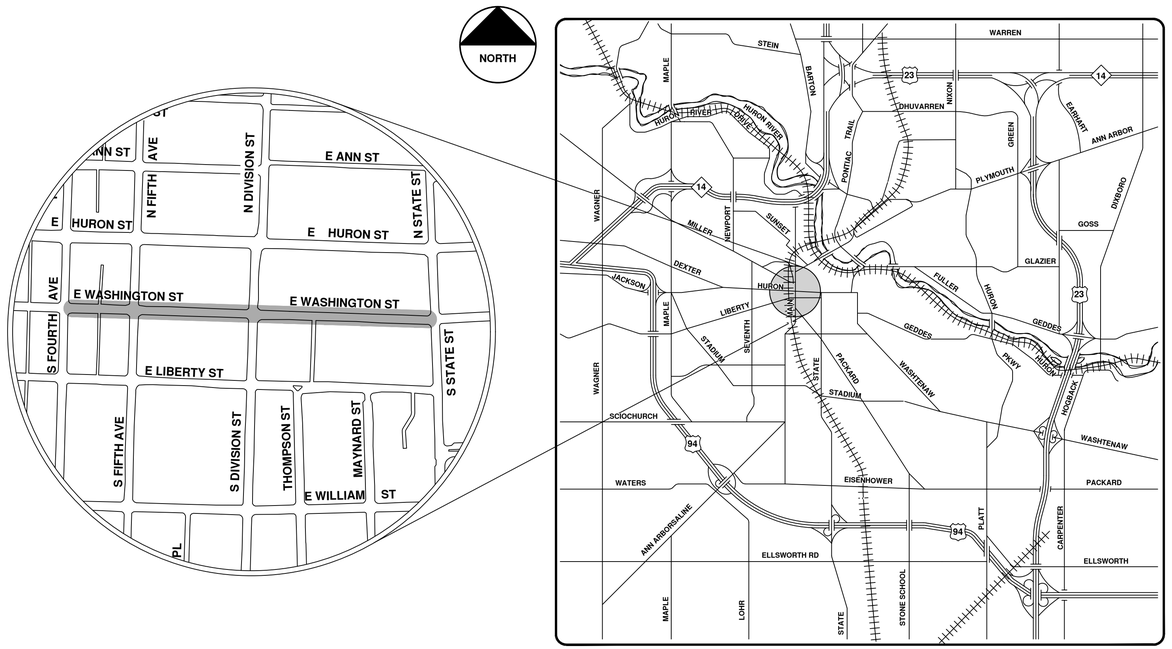
SHEET No. 164
INDEX NO. 836
SHELF NO. 6
SIZE C
SUB NO. 220

Drawn by
Traced by
Checked by

CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT NO. 4.
HURON ST.
FIRST ST. TO FOURTH AVE.
Manley Osgood, City Engineer.
1916.
Scales - Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

2020 SEWER LINING PROJECT

E WASHINGTON ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
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PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-30

SHEET No. 30 OF 362

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E Washington St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

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NOTE

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REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS
Division to State.
3 to 0 = M.H. @ STATE

North	South
7.9	13.9
134.6	145.0
230.0	209.0
296.5	269.3
378.0	327.0
421.8	365.7
467.1	397.2
499.4	407.4
539.0	448.3
632.0	494.8
634.0	541.0
690.7	562.4
	626.0
	636.0
	718.9

278 = M.H.
573 = M.H.
878 = M.H.
664.0 = M.H.
884.0

Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

SHEET NO. 320
INDEX NO. 964
SHELF NO. 6
SIZE C
SUB NO. 349

Drawn by A.A.B.
Traced by
Checked by J

CITY ENGINEERS OFFICE.
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT NO. 2.
WASHINGTON ST.
DIVISION ST. TO STATE ST.
Manley Osgood, City Engineer.
1916.
Scales-Plan 1"=40' Profile-Hor. 1"=40' Ver. 1"=4'

E Washington St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

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AVE.

EAST AVE

WASHINGTON ST.

S. FOURTH

S. FIFTH

S. DIVISION

B 1 S R 5 E

B 1 S R 6 E

B 2 S R 5 E

B 2 S R 6 E

6-C-341

6-C-343

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS

Fourth Ave. to Fifth Ave.
Sta 0 = M.H. at Fourth Ave.

North	South
73	44
98	71
113	100
140	119
189	206
191	225
223	251
265	
267	

330.9 = M.H. at Fifth Ave.
Sta 0 = M.H. at Fifth Ave.

115.5	145 = L.H.	78
152		142.5
190.5		177
222.5	282 = M.H.	275
319		300
369.5		349
427.5	428.5 = L.H.	361.5
460	560 = M.H.	394
		457

South Division to M.H.
Sta 0 = M.H. at S Division

North	South
71.9	139
134.5	145
230	209
	268.33

278.82 = M.H.

+78 M.H. El. 830.99

1.5% Grade

10" Vit. Pipe

1.5% Grade

2.4% Grade

2.9% Grade

1089 M.H. El. 840.48

+91. M.H. El. 846.19

+69.18 M.H. El. 851.29

+164 M.H. El. 858.55

Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

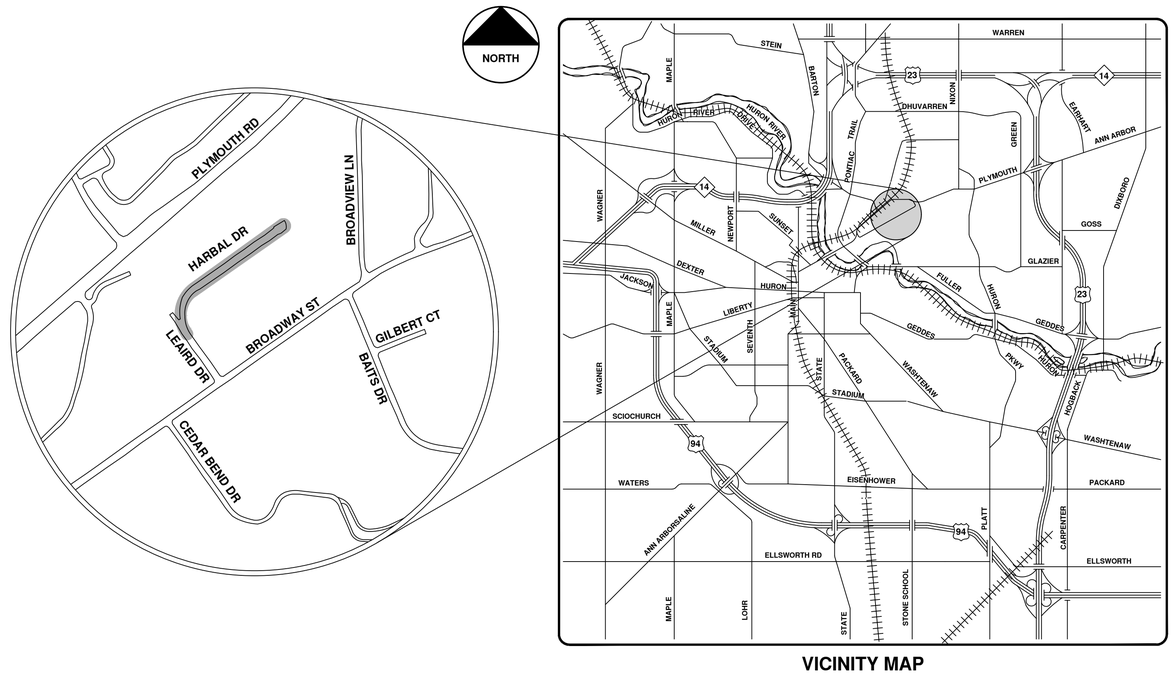
SHEET No. 319
INDEX No. 963
SHELF No. 6
SIZE C
SUB. No. 348

Drawn by AAB
Traced by AAB
Checked by JF

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT No. 2
E. WASHINGTON ST.
SOUTH FOURTH AVE. TO SOUTH DIVISION
Manley Osgood, City Engineer
1916
Scales - Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

2020 SEWER LINING PROJECT

HARBAL DR



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-35

SHEET No. 35 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:48:44 PM

Harbal Dr.

Manhole
Proposed Lining
Sanitary Main
Sanitary Lateral

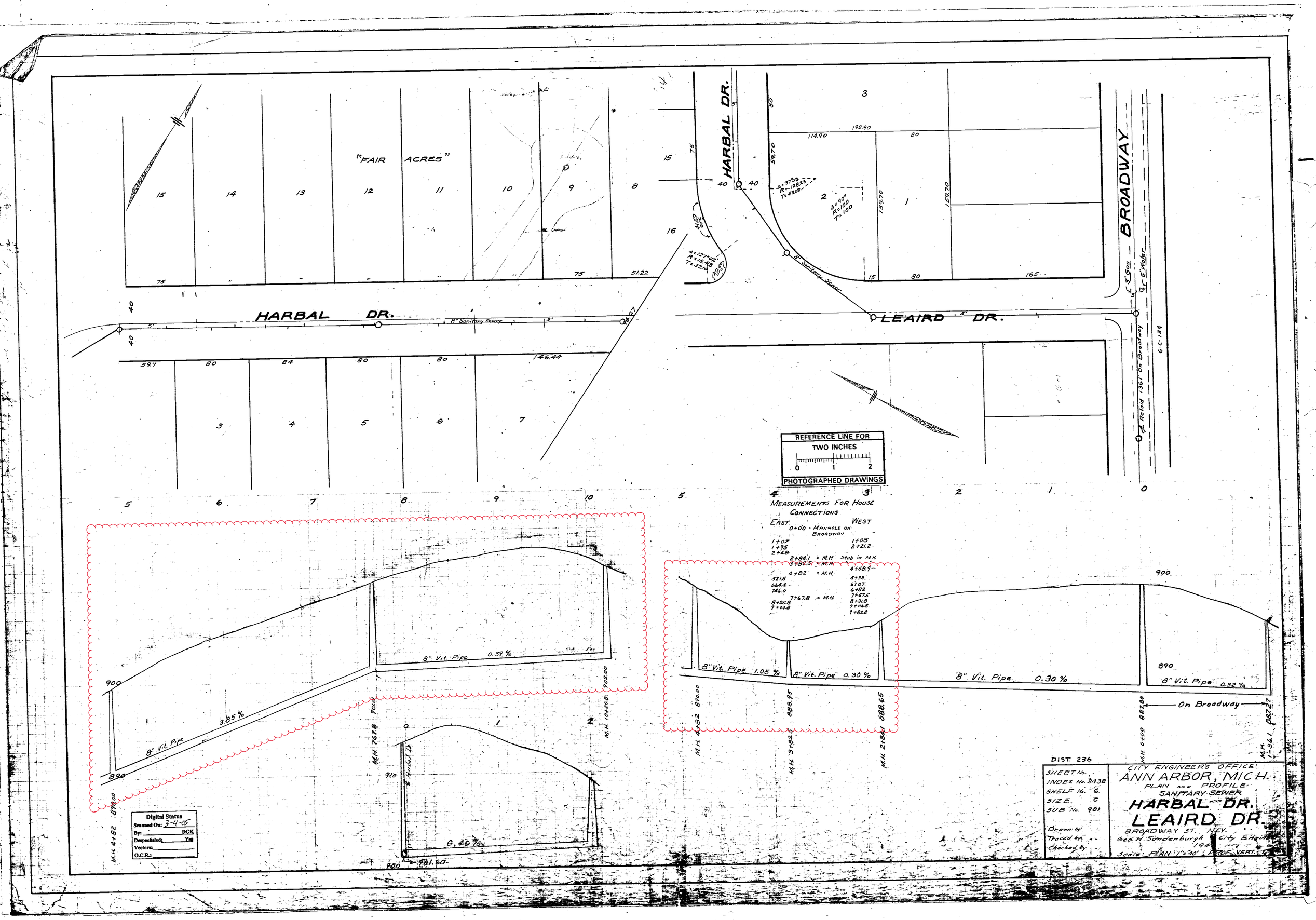
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 35 70 140 210 280 Feet

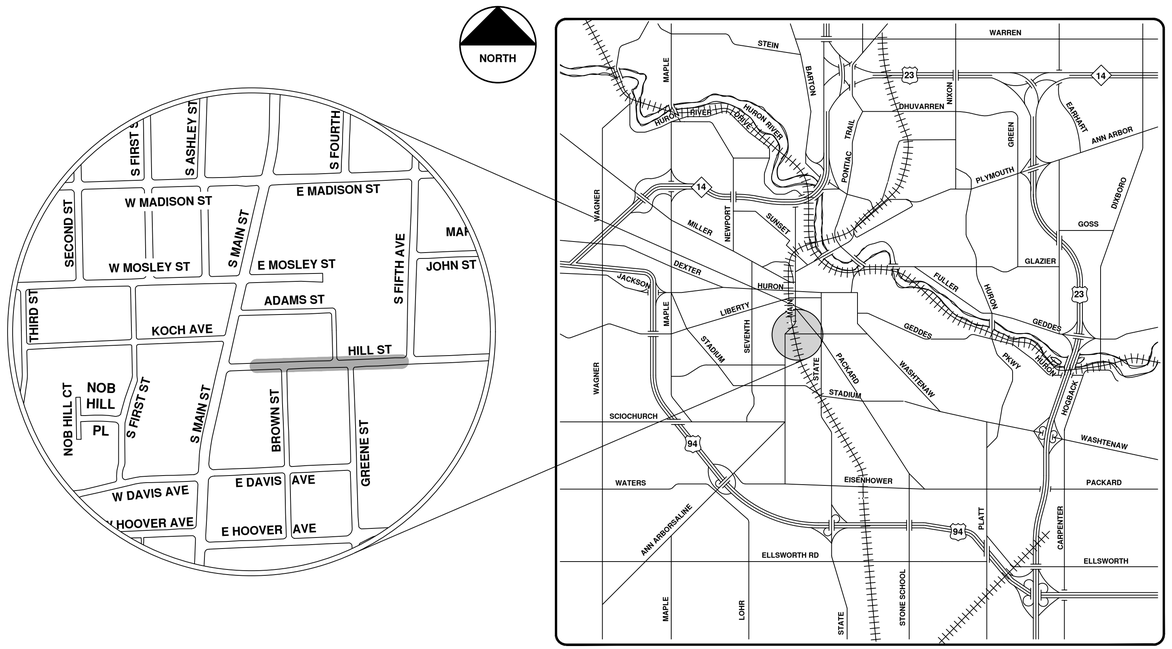
N

For terms and conditions please visit www.a2gov.org/terms


"FAIR ACRES"
HARBAL DR.
LEAIRD DR.
BROADWAY
8" Sanitary Sewer
Δ=127°02' R=18.48 T=37.10
Δ=90° R=100 T=100
Δ=37°08' R=128.23 T=43.03
3" Gas
6" Water
℄ Relaid 136.1' On Broadway
6-C-134
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
MEASUREMENTS FOR HOUSE CONNECTIONS
EAST
WEST
0+00 = MANHOLE ON BROADWAY
1+07
1+95
2+48
1+05
2+21.2
2+84.1 = M.H. Stub in M.H.
3+82.5 = M.H.
4+82 = M.H.
4+58.9
581.6
664.4
746.0
5+33
6+07
6+82
7+67.8 = M.H.
7+57.5
8+25.8
9+04.8
8+31.8
9+06.8
9+82.8
8" Vit. Pipe 0.39 %
8" Vit. Pipe 3.85 %
8" Vit. Pipe 1.05 %
8" Vit. Pipe 0.30 %
8" Vit. Pipe 0.30 %
8" Vit. Pipe 0.32 %
On Broadway
M.H. 4+82 890.00
M.H. 767.8 901.01
M.H. 10+20.8 902.00
M.H. 4+82 890.00
M.H. 3+82.5 888.95
M.H. 2+84.1 888.65
M.H. 0+00 887.80
M.H. 1-36.1 887.27
0.40 %
901.20
Digital Status
Scanned On: 3-4-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
DIST. 236
SHEET No.
INDEX No. 2438
SHELF No. 6
SIZE C
SUB No. 901
Drawn by
Traced by
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
SANITARY SEWER
HARBAL DR.
LEAIRD DR.
BROADWAY ST. N.Y.
Geo. H. Sandenburgh City Engineer
194
Scale: PLAN 1"=40' PROF. VERT.

2020 SEWER LINING PROJECT

HILL ST



VICINITY MAP

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:48:49 PM

811 Know what's **below.** **Call before you dig.**

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-38

SHEET No. 38 OF 362

ENGINEERING
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Hill St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms

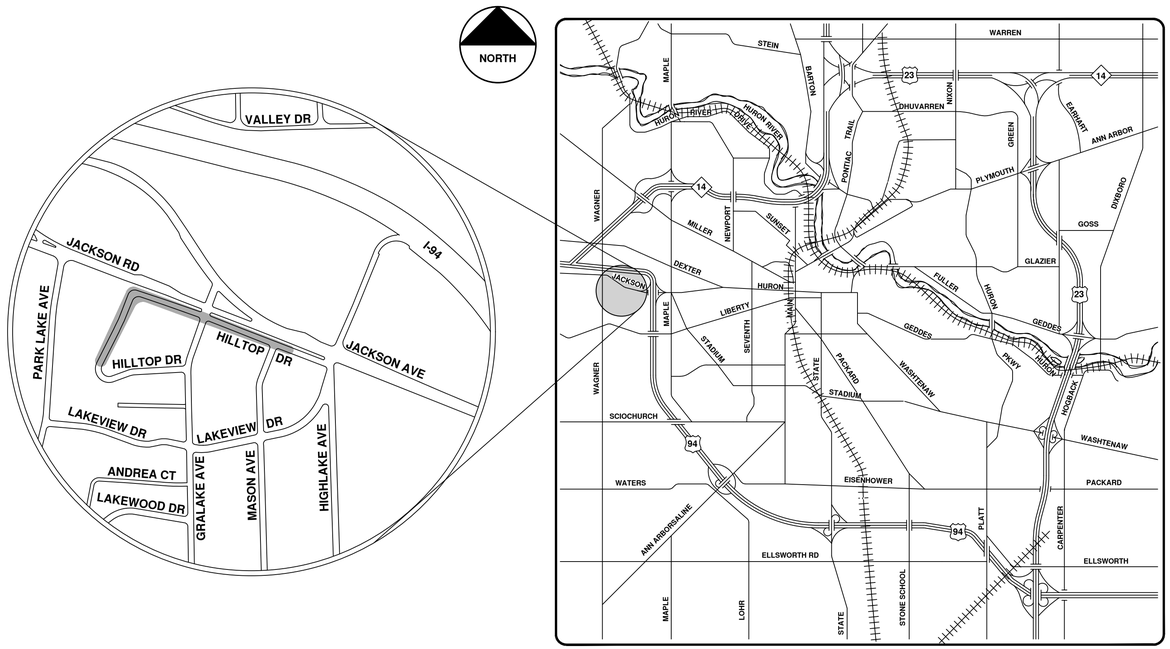
SHEET No. 149
INDEX No. 826
SHELF No. 6
SIZE C
SUB No. 210

Drawn by
Traced by Feiner
Checked by J.

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
and
STORM SEWER
HILL STREET
MAIN ST. TO FIFTH AVE.
Manley Osgood, City Engineer
1917
Scales-Plan 1"=40' Profile-Hor. 1"=40' Vert. 1"=4'

2020 SEWER LINING PROJECT

HILLTOP DR



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
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ANN ARBOR, MICHIGAN 48107-8647
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00	BID SET		9-22-21	ARG	IVK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-41

SHEET No. 41 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:48:54 PM

Hilltop Dr.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 35 70 140 210 280 Feet

N

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 579 200 5-55

SEE 6-C-1875

S. edge Conc. pavement

S. E. JACKSON AVENUE 66'

HILL TOP DR. 50'

PUBLIC ALLEY

GRALAKE AVENUE 50'

Picket Fence

4" drain tile

Exist. conc. inlet box with C.I. Grate

BLACKTOP DR.

Double inlet

Double inlet

Low pt.

Edison Pole

Wood Fence

Water Service Shutoff Box

4" TAP IN SANITARY 54' NORTH OF 1ST M.H. SOUTH OF HILLTOP SERVICE DRIVE

Wood Fence

SEE 6-C-1876 A

N

3035	259
3055	258
3045	239
3065	252
3085	253
3077	251
3081	252
3065	243
3085	253
3077	251
3081	252
221	245

256 255 254 238 240 241 242 239 237 236 235 234 233 232 244

LEGEND

- A — EXISTING SANITARY SEWER
- S — PROPOSED SANITARY SEWER
- A — EXISTING STORM SEWER
- R — PROPOSED STORM SEWER
- W — WATER
- G — GAS

REFERENCES

BENCH MARKS Hilltop & Hilltop Elev. 945.52

DRAWINGS 6-C-1750

PROFILES Gas and Water main locations Book 743 pg. 42
Sanitary sewer survey Book 743 pg. 46
Crosslots Topo Book 742 pg. 54

DIGITAL STATUS
SCANNED ON: 5/9/05
BY: EMA
DESPECKLED: YES
VECTORIZED:
O.C.R.:

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Hilltop Drive

950 940 930

21" w/ ℄ 931.59

0.76 %

0.69 %

13' C-14x Conc. Pipe 29.5 @ 1.52 %

18" C-14x Conc. Pipe 38.0 @ 0.80 %

8" V.I. Pipe 410.5'

8" V.I. Pipe 151.5'

Job No 2798R DIST 26 (PARTIAL - BALANCE OF DISTRICT)

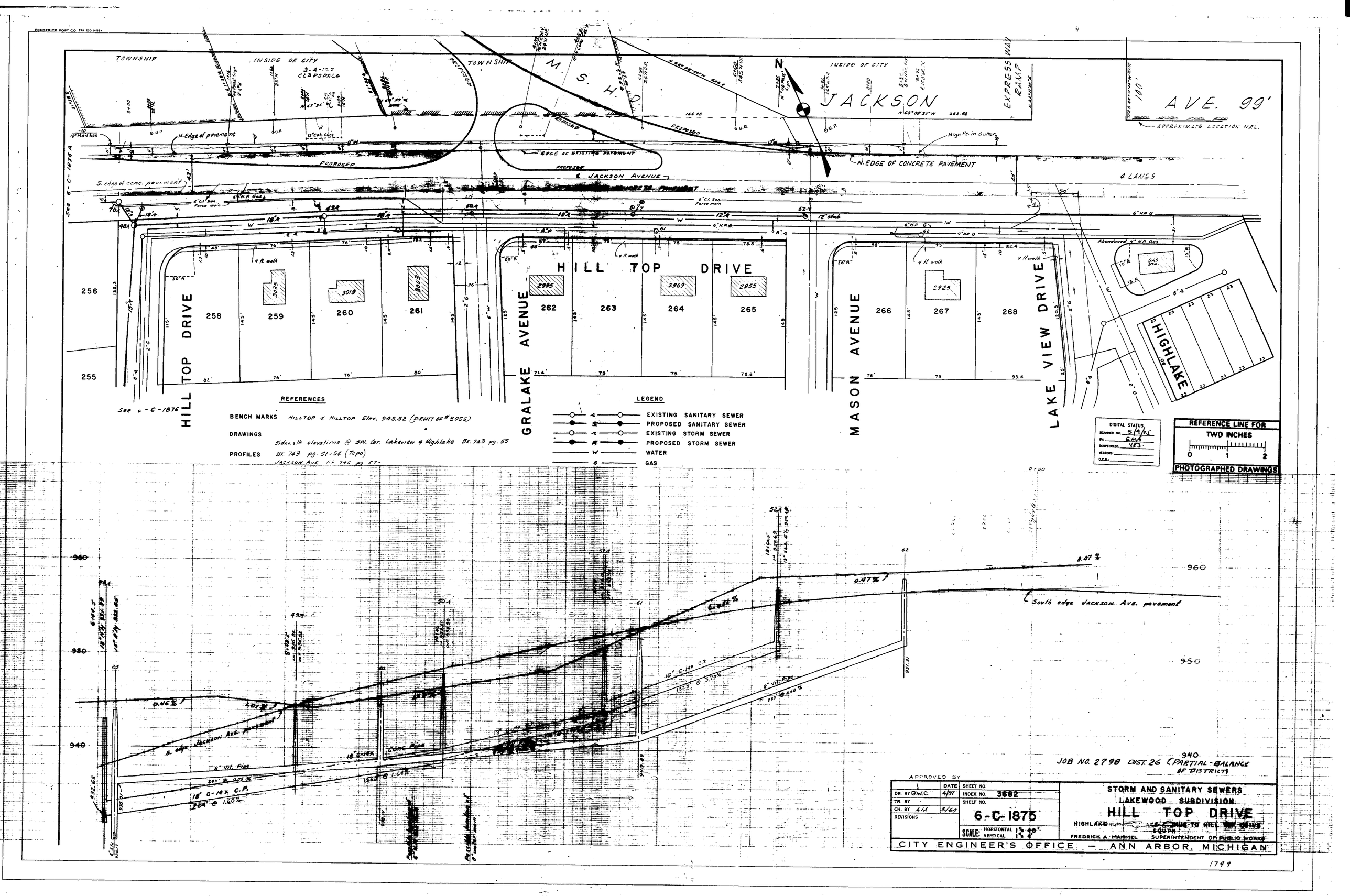
APPROVED BY

	DATE	SHEET NO.
DR. BY C.W.C.	4/57	INDEX NO. 3683
TR. BY		SHELF NO.
CH. BY		6-C-1876
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'

STORM AND SANITARY SEWERS
LAKEWOOD SUBDIVISION
HILL TOP DRIVE
FROM GRALAKE AVENUE TO JACKSON AVENUE
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

1750

14

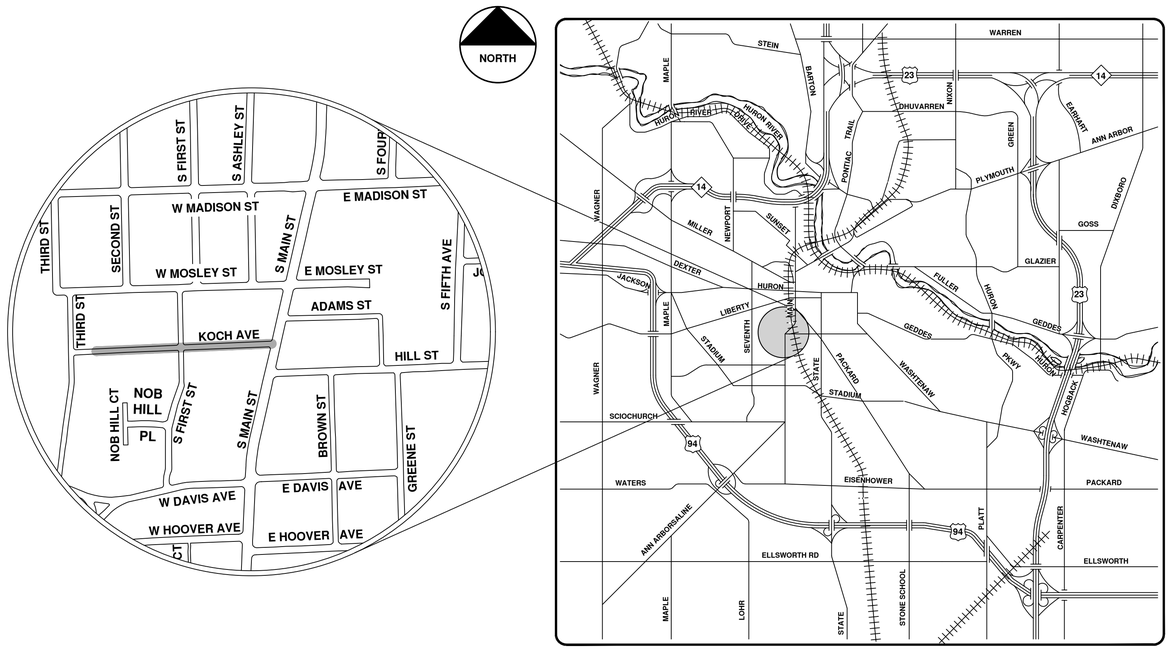


TOWNSHIP
INSIDE OF CITY
3-A-155 CLAPSDALE
TOWNSHIP
M. S. H. D.
JACKSON
EXPRESS WAY RAMP
AVE. 99'
APPROXIMATE LOCATION N.R.L.
N. Edge of pavement
PROPOSED
EDGE OF EXISTING PAVEMENT
N. EDGE OF CONCRETE PAVEMENT
High Pt. in Gutter
S. edge of conc. pavement
JACKSON AVENUE
4 LANES
See 6-C-1876 A
HILL TOP DRIVE
GRALAKE AVENUE
MASON AVENUE
LAKE VIEW DRIVE
HIGHLAKE
256
255
258
259
260
261
262
263
264
265
266
267
268
3035
3019
3003
2995
2969
2955
2925
See 6-C-1876
REFERENCES
BENCH MARKS HILLTOP & HILLTOP Elev. 945.52 (FRONT OF #3055)
DRAWINGS
Sidewalk elevations @ SW. Cor. Lakeview & Highlake Bk. 743 pg. 55
PROFILES Bk. 743 pg. 51-54 (Topo)
JACKSON AVE Bk 746 pg 57
LEGEND
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER
EXISTING STORM SEWER
PROPOSED STORM SEWER
WATER
GAS
DIGITAL STATUS
SCANNED ON: 5/9/85
BY: EMA
DESPECKLED: YES
VECTORS:
O.C.R.:
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
960
950
940
South edge Jackson Ave. pavement
S. edge Jackson Ave. pavement
8" Vit. Pipe
18" C-14X C.P.
204' @ 1.60%
18" C-14X Conc. Pipe
0.46%
0.47%
0.47%
JOB NO. 2798 DIST. 26 (PARTIAL-BALANCE OF DISTRICT)
APPROVED BY
DR. BY G.W.C. 4/57
TR. BY
CH. BY AM 8/60
REVISIONS
SHEET NO.
INDEX NO. 3682
SHELF NO.
6-C-1875
SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'
STORM AND SANITARY SEWERS
LAKEWOOD SUBDIVISION
HILL TOP DRIVE
HIGHLAKE
SOUTH
FREDRICK A. MANMEL SUPERINTENDENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN
1799

(15)

2020 SEWER LINING PROJECT

KOCH AVE



VICINITY MAP

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301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-45

SHEET No. 45 OF 362

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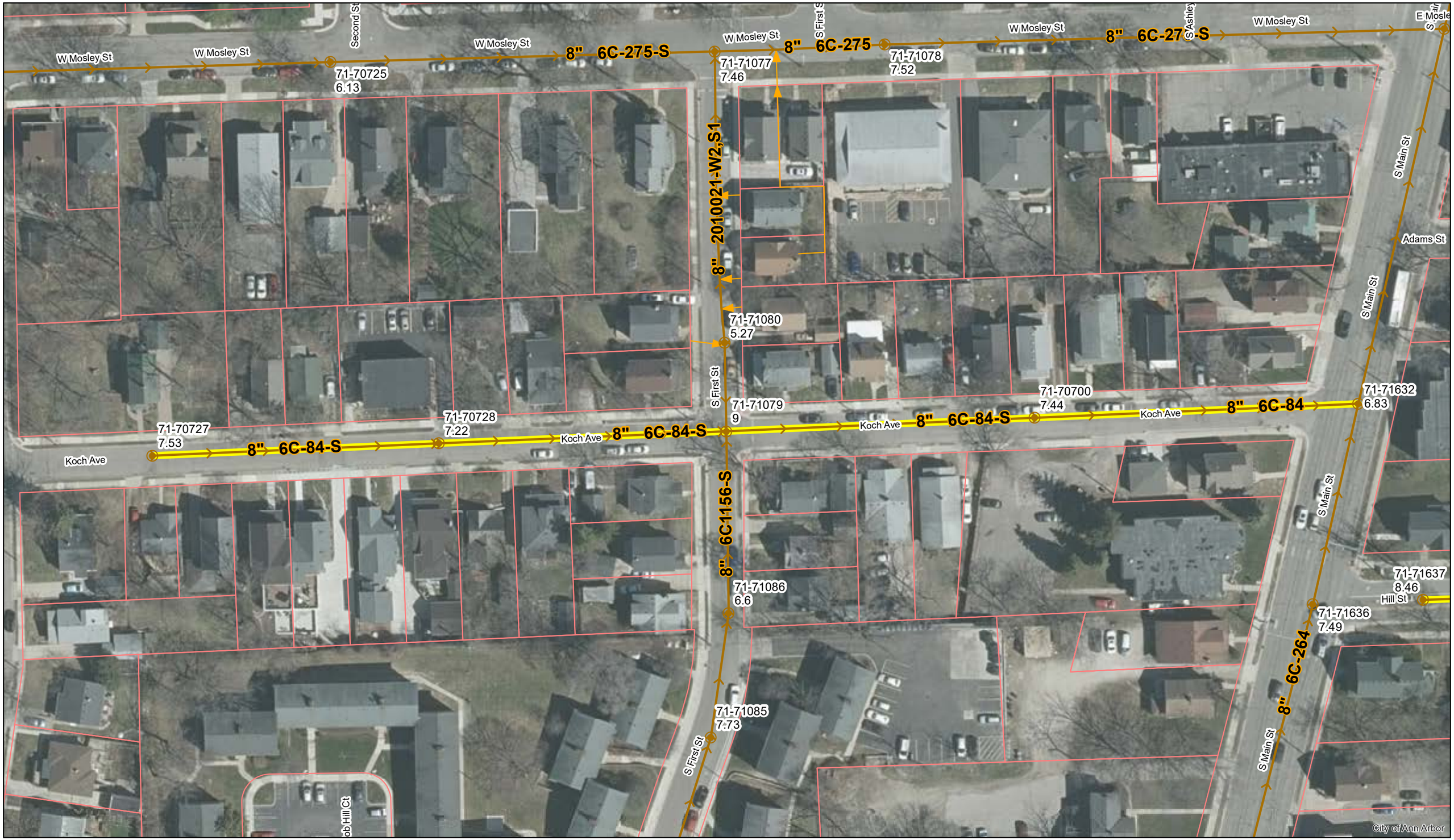
R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:48:59 PM



Koch Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

For terms and conditions please visit www.a2gov.org/terms

MOSLEY STREET

WILLIAM S. MAYNARD'S

SECOND ADDITION

JOHN KOCH'S SUB-DIVISION

MAIN ST.

STREET

KOCH AVENUE 40'

FIRST ST

SOUTH

SANITARY SEWER

Bottom 842.68

Inv 843.54

(843.39 corr'tn)

N

REFERENCE LINE FOR TWO INCHES

0 1 2

PHOTOGRAPHED DRAWINGS

B.M. Hydrant cor. Hill and Main Sts. El. 844.04 U.S.G.S.

MEASUREMENTS TO HOUSE CONNECTIONS

Manhole @ Main St. North	Manhole @ Main St. South
150	150
179	177
213	211
238 manhole	
239	236
273	277
275	313
353	356
402	398
401.32	401.7
451 manhole	
496.5	494.5
443.5	441.5
587.5	585.5
625.3	623.3
656 manhole	
671.5	669.5
706.0	704.0
746.5	744.5
787.1	785.1
824.7	822.7
856.3	853.3
961 Flushtank	

First St. Branch

John K manhole North	John K manhole South
496	498
537	539
569	571
581 Flushtank	

EXCAVATION & BACKFILLING

432	cu. yds.	0'-6' deep
104	"	6'-8' "
6	"	8'-10' "

LEGEND

W & North Walk

E & South Walk

Center Line

BILL OF MATERIALS.

922	lin. Ft. 8" pipe.	
36	8"x4" san. tees	
1	manhole	0'-6"
5	"	6'-8'
1	"	8'-10'
2	Flushtanks	6'-8'

Bk. 805 pg 10.

8" Vitrified Pipe

8" vit. pipe

Manhole 858.60

Digital Status
Scanned On: 8-25-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

Corrected to final measurements W.B.R. 1917-2-13

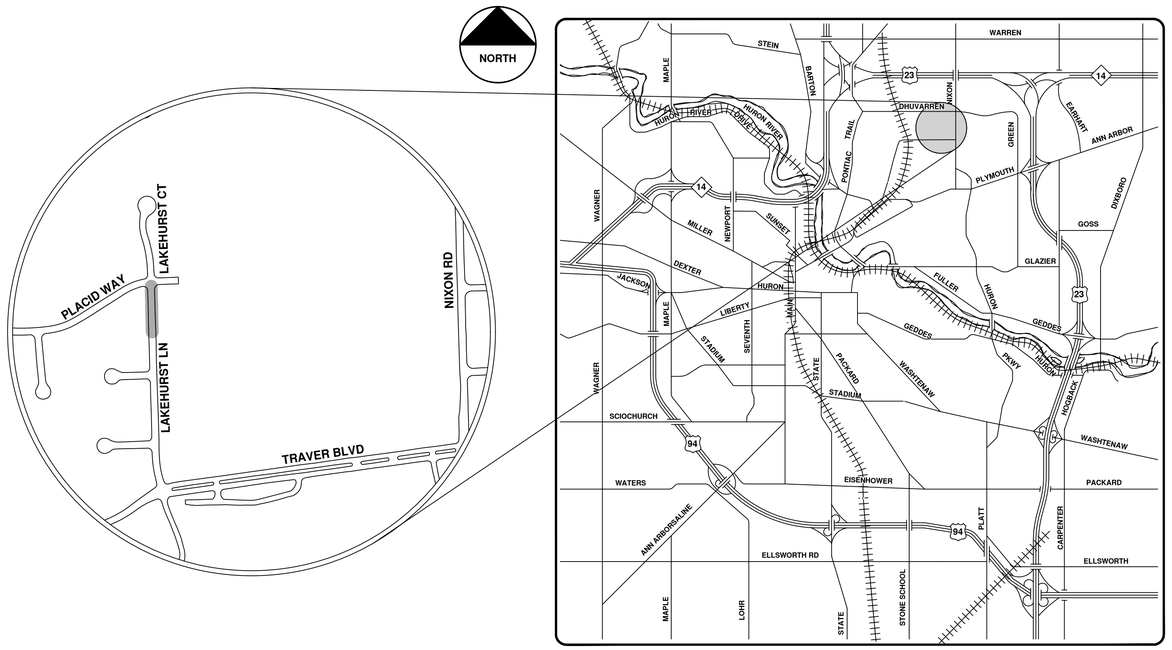
SHEET No. 182
INDEX No. 659
SHELF No. 6
SIZE C
SUB No. 84

Drawn by
Traced by McMillen
Checked by WHS

CITY ENGINEER'S OFFICE
ANN ARBOR MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT NO.
KOCH AVE.
FROM MAIN ST. WEST TO END
Manley Osgood, City Engineer
1916-5-6
Scales - Plan 1"=40' Profile-Hor. 1"=40' Vert. 1"=5'
One Sheet
Sheet No. 1

2020 SEWER LINING PROJECT

LAKEHURST LN



VICINITY MAP

ENGINEERING
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PUBLIC SERVICES
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P.O. BOX 8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-48

SHEET No. 48 OF 362

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Lakehurst Ln.

N

Manhole
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

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TRAVER LAKES SUBDIVISION Nº 2

PLACID WAY 60' WIDE

TRAVER LAKES SUBDIVISION Nº 1

N/S 1/4 LINE SEC. 15.

TRAVER LAKES

LAKEHURST LANE

LAKEHURST LANE COURT (B) 60' WD

LAKEHURST LANE COURT (A) 60' WD

103' WD.

66' WD.

60' WD.

COMMONS

100 99 98 97 96 95 94 93 92 149 101 106 107 113

SEE 6-C-4756 SEE 6-C-4757 SEE 6-C-4723 SEE 6-C-4718

S-73 S-72 S-71 S-69 S-68 S-67 S-33 S-18

P-87 P-86 P-85 P-84 P-83 P-82 P-32 P-31 P-30 P-29

223'-12"S @0.6% 207'-12"R @2.0% 222'-12"R @4.5% 224'-12"S @0.4% 326'-12"S @11.7% 328'-15"R @1.4% 50'-12"S @2.3% 183'-18"S @2.0% 69'-12"

8"W 8"W 8"W

PLUG INV=911.89

940 930 920 910 900

PROPOSED GRADE EXISTING GRADE

12" C-76 III 207'@2.0%

12" C-200 W.T. PIPE 222'@4.5%

12" C-200 W.T. PIPE 223'@0.6%

12" C-200 W.T. PIPE 224'@0.4%

15" C-76 III 328'@5.5%

12" C-200 W.T. PIPE 328'@4.7%

18" C-76 III 183'@1.8%

15" C-200 W.T. PIPE 150'@2.3%

15" C-76 III 139'@3.0%

8" C-200 W.T. PIPE 160'@0.5%

9" W.L.V. INV=925.60

8" W.L.V. INV=920.54

8" W.L.V. INV=920.30

8" W.L.V. INV=900.08

8" W.L.V. INV=899.37

8" W.L.V. INV=899.37

8" W.L.V. INV=895.50

10+90 911.89 10+58 911.76 9+35 910.36 8+00

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 10/28/05
By: LC

MIN. 10' GRANULAR BACKFILL ABOVE SANITARY SEWER
MIN. TRENCH WIDTH AT TOP OF PIPE 3.5'
SPLIT CONSTRUCTION MET-100 - CONCRETE CRADLE)

LEGEND:

UNDERGROUND UTILITIES PROFILES

EXISTING SANITARY — S — EXISTING STORM — X — EXISTING GAS — G —
PROPOSED SANITARY — S — PROPOSED STORM — R — EXISTING WATER — W —
CENTER LINE
SET PROPERTY LINE
RIGHT PROPERTY LINE

REFERENCES

M.D.P.H. PERMIT No. 710511 8/24/71

SANITARY AND STORM SEWERS

6-C-4755

LAKEHURST LANE
FROM TRAVER BLVD. TO PLACID WAY
TRAVER LAKES SUBDIVISION Nº1

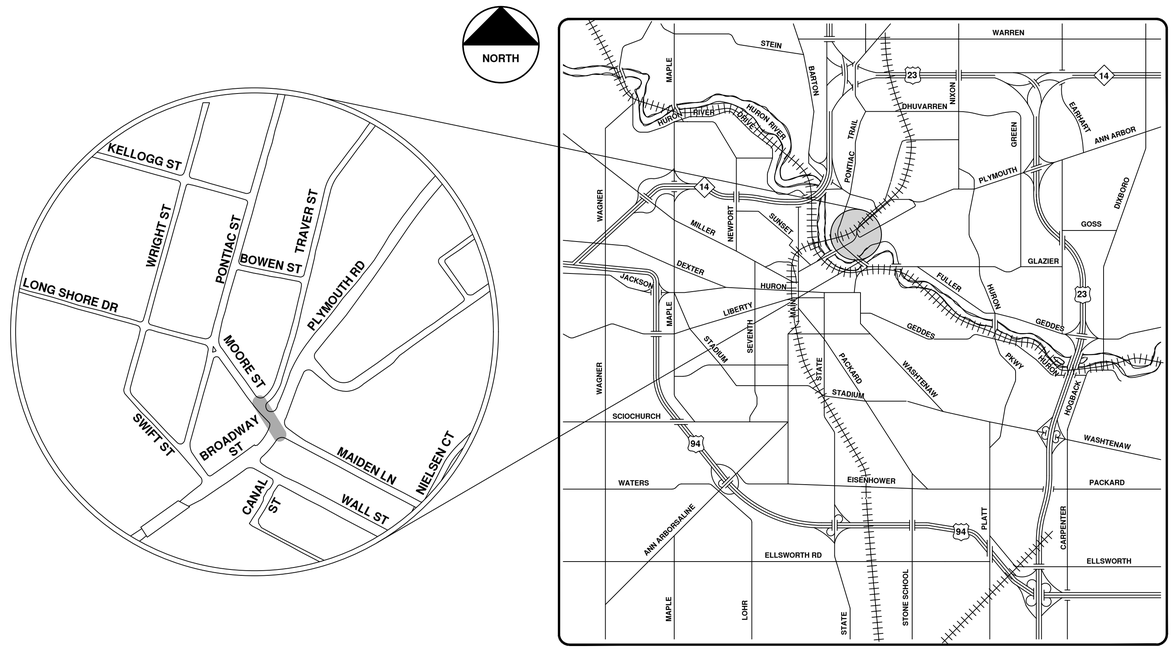
PUBLIC WORKS DEPARTMENT - ANN ARBOR, MICHIGAN

70072
70073 -16

CHARLES TERRIN ASSOCIATES
MEWSTEAD CONSULTING

2020 SEWER LINING PROJECT

MOORE ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-51

SHEET No. 51 OF 362

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Moore St.

Manholes
Proposed Lining
Sanitary Main
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

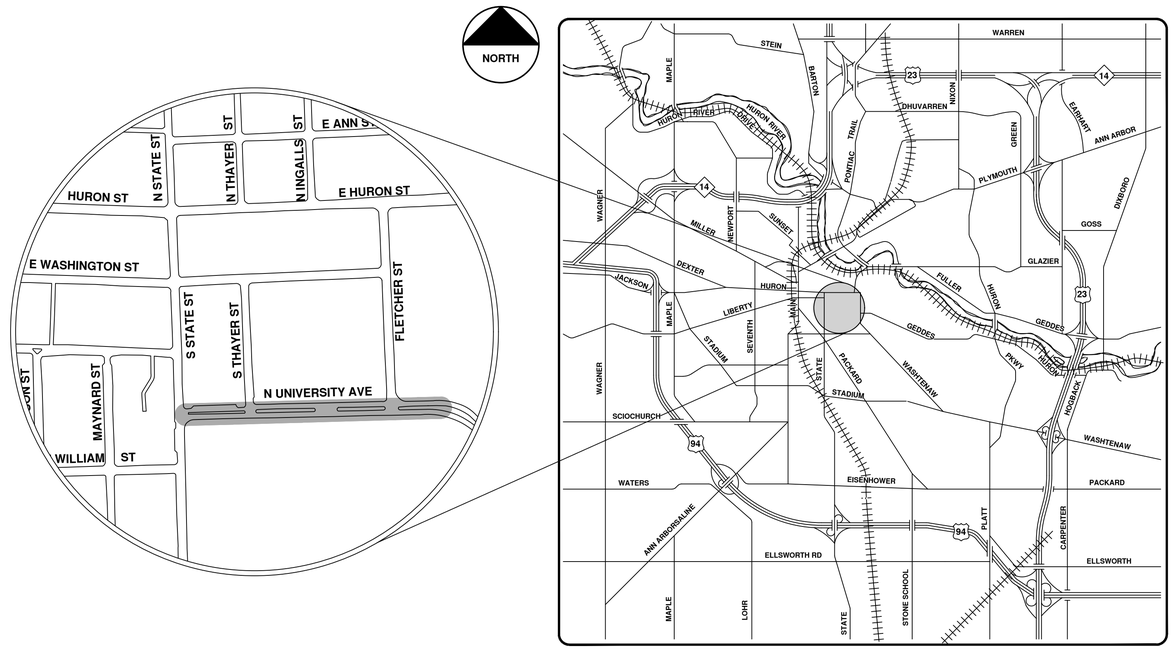
N

For terms and conditions please visit www.a2gov.org/terms

BROWN
FULLER'S
BLOCK 6
AND
ADDITION
BLOCK 7
Block 3
PONTIAC ST.
CEDAR ST.
TRAVER RD.
MOORE ST.
BROADWAY
B.M. Hy. at corner of Broadway Ave. and Moore St. Ele. 783.3 (U.S.G.S.)
N
LEGEND
North Walk
South Walk
Center Line
Flow line of sewer
District boundary
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
12" V.P. Pipe 5.39% Grade
15" V.P. Pipe 3.26% Grade
5.17%
4.61% Grade
12" V.P. Pipe Built in 1924 Sewers
5.74%
6.42%
5.50% Grade
6.42%
Sta 3+50 Elev 794.60
Sta 4+00 Elev 793.00
Sta 5+31 M.H. Elev 794.80
Sta 0+44.5 M.H. Elev 777.50
Elev 777.00
Sta 0+00 M.H. Elev 775.20
Sta 2+02 M.H. Elev 782.40
Elev 782.60
Ele 783.8 Top of Lighthole
Ele 783.8 Lighthole
Ele 783.8 Flushtank
+48 ft. to M.H.
+06 ft. to M.H.
Existing
Proposed
BILL OF MATERIALS.
312 Lineal Ft. of 6" Tile.
16 - 8" Sanitary Teas.
2 - 8" Branches.
2 - Manholes.
1 - Flushtank
1 - Lighthole Cover.
EXCAVATION + BACKFILLING
345.0 Lineal Ft. of 6-8 Ft. Depth.
110.0 " " 8-10 " "
90.0 " " 10-13 " "
FINAL MEASUREMENTS.
CONN. N. CONN. S.
0 = M.H. @ Broadway
65.0 82.7
95.5 119.2
131.5 137.6
171.0
208.9 M.H. @ Traver St.
292.8 229.0
349.4 310.0
346.4
401.0 M.H. @
413.0 411.0
477.5 498.0
539.7 Lighthole
545.0 Flushtank.
Digital Status
Scanned On: 3-25-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No. 224
INDEX No. 498
SHELF No. 6
SIZE C
SUB No. 56
Drawn by SLD
Traced by SLD
Checked by MLD
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT No. 67
MOORE ST.
FROM BROADWAY TO PONTIAC ST.
Manley Osgood, City Engineer
1914-8-31
Scales: Plan 1"=40' Profile Hor 1"=40' Ver 1"=4'
One Sheet
Sheet "A"

2020 SEWER LINING PROJECT

N UNIVERSITY AVE



VICINITY MAP

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

NO.	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

Know what's below. Call before you dig. 811

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-54

SHEET No. 54 OF 362

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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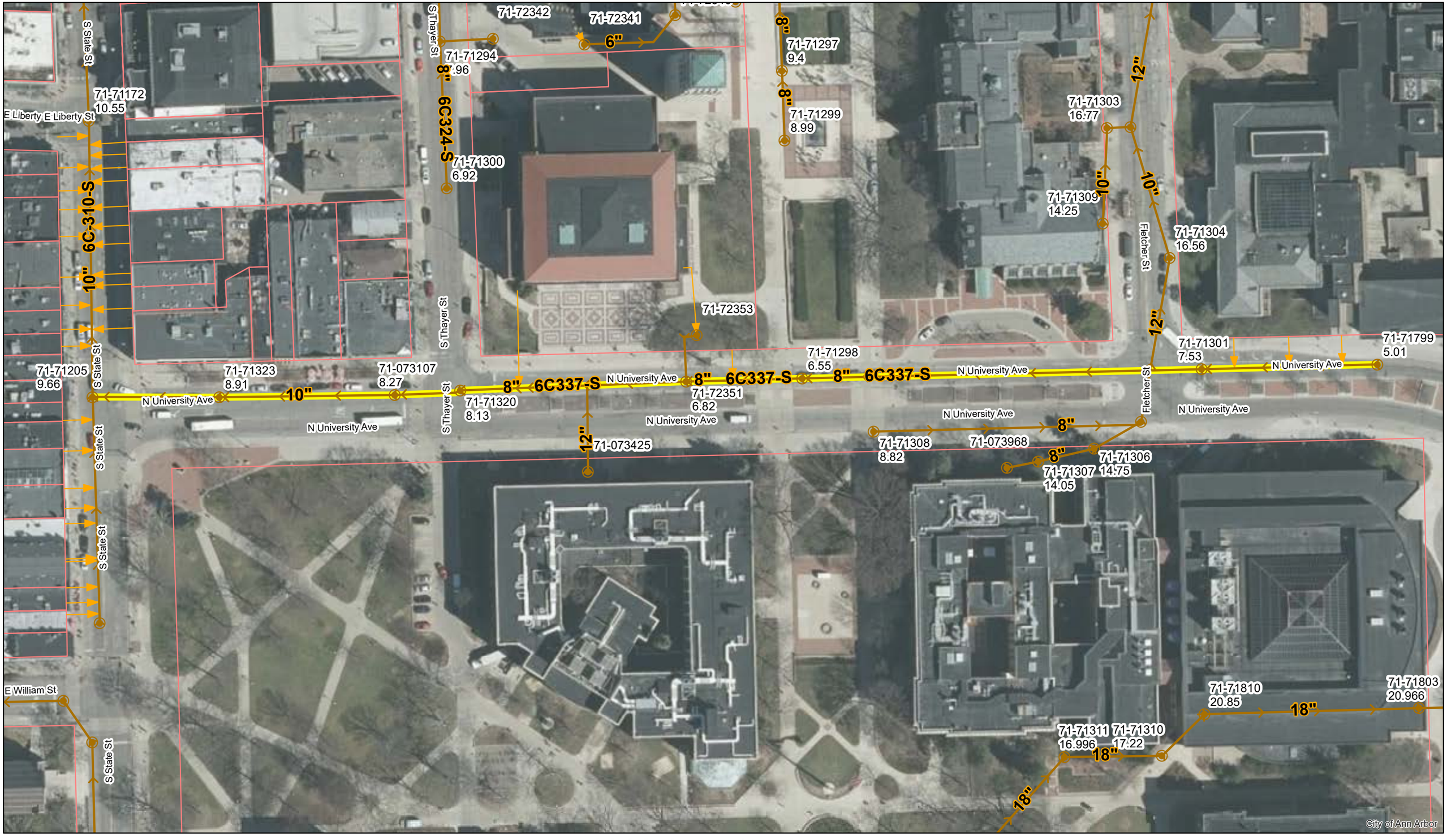
R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:14 PM

N University Ave.



Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

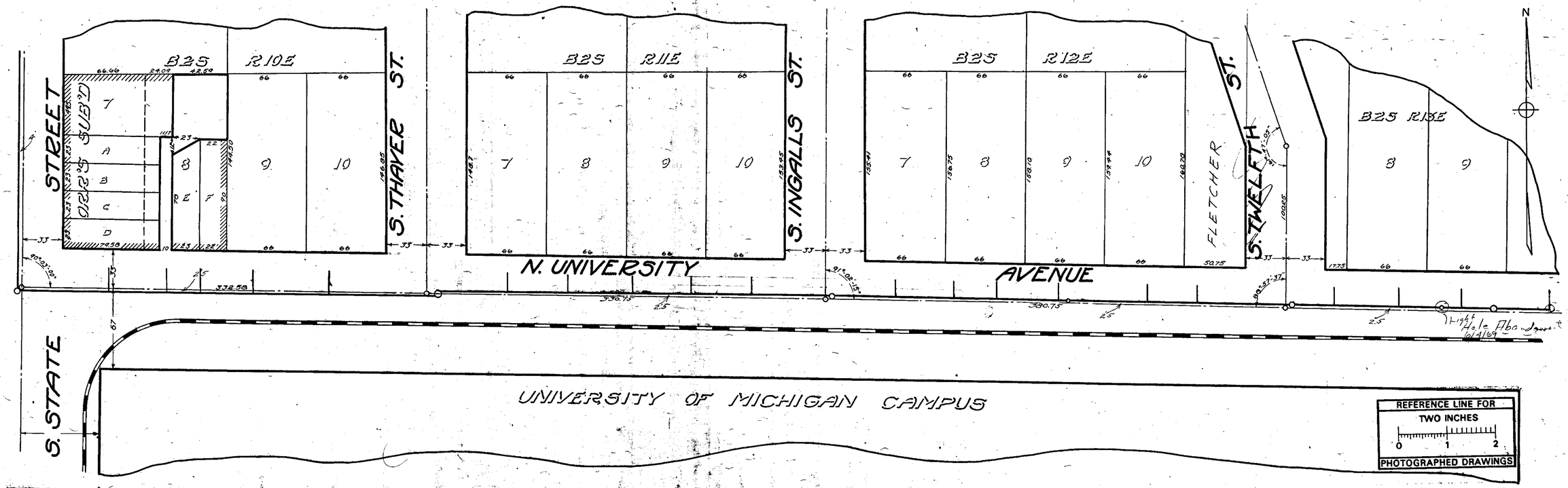
71-XXXXX (Manhole ID)

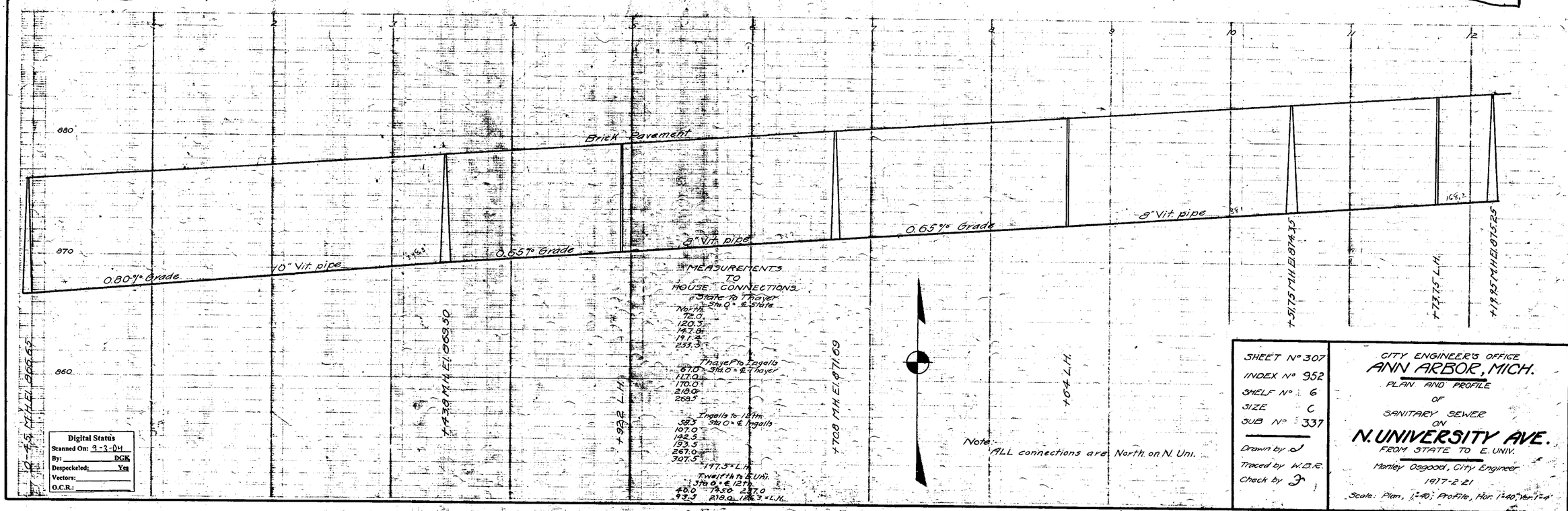
1.00 (Manhole Depth)

0 40 80 160 240 320 Feet

N

For terms and conditions please visit www.a2gov.org/terms





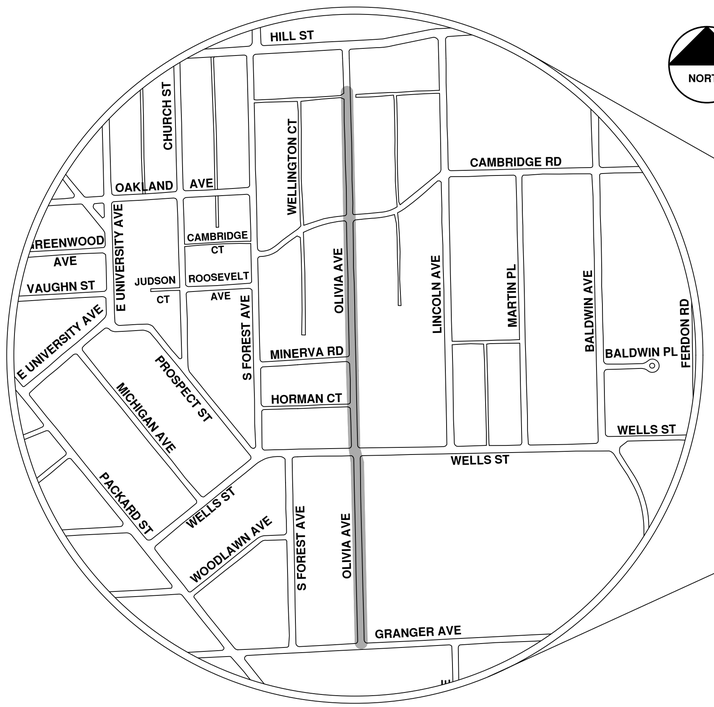
SHEET N°	307
INDEX N°	952
SHELF N°	6
SIZE	C
SUB N°	337
Drawn by	J
Traced by	W.B.R.
Check by	J

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
N. UNIVERSITY AVE.
FROM STATE TO E. UNIV.
Manley Osgood, City Engineer
1917-2-21
Scale: Plan, 1"=40'; Profile, Hor. 1"=40', Ver. 1"=4'

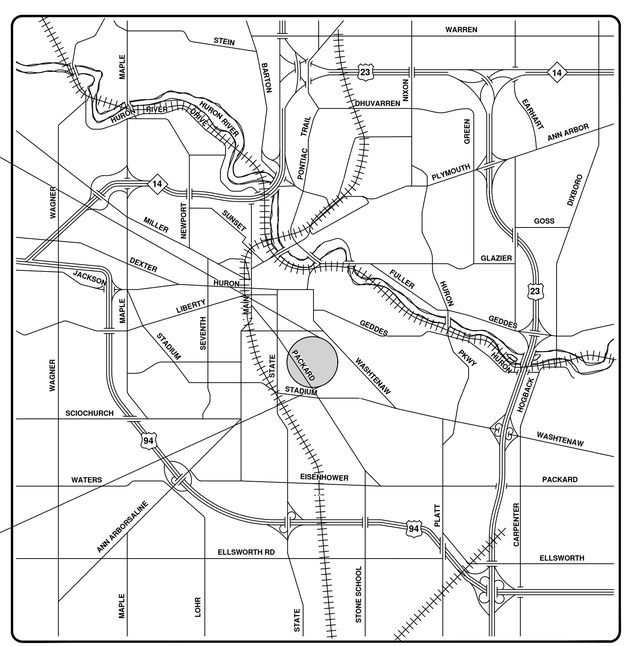
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

OLIVIA AVE



NORTH



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-57

SHEET No. 57 OF 362

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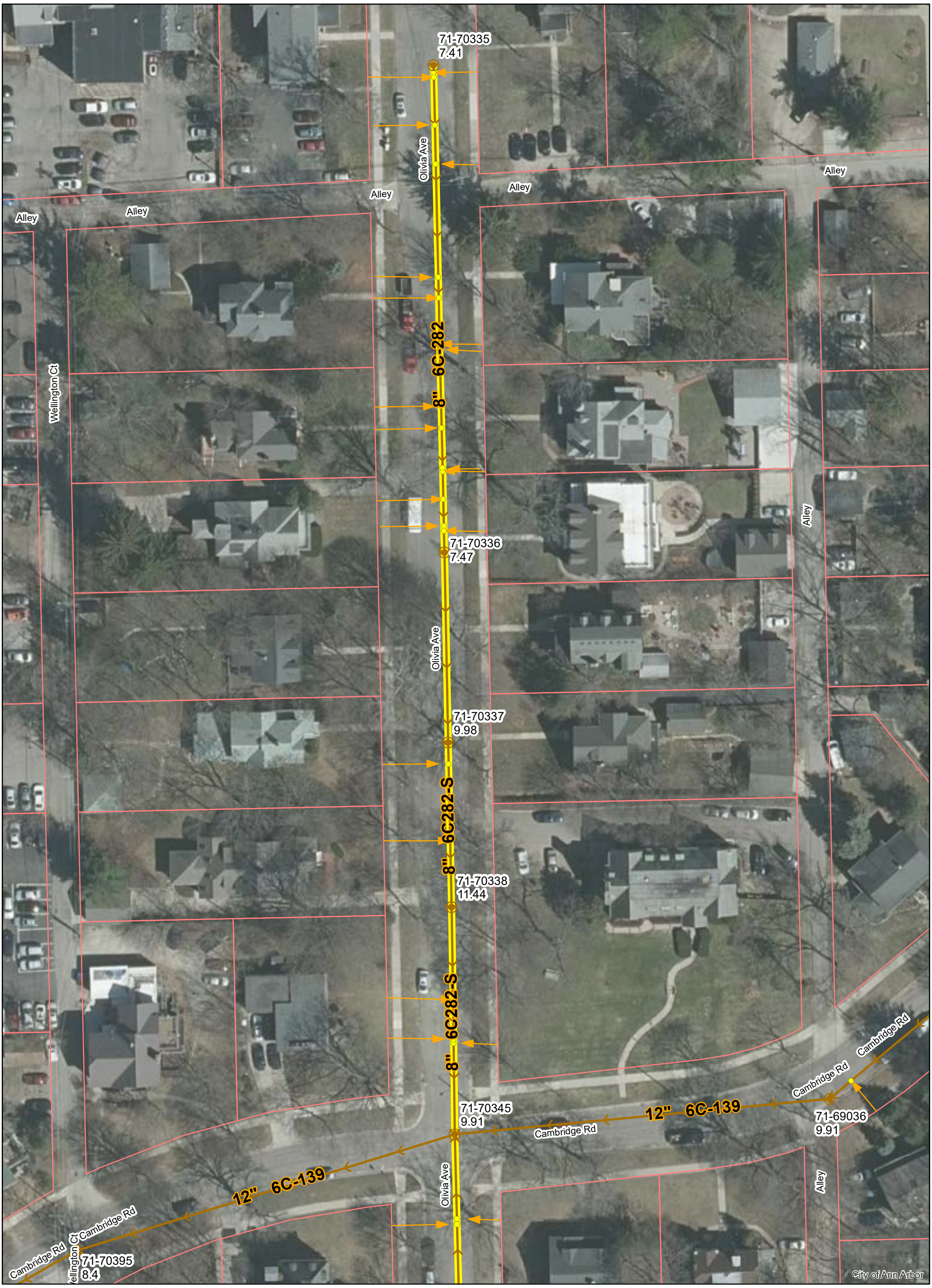
Olivia Ave.



N

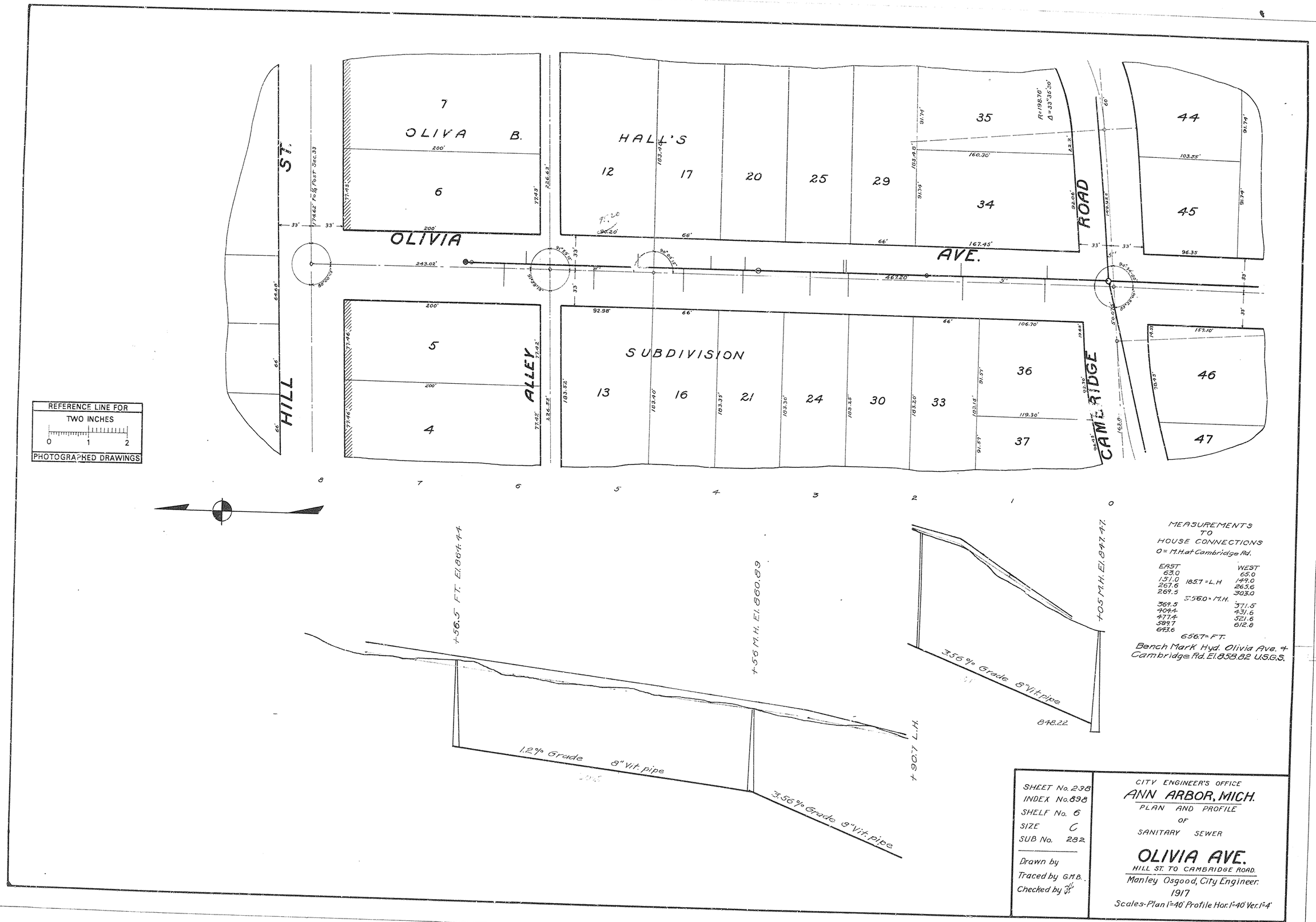
Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 25 50 100 150 200

For terms and conditions please visit www.a2gov.org/terms



OLIVIA AVE.
HILL ST.
ALLEY
CAMBRIDGE ROAD
OLIVA B.
HALL'S SUBDIVISION
7
6
5
4
12
17
20
25
29
35
34
13
16
21
24
30
33
36
37
44
45
46
47
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
8 7 6 5 4 3 2 1 0
+56.5 FT. El. 864.44
+56 M.H. El. 860.89
+90.7 L.H.
+05 M.H. El. 847.47
1.2% Grade 8" Vit. pipe
3.56% Grade 8" Vit. pipe
3.56% Grade 8" Vit. pipe
848.22
MEASUREMENTS TO HOUSE CONNECTIONS
0 = M.H. at Cambridge Rd.
EAST 63.0 151.0 267.6 269.5 369.5 404.4 477.4 589.7 643.6
185.7 = L.H.
356.0 = M.H.
WEST 65.0 149.0 265.6 303.0 371.5 431.6 521.6 612.8
656.7 = FT.
Bench Mark Hyd. Olivia Ave. & Cambridge Rd. El. 858.82 U.S.G.S.
SHEET No. 238
INDEX No. 898
SHELF No. 6
SIZE C
SUB No. 282
Drawn by
Traced by G.M.B.
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER
OLIVIA AVE.
HILL ST. TO CAMBRIDGE ROAD.
Manley Osgood, City Engineer.
1917
Scales-Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

Cambridge Rd
Wellington Ct
Olivia Ave
Alley
71-70345
9.91
12" 6C-139
71-70395
8.4
8" 6C281-S
71-70346
10.14
8" 6C-281
71-70342
10.06
71-073738
Minerva Rd
8" 6C153-S
8" 6C-153
71-073944
7.63
Horman Ct
8" 2017033-28
71-70347
5.89
71-70341
6.38
City of Ann Arbor

Olivia Ave.

N

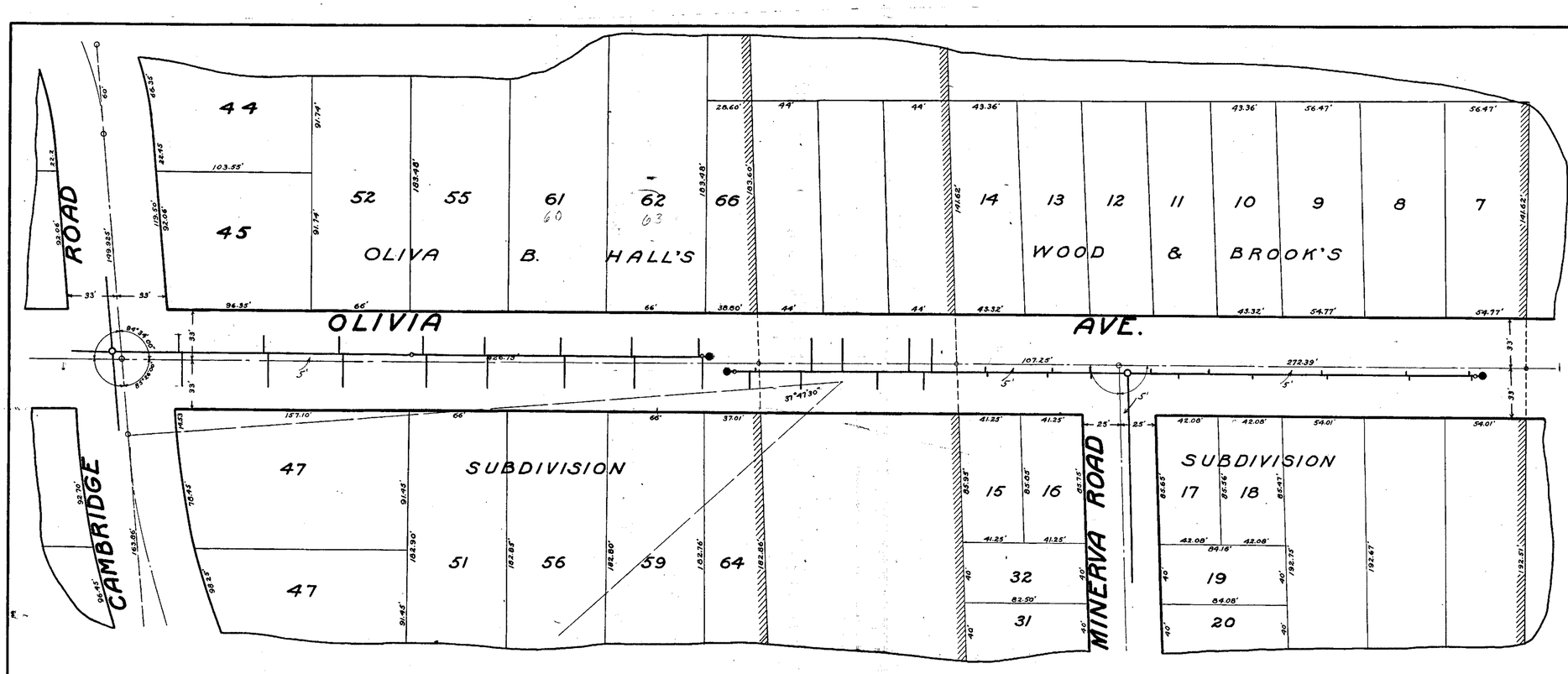
Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

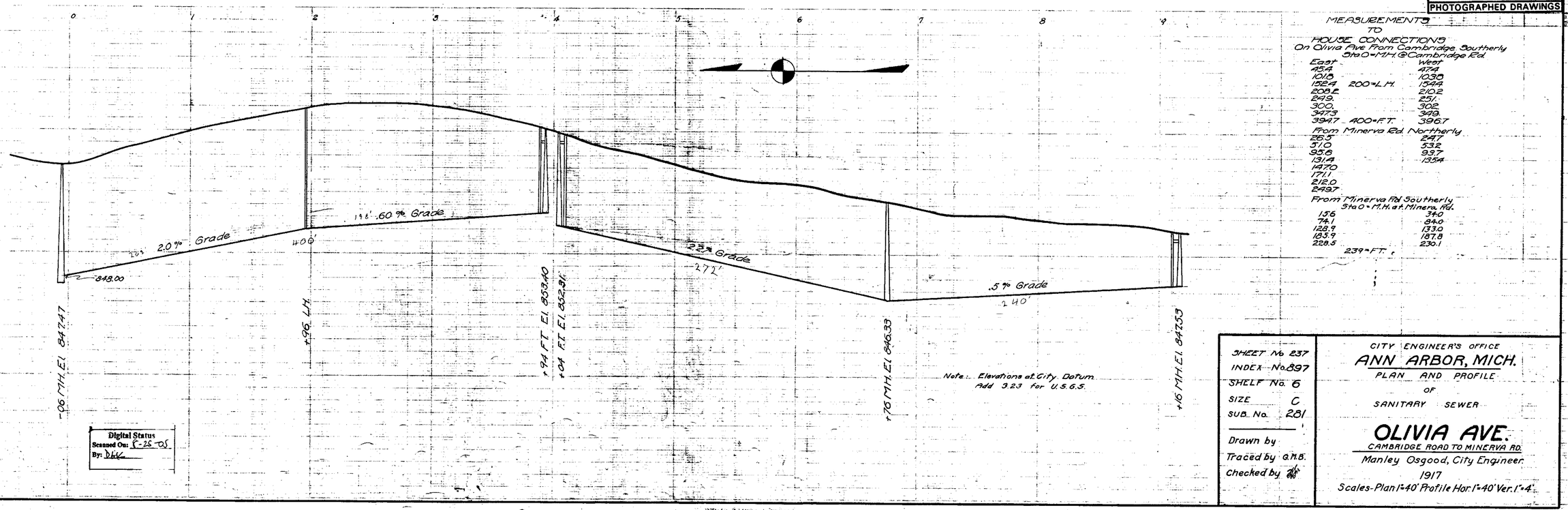
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 30 60 120 180 240

For terms and conditions please visit www.a2gov.org/terms





MEASUREMENTS TO HOUSE CONNECTIONS On Olivia Ave From Cambridge Southerly Sta 0 = M.H. @ Cambridge Rd.

East		West
45.4		47.4
101.8		103.8
152.4	200 = L.H.	134.4
209.5		210.2
249.		251.
300.		302.
347.3		349.
394.7	400 = F.T.	396.7

From Minerva Rd. Northerly

36.9	34.7
51.0	53.2
95.6	99.7
131.8	135.4
147.0	
171.1	
212.0	
249.7	

From Minerva Rd. Southerly Sta 0 = M.H. at Minerva Rd.

1.56	3.4.0
74.1	84.0
128.9	133.0
183.9	187.8
228.3	230.1

239 = F.T.

Note:- Elevations at City Datum Add 3.23 for U.S.G.S.

Digital Status
Scanned On: 5-25-05
By: DLL

SHEET No. 237
INDEX No. 897
SHELF No. 6
SIZE C
SUB No. 281

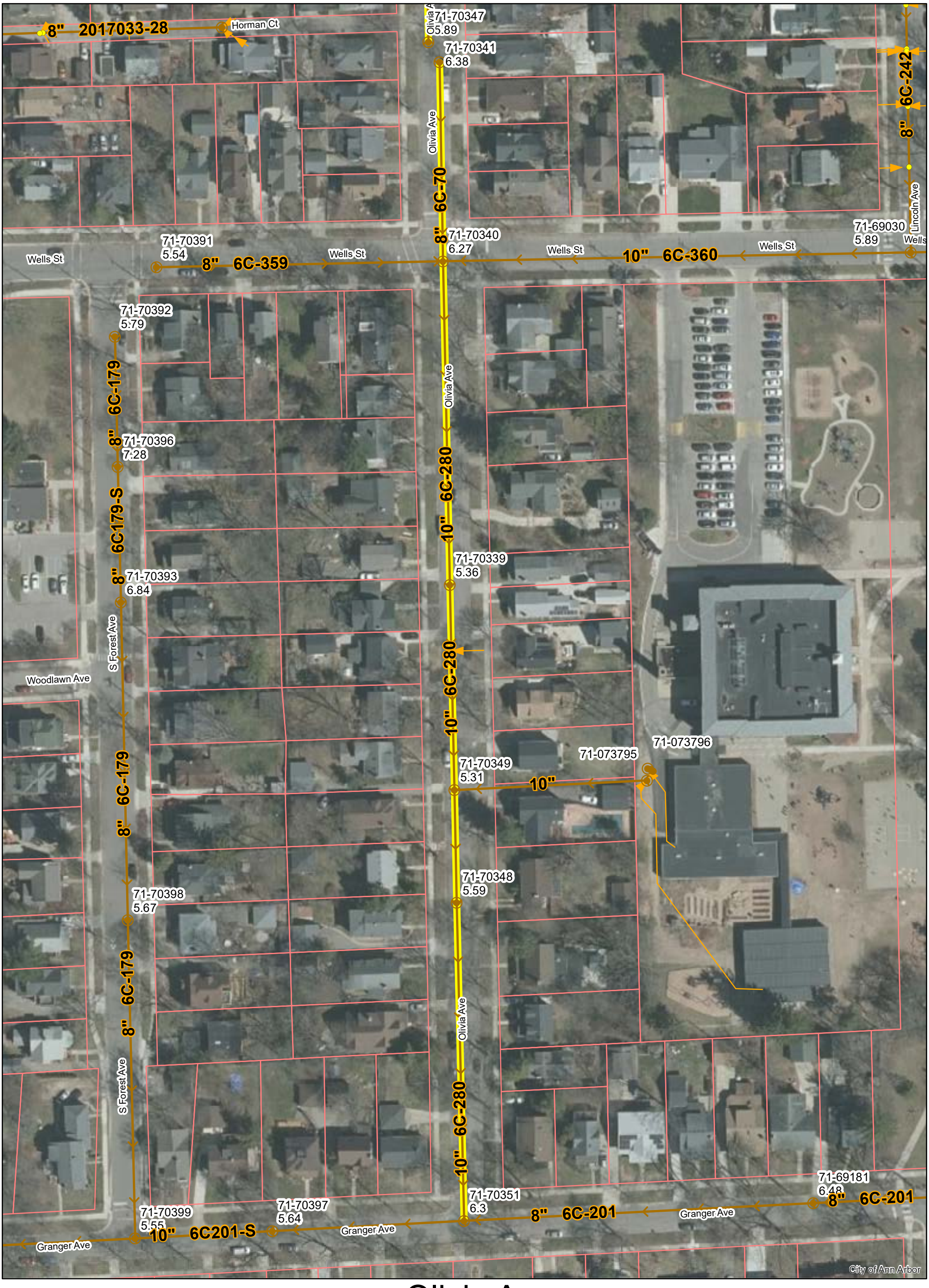
Drawn by
Traced by G.M.B.
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER

OLIVIA AVE.

CAMBRIDGE ROAD TO MINERVA RD.

Manley Osgood, City Engineer.
1917
Scales-Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'



Olivia Ave.

N

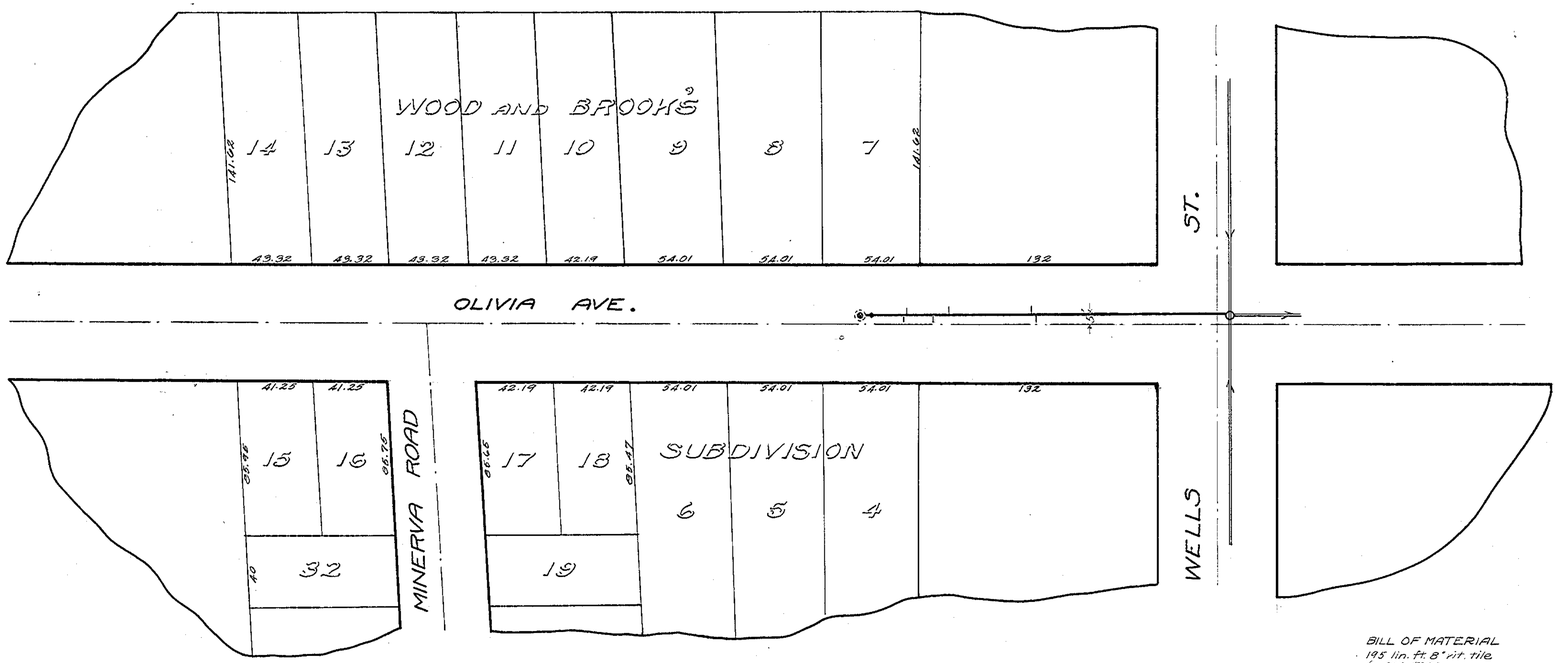
Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 40 80 160 240 320

For terms and conditions please visit www.a2gov.org/terms



BILL OF MATERIAL
195 lin. ft. 8" vit. tile
6 San Tees
1 Flushtank
EXCAVATION + BACKFILLING
207.3 lin. ft., 0-6 ft deep.

Final Measurments
0 = M.H at Wells St.
108.0 connection. W
110.0 " "
135.6 " "
164.6 " "
178.0 " "
180.0 " "

LEGEND
Center line of street
Grade line of sewer

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 10/2006
By: EMA

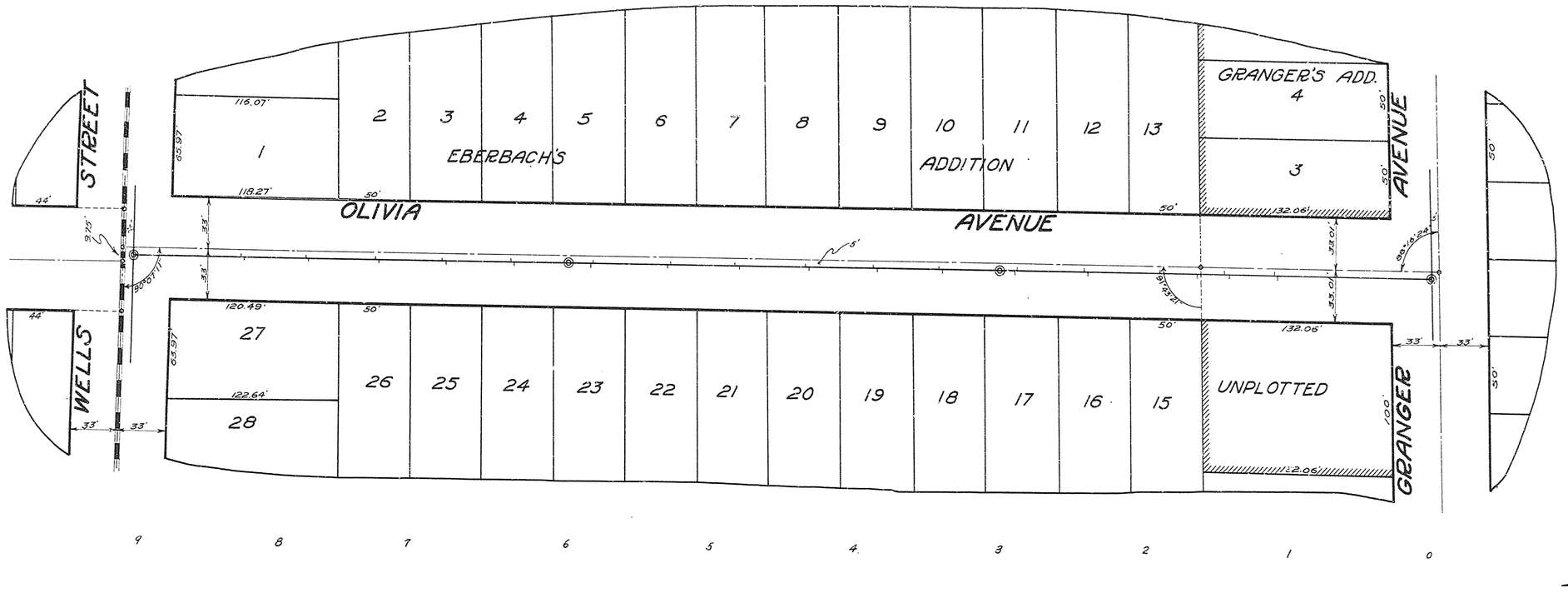
NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

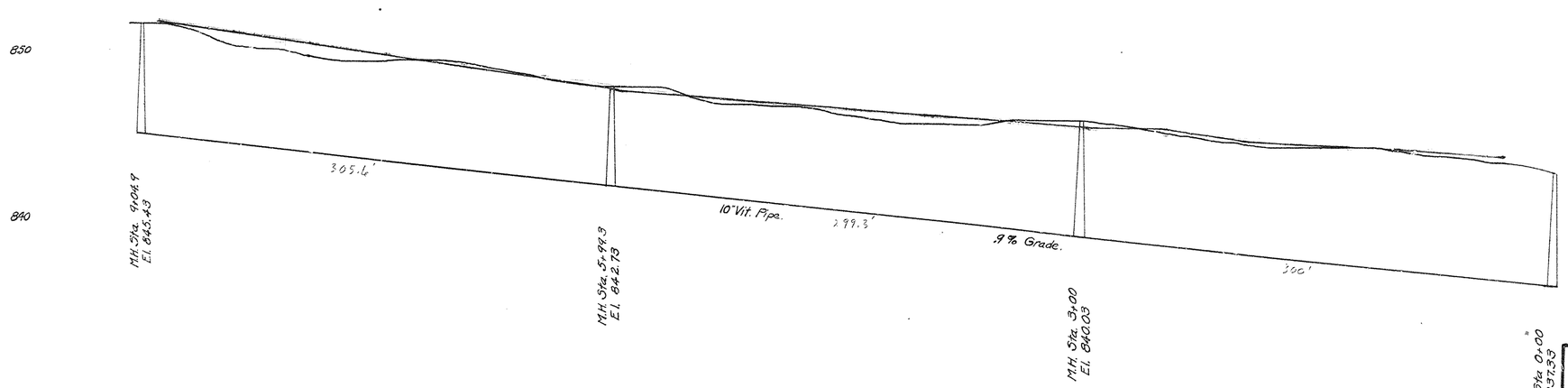
SHEET No. 235
INDEX No. 571
SHELF No. 6
SIZE C
SUB No. 70

Drawn by STEMAN
Traced by STEMAN
Checked by WMO

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT No.
OLIVIA AVE.
BETWEEN WELLS + MINERVA ROAD.

Manley Osgood, City Engineer
1915-G-1
Scales. Plan 1"=40' Prof. Hor. 1"=40' Ver. 1"=4'
One Sheet Sheet No. 1





REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

MEASUREMENTS to HOUSE CONNECTIONS
0+00 = M.H. at Granger

EAST		WEST
	y's Only	
110.0		108.0
141.0		142.0
189.0		163.0
241.6		239.6
287.8		269.8
	300=M.H	
342.3		340.3
387.3		385.3
435.5		433.5
484.0		482.0
528.0		531.0
583.3		585.3
	599.3=M.H.	
640.0		638.0
688.0		686.0
734.7		732.7
784.0		782.0
829.0		827.0

904.9 = M.H at Wells

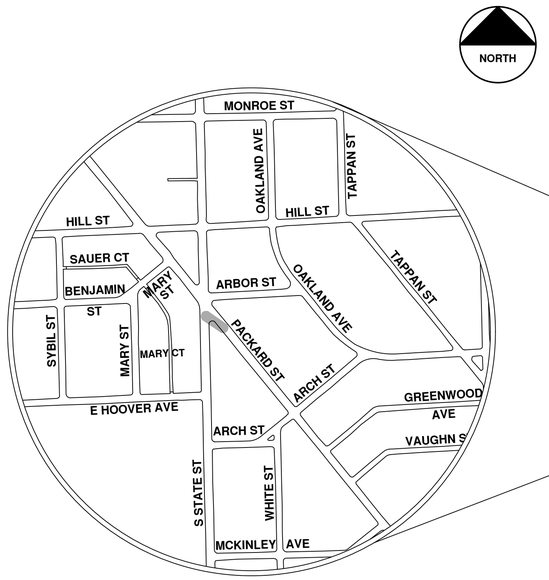
SHEET No. 234
INDEX No. 896
SHELF No. 6
SIZE C
SUB No. 280

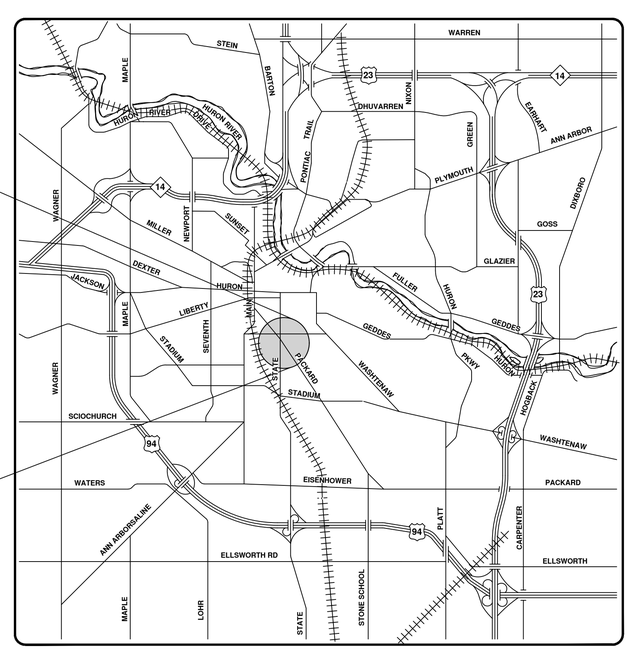
Drawn by
Traced by Reiner.
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
OLIVIA AVE.
WELLS ST. TO GRANGER AVE.
Manley Osgood, City Engineer.
1917
Scales-Plan 1"=40' Profile-Hor. 1"=40' Vert. 1"=4'

2020 SEWER LINING PROJECT

PACKARD ST





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO.	REV.	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
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CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-65

SHEET No. 65 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:24 PM

Packard St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

For terms and conditions please visit www.a2gov.org/terms

NOTE: House locations and dimensions scaled from aerial photographs and are approximate.

ARBOR ST. 66'

PACKARD ST. 66'

ARCH ST. 66'

MCKINLEY AVE.

STATE STREET 66'

HOOVER AVE. 66'

FERRY FIELD U of M

Rest.

Gas Sta.

Bulkhead

Exist curb & gutter

Detroit Edison

Conduit

Dunning Mfg.

LEGEND

- A — Existing Sanitary Sewer
- S — Proposed Sanitary Sewer
- X — Existing Storm Sewer
- R — Proposed Storm Sewer
- G — Gas Main
- W — Water Main

REFERENCES

STORM SEWER	SANITARY SEWER	CURB AND GUTTER
6-C-1020	6-C-786	6-C-1724
6-C-1550	6-C-288	6-C-1722
6-C-903	6-C-289	5-C-410
6-C-1551	6-C-307	
	6-C-783	

Sewer elevations - Book 746 pg 41
Profile - Book 717 pg 45-50
- Book 709 pg 34-37

Notes

- LOCATION OF ALL GAS AND WATER MAINS AS SHOWN ON PLAN AND PROFILE ARE APPROXIMATE.
- FOR EXACT LOCATION OF GAS MAINS AND HOUSE CONNECTIONS CONSULT MICHIGAN CONSOLIDATED GAS CO.
- FOR EXACT LOCATION OF WATER MAINS AND HOUSE CONNECTIONS CONSULT UTILITIES DEPT., CITY HALL
- CITY TO REPLACE STREET SURFACE
- LIMITS OF EXCAVATION TO BE DETERMINED BY FIELD ENGINEER WHEN DETERMINED BY FIELD ENGINEER CONCRETE ENCASEMENT OR CONCRETE CRADLE SHALL BE USED AT WATER MAIN, GAS MAIN SANITARY SEWER OR ANY OTHER PLACE WHEN NECESSARY. TO BE PAID FOR PER CUBIC YARD AS PER BID PRICE IN PROPOSAL
- CONSULT DETROIT EDISON CO FOR EXACT LOCATION OF ALL UNDERGROUND CONDUITS BEFORE ANY WORK BELOW GROUND IS BEGUN
- EXISTING 15" SANITARY SEWER AND LINES FROM HOUSES MUST BE MAINTAINED DURING CONSTRUCTION

REFERENCE LINE FOR TWO INCHES

PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS

Hoover Ave. to Packard St.
0-M.H. at Hoover Av.

EAST	WEST
93.3	55.3
105.3	103.3
139.8	150.0
213' to L.H.	
225.0	279.0
	286.0
	376.0

370' M.H.

Hoover Av. to Arch St.
0-M.H. at Hoover Av.

EAST
104.5
159.5
189.3
247.3 M.H.

Arch St. to McKinley Av.
0-M.H. at Arch St.

EAST	303' M.H.	EAST
39.3		33.01
109.2		389.0
149.7		431.0
197.8		478.01
229.0		589.0
269.0		

605' M.H.

Note - Connections to Curb No connections West, South of Hoover Ave.

34" Grade

10" V.I.T. Pipe

8" V.I.T. Pipe

M.D.H. PERMIT NO. 18069 4/2/59

Job No 2442 Dist

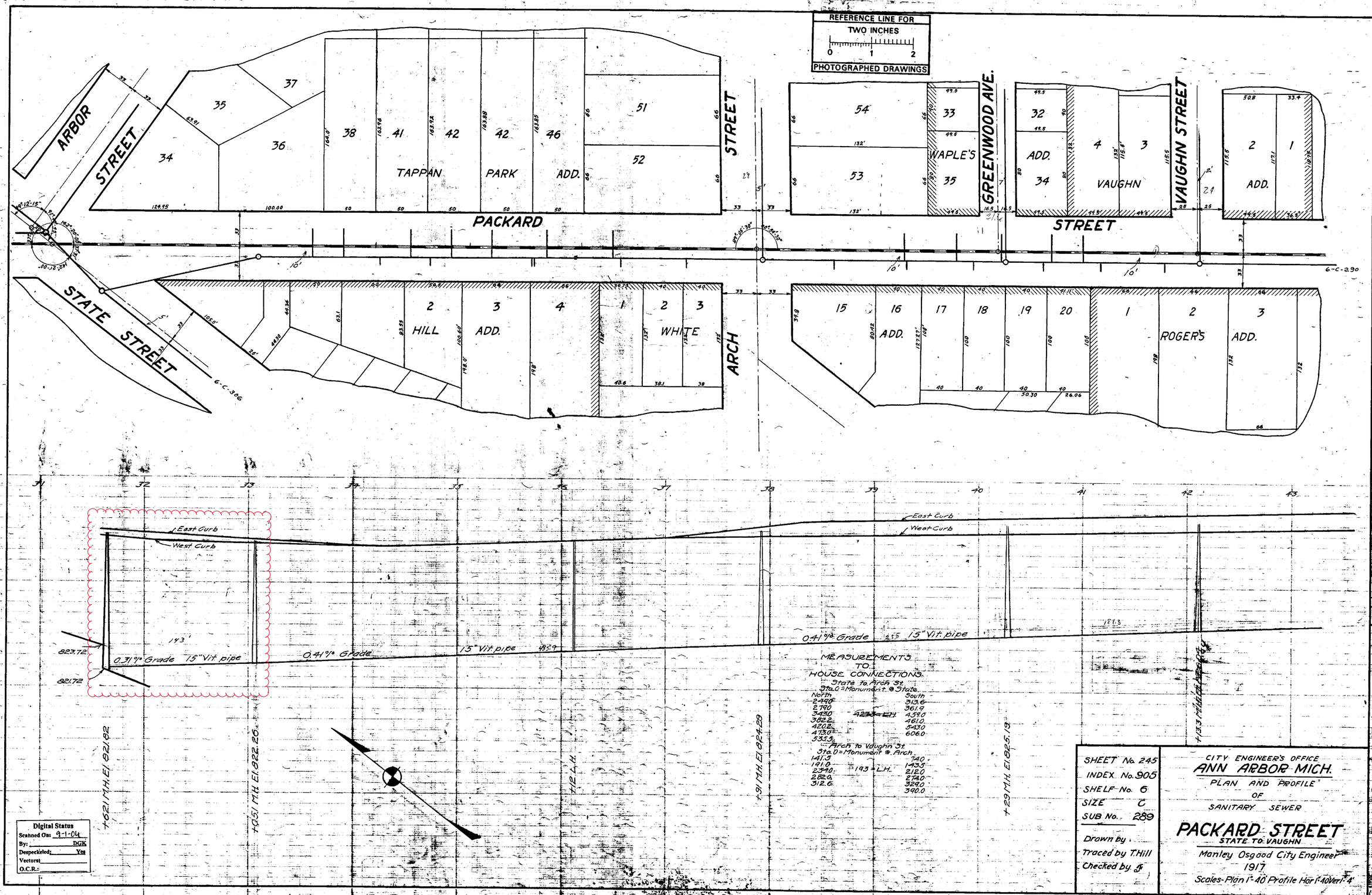
STATE STREET
REBUILDING SANITARY SEWER
1958

FREDRICK A. MAMMEL, PUBLIC WORKS DEPT.
SUPT. PUB. WORKS
ANN ARBOR, MICHIGAN

SHEET No. 273
INDEX No. 922
SHELF No. 6
SIZE C
JOB No. 306
Drawn by
Traced by Whitted
Checked by F.

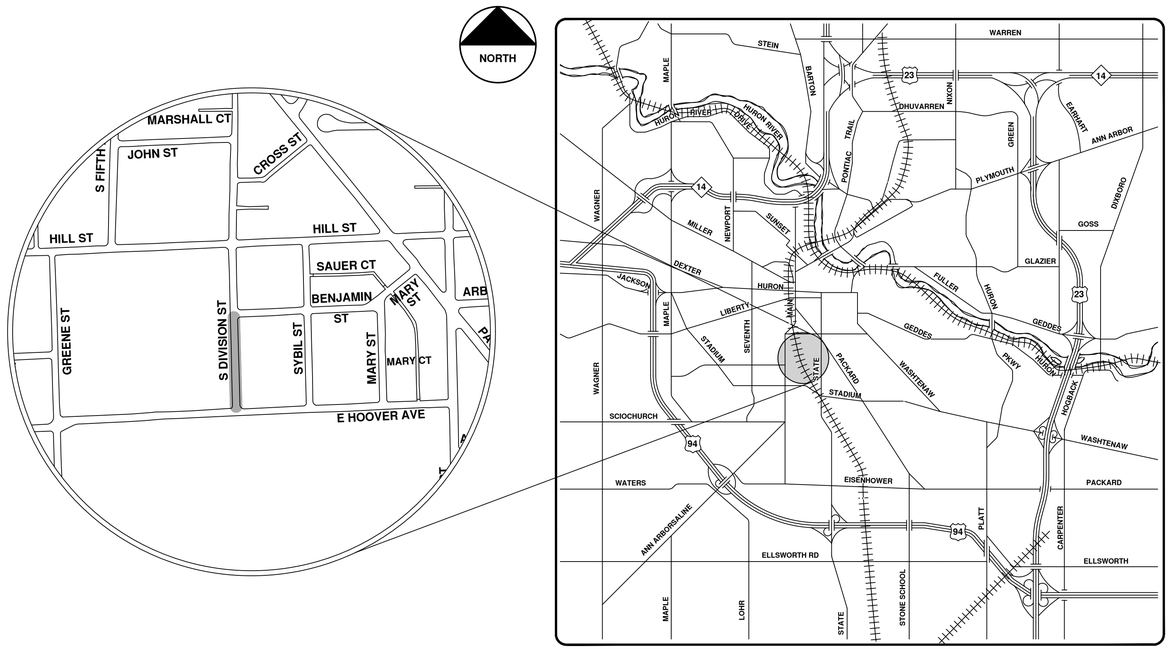
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
STATE STREET
PACKARD ST. TO McKINLEY AVE.
G.H. Sandenburgh, City Engineer
1958
Scales: Plan 1" = 40' Profile Hor. 1" = 40' Ver. 1" = 4'

Digital Status
Scanned On: 9-5-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:


REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
ARBOR STREET
STATE STREET
PACKARD STREET
ARCH STREET
GREENWOOD AVE.
VAUGHN STREET
TAPPAN PARK ADD.
WAPLE'S
VAUGHN
HILL ADD.
WHITE
ROGER'S ADD.
6-C-290
6-C-306
East Curb
West Curb
0.31% Grade 15" Vit pipe
0.41% Grade 15" Vit pipe
0.41% Grade 15" Vit pipe
823.72
821.72
+62.1 M.H. El. 821.82
+05.1 M.H. El. 822.26
+12 L.H.
+91 M.H. El. 824.29
+29 M.H. El. 825.19
+13.3 M.H. El. 826.04
MEASUREMENTS TO HOUSE CONNECTIONS
State to Arch St.
Sta. 0 = Monument @ State
North
South
Arch to Vaughn St.
Sta. 0 = Monument @ Arch
193 = L.H.
SHEET No. 245
INDEX No. 905
SHELF No. 6
SIZE C
SUB No. 289
Drawn by
Traced by T. Hill
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
PACKARD STREET
STATE TO VAUGHN
Manley Osgood City Engineer
1917
Scales-Plan 1"-40' Profile Hor 1"-40' Ver 1"-4'
Digital Status
Scanned On: 9-1-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

S DIVISION ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
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ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

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PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-69

SHEET No. 69 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:29 PM

S Division St.

N

Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

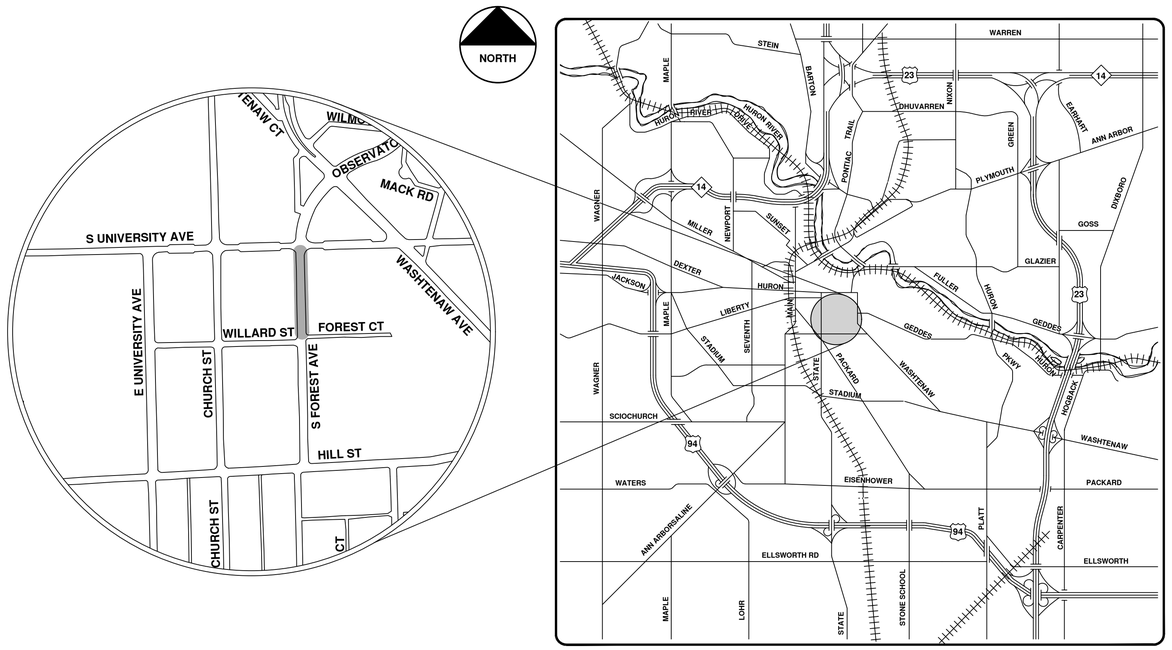
0 15 30 60 90 120 Feet

For terms and conditions please visit www.a2gov.org/terms

REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
FERRY
FIELD
HOOVER AVE.
J.F. LAWERENCE'S ADDITION
BLK. 6
DIVISION
STREET
WEINBERG'S
STREET
J.F. LAWERENCE'S
BENJAMIN ST.
ADDITION
HILL
SUBDIVISION
M.H. at Hoover Ave.
M.H. at Benjamin St.
M.H. at Hill St.
4 % Grade
15" Vit. Pipe
37 % Grade
+61 M.H. 816.10
+99 M.H. 814.25
+74 M.H. 813.05
820
810
SHEET No 14
INDEX No. 722
SHELF No. 6
SIZE C
SUB No. 110
Drawn by G.H.S.
Traced by G.H.S.
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
MAINSANITARY SEWER
HILLST TO HOOVER AVE.
Manley Osgood City Engineer.
1918
Scales Plan 1"=40' Profile Hor 1"=40' Vert 1"=4'
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

S FOREST AVE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

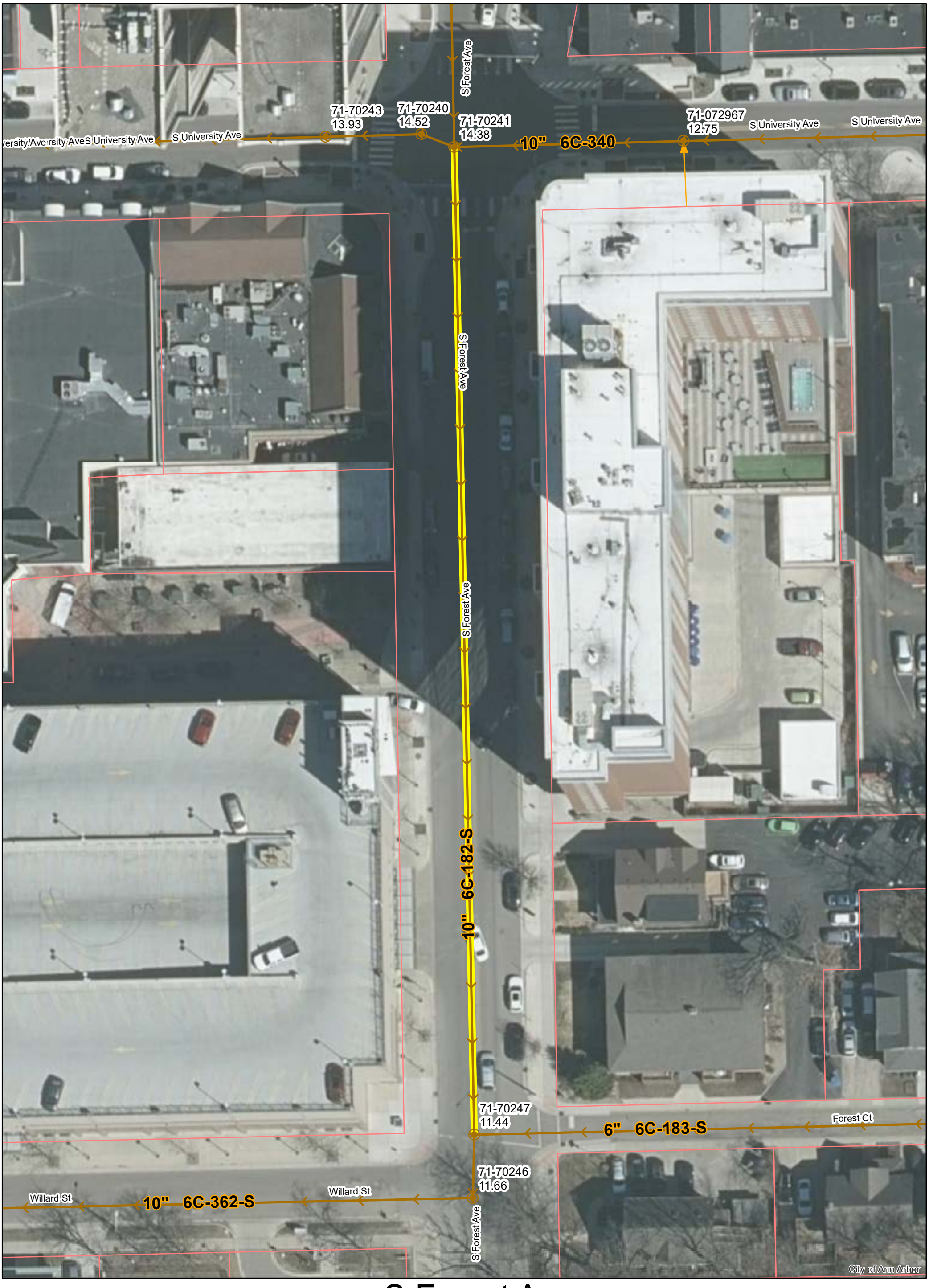
SCALE

DRAWING No. 2020039-72

SHEET No. 72 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:34 PM



S Forest Ave.

N

Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

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N

REFERENCE LINE FOR TWO INCHES.
0 1 2
PHOTOGRAPHED DRAWINGS

R.S.SMITH'S ADDITION
74 73 F8 F7 2 3 4
FOREST AVE.
FOREST COURT
SMITH'S ADDITION
5 6 7 8 9 10 2 1
ST.
S. UNIVERSITY AVE.
PART OF 71 70 F6 F5 SECOND ADDITION 10 9 8
WILLARD ST.
1 2 3 4 5 8 7
HILL
2 1
23 24

1 2 3 4 5 6 7 8 9 10 11

N

Sta. 0+00 @ So. Univ. Ave.
Sta. 0+55.5 M.H. El. 882.43
10% 10" Pipe
Sta. 4+90 @ Willard
Sta. 5+47 @ El. 861.99
Sta. 7+87 M.H. El. 853.49
10% 250 8" Vit. Pipe 24"
Sta. 10+34.5 M.H. El. 856.99

880 870 860 850

MEASUREMENTS TO HOUSE CONNECTIONS
Willard to So. Univ.

WEST		EAST
129.0	M.H. @ Willard = 0.0	47.0
199.0		117.5
268.0		180.3
270.0		226.0
348.0		310.0
		342.0

Hill To Willard
M.H. @ Hill = 0.0

61.0		65.0
125.5		127.5
191.0		193.0
245.0	Manhole	245.0
255.5		326.5
324.5		390.0
388.0		454.0
462.0		259.5
495.0	Flushtank	495.0

BENCH MARKS (U.S.G.S.)
Mid. @ Willard - Elev. 874.33.
Top of Conc. Post - N.E. Cor. Hill - Elev. 866.29

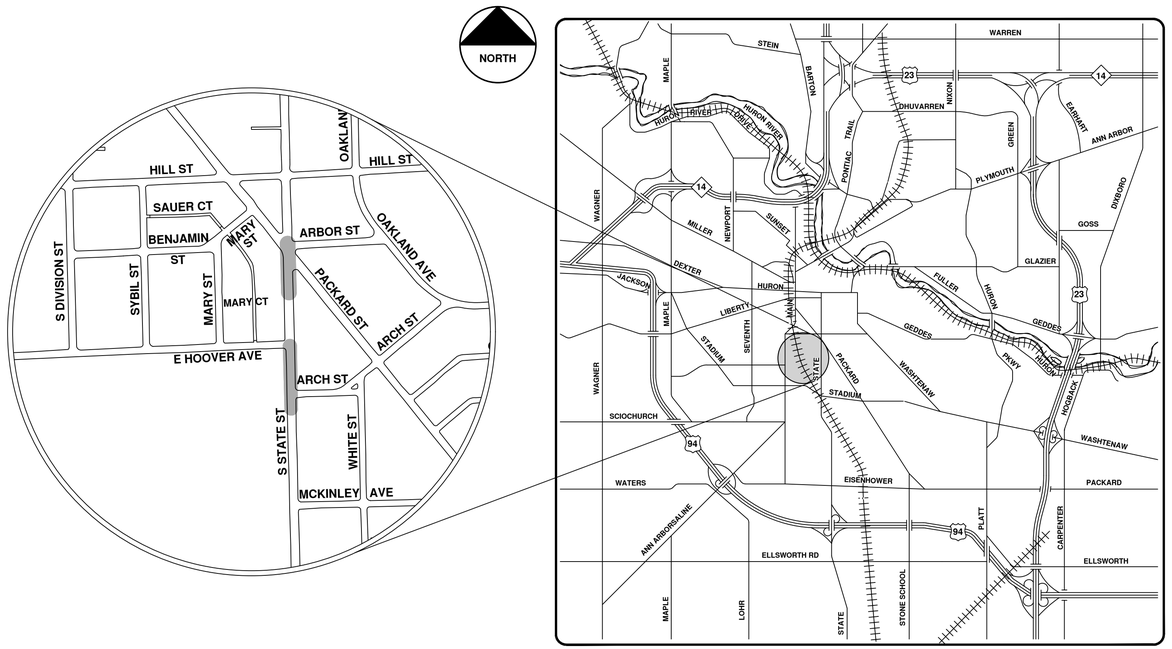
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

SHEET No.	111
INDEX No.	797
SHELF No.	6
SIZE	C
SUB No.	182
Drawn by	
Traced by	G.M.B.
Checked by	

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
FOREST AVE.
S. UNIVERSITY AVE. TO HILL ST.
Manley Osgood, City Engineer.
1917
SCALES- Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

2020 SEWER LINING PROJECT

S STATE ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-75

SHEET No. 75 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:39 PM

S State St.

N

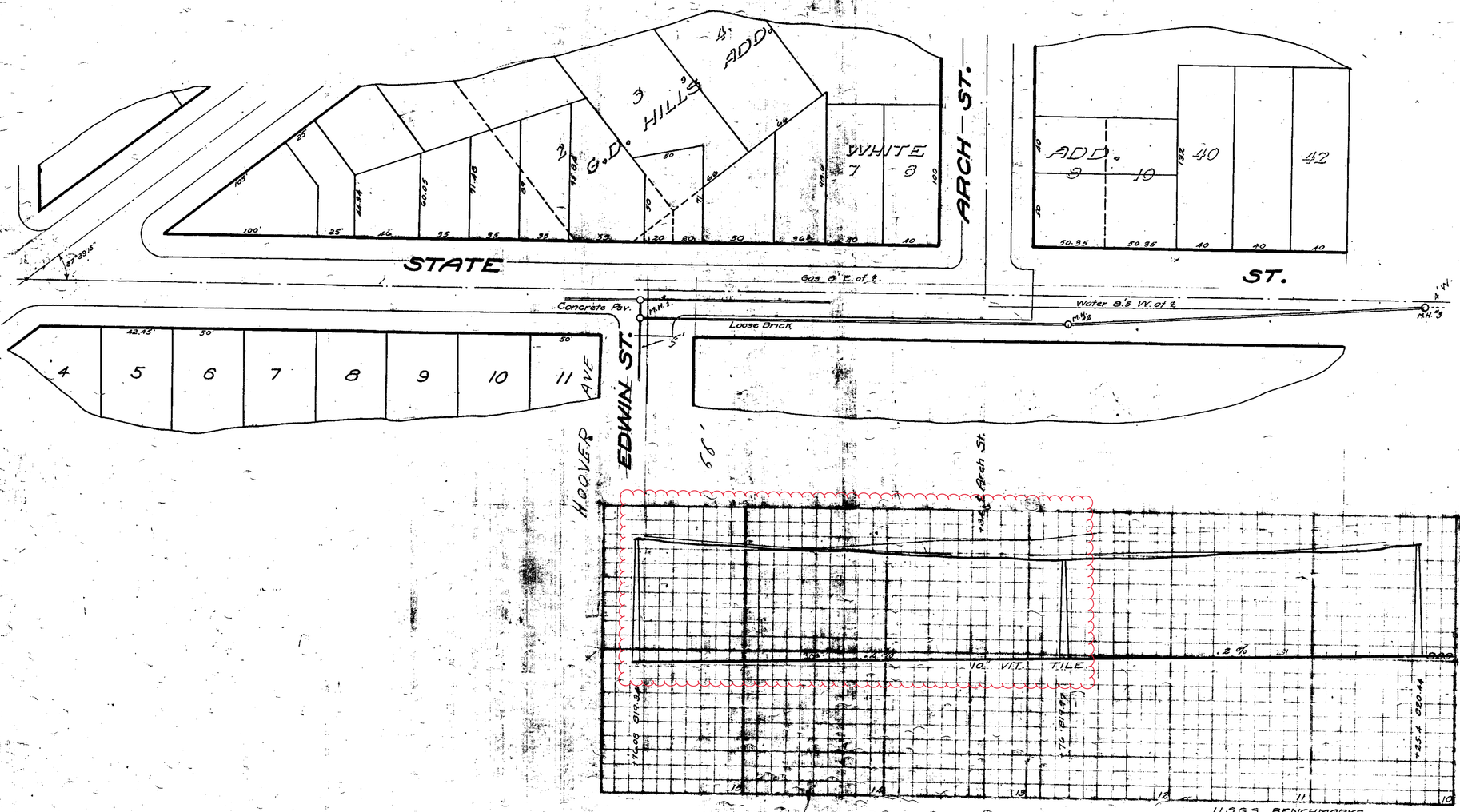
Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms


STATE
ARCH ST.
EDWIN ST.
HOOVER AVE
ADD.
3
HILL'S
4th
WHITE
7 - 8
ADD.
9
10
40
42
ST.
Concrete Pav.
Gas 8' E. of ℄
Water 8.5 W. of ℄
Loose Brick
M.H.
4
5
6
7
8
9
10
11
42.43
50
100
25
44.4
40.05
41.48
39
38
33
41.84
50
20
80
50
36.6
40
40
37°39'15"
50.95
182
30
10" V.I.T. TILE
.2 %
+1.4
+0.2
+0.8
+0.9
+0.6
+0.4
+0.0
+0.1
+0.3
+0.5
+0.7
+0.9
+1.1
+1.4
+1.6
+1.8
+2.0
+2.2
+2.4
+2.6
+2.8
+3.0
+3.2
+3.4
+3.6
+3.8
+4.0
+4.2
+4.4
+4.6
+4.8
+5.0
+5.2
+5.4
+5.6
+5.8
+6.0
+6.2
+6.4
+6.6
+6.8
+7.0
+7.2
+7.4
+7.6
+7.8
+8.0
+8.2
+8.4
+8.6
+8.8
+9.0
+9.2

S State St.

N

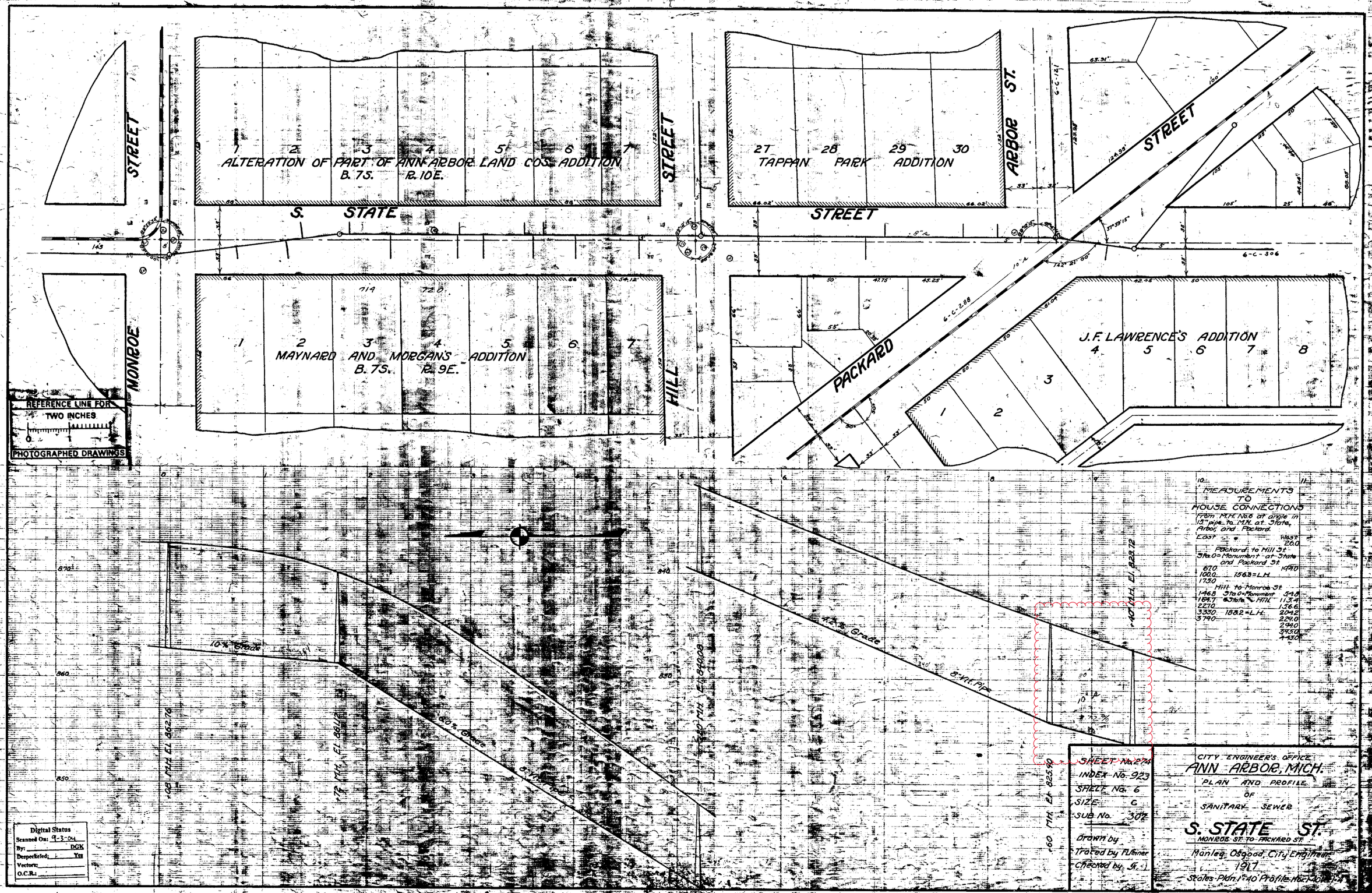
Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

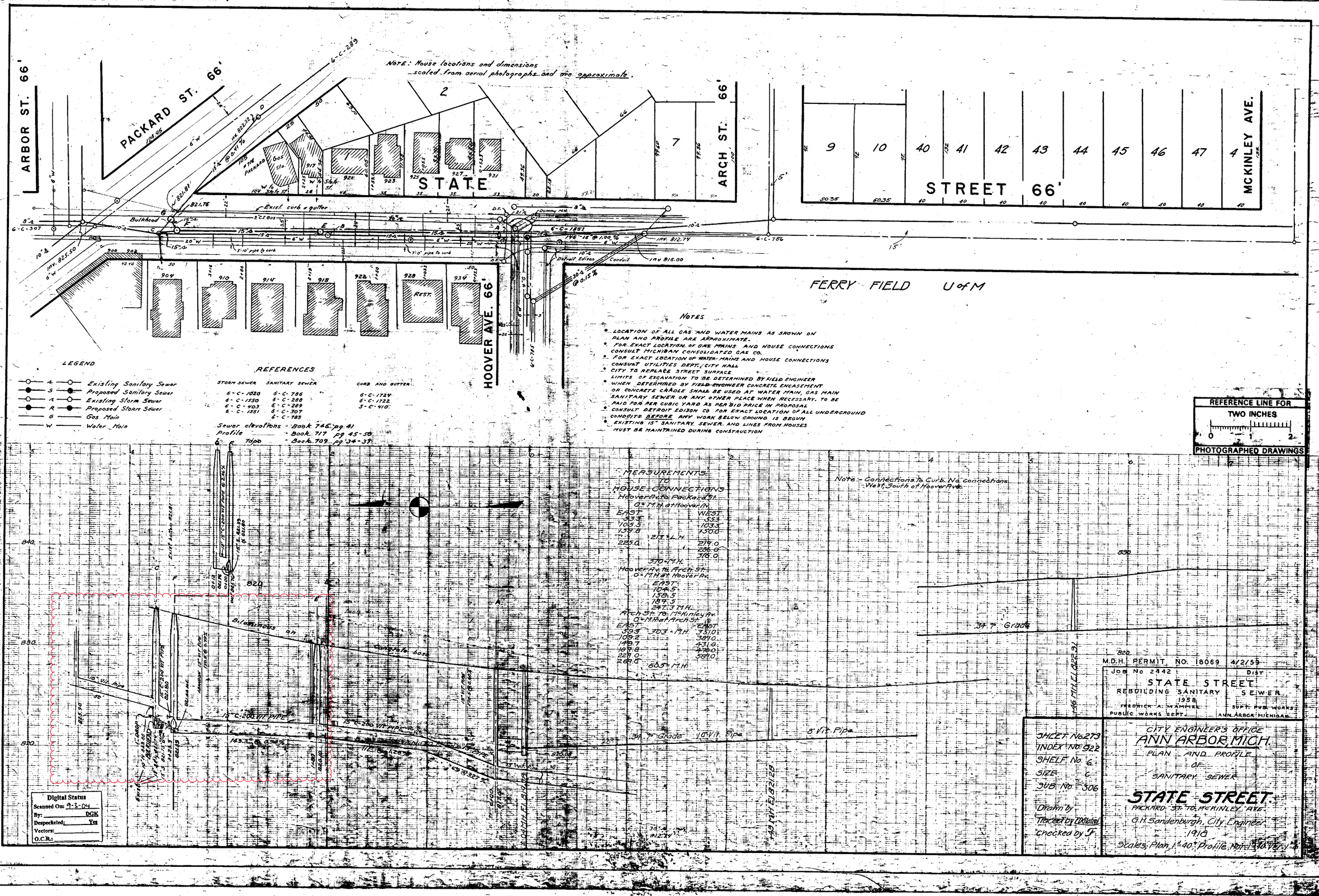
1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

For terms and conditions please visit www.a2gov.org/terms



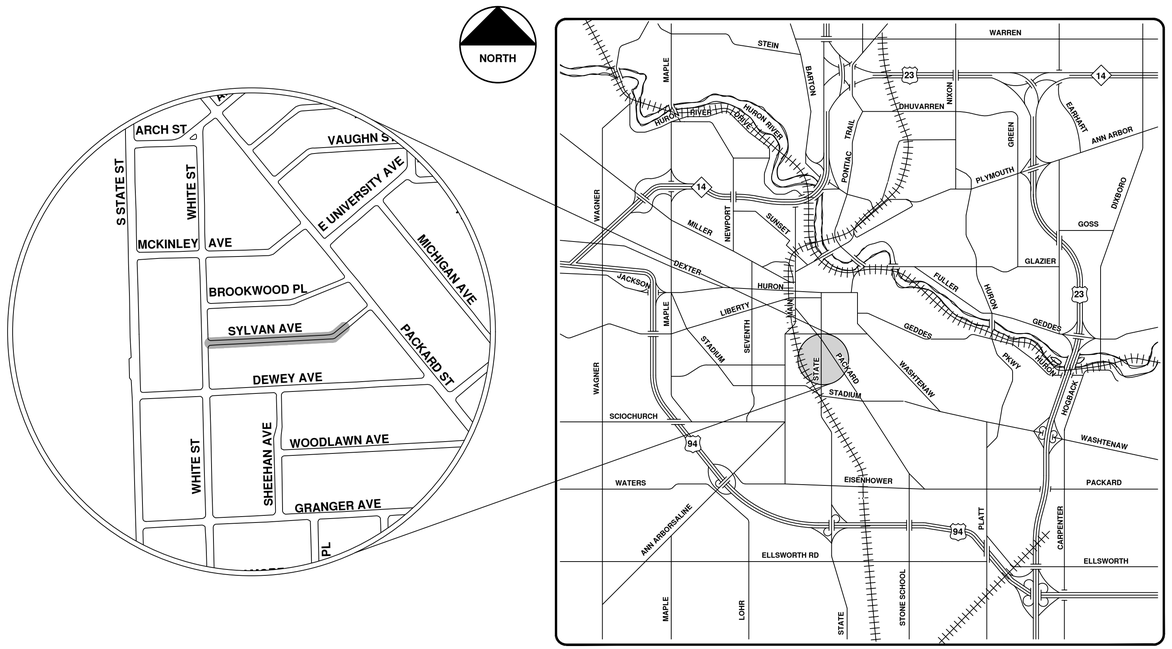
MONROE STREET
ALTERATION OF PART OF ANN ARBOR LAND COS. ADDITION
B. 7S. R. 10E.
S. STATE STREET
HILL STREET
TAPPAN PARK ADDITION
ARBOR ST.
PACKARD STREET
MAYNARD AND MORGAN'S ADDITION
B. 7S. R. 9E.
J. F. LAWRENCE'S ADDITION
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
10% Grade
4.2% Grade
8" Vit. Pipe
MEASUREMENTS TO HOUSE CONNECTIONS
From M.H. No. 6 at angle in 15" pipe to M.H. at State, Arbor, and Packard.
East West
Packard to Hill St.
Sta. 0 = Monument at State and Packard St.
Hill to Monroe St.
Sta. 0 = Monument
State & Hill
SHEET No. 274
INDEX No. 923
SHELF No. 6
SIZE C
SUB No. 302
Drawn by
Traced by F. Leiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER
S. STATE ST.
MONROE ST. TO PACKARD ST.
Manley Osgood, City Engineer
1917
Scales Plan 1" = 40' Profile Hor. 1" = 40' Vert. 1" = 4'
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:



NOTE: House locations and dimensions scaled from aerial photographs and are approximate.
ARBOR ST. 66'
PACKARD ST. 66'
STATE
ARCH ST. 66'
STREET 66'
MCKINLEY AVE.
HOOVER AVE. 66'
FERRY FIELD U of M
Exist. curb & gutter
Bulkhead
Detroit Edison Conduit
Inv. 812.74
Inv. 816.00
Inv. 825.50
6-C-307
6-C-786
6-C-1851
6-C-289
6-C-1020
6-C-1550
6-C-403
6-C-1551
6-C-786
6-C-288
6-C-289
6-C-307
6-C-785
6-C-1724
6-C-1722
5-C-410
Sewer elevations - Book 746 pg. 41
Profile - Book 717 pg 45-50
Topo - Book 709 pg 34-37
LEGEND
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Storm Sewer
Proposed Storm Sewer
Gas Main
Water Main
REFERENCES
STORM SEWER
SANITARY SEWER
CURB AND GUTTER
Notes
LOCATION OF ALL GAS AND WATER MAINS AS SHOWN ON PLAN AND PROFILE ARE APPROXIMATE.
FOR EXACT LOCATION OF GAS MAINS AND HOUSE CONNECTIONS CONSULT MICHIGAN CONSOLIDATED GAS CO.
FOR EXACT LOCATION OF WATER MAINS AND HOUSE CONNECTIONS CONSULT UTILITIES DEPT., CITY HALL
CITY TO REPLACE STREET SURFACE
LIMITS OF EXCAVATION TO BE DETERMINED BY FIELD ENGINEER WHEN DETERMINED BY FIELD ENGINEER CONCRETE ENCASEMENT OR CONCRETE CRADLE SHALL BE USED AT WATER MAIN, GAS MAIN SANITARY SEWER OR ANY OTHER PLACE WHEN NECESSARY. TO BE PAID FOR PER CUBIC YARD AS PER BID PRICE IN PROPOSAL
CONSULT DETROIT EDISON CO FOR EXACT LOCATION OF ALL UNDERGROUND CONDUITS BEFORE ANY WORK BELOW GROUND IS BEGUN
EXISTING 15" SANITARY SEWER AND LINES FROM HOUSES MUST BE MAINTAINED DURING CONSTRUCTION
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
MEASUREMENTS TO HOUSE CONNECTIONS
Hoover Av. to Packard St.
O = M.H. at Hoover Av.
EAST
WEST
213 = L.H.
370 = M.H.
Hoover Av. to Arch St.
O = M.H. at Hoover Av.
EAST
Arch St. to McKinley Av.
O = M.H. at Arch St.
303 = M.H.
605 = M.H.
Note - Connections to Curb. No connections West, South of Hoover Ave.
34" Grade
10" Vit. Pipe
8" Vit. Pipe
15" C-200 Vit. Pipe
Bituminous on Concrete base
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
M.D.H. PERMIT NO. 18069 4/2/59
JOB No 2442 DIST
STATE STREET
REBUILDING SANITARY SEWER
1958
FREDRICK A. MAMMEL
PUBLIC WORKS DEPT.
SUPT. PUB. WORKS
ANN ARBOR MICHIGAN
SHEET No. 273
INDEX No. 922
SHELF No. 6
SIZE C
SUB No. 306
Drawn by
Traced by
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER
STATE STREET
PACKARD ST. TO McKINLEY AVE.
G.H. Sandenburgh, City Engineer
1918
Scales: Plan, 1" = 40', Profile, Hor. 1" = 40', Ver. 1"

2020 SEWER LINING PROJECT

SYLVAN AVE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK
REV.				

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-81

SHEET No. 81 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:44 PM

Sylvan Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

For terms and conditions please visit www.a2gov.org/terms

BENCH MARK A: ELEVATION: 831.43
COTTON SPINDLE IN S. SIDE OF POWER POLE AT NE QUAD. OF SYLVAN AND WHITE

APPLY ROAD SECTION PER UTILITY TRENCH TYPE 1 MODIFIED DETAIL

APPLY PERMEABLE PAVEMENT WITH WATERPROOF LINER CROSS SECTION (SEE DETAIL SHEET)

NORTH

SEE SHT. 4

POB +27.0

+53.81

ONE WAY R6-1L / ONE WAY R6-1R BY OTHERS

SEE SHT. 6 FOR ADA AND INTERSECTION GRADING DETAILS

SANITARY SEWER REPAIR
38' SANITARY SEWER REPAIRED
#801 FF ELEV 835.75
CB #2 (RPL) (2 EA.)

28 LF 12" RCP CLIV STORM SEWER
11' SANITARY SEWER REPAIRED
8.5' SANITARY SEWER REPAIRED
PROTECT MONUMENT
N: 279958.9396
E: 13293172.4103
STA: 0+40.59
OFFSET: 0.33' LT (ADJ)
0+00
N 279956.5441
E 13293131.8903
PLACE CURB & GUTTER
SEE SHT. 7 FOR WATERMAIN DETAILS

WHITE STREET

11 LF 12" RCP CLIV STORM SEWER
CB #1 (RPL) (2 EA.)

ONE WAY R6-1L / ONE WAY R6-1R BY OTHERS

PLACE CONCRETE SIDEWALK (TYP)
6" WRAPPED PERFORATED UNDERDRAIN
6" NON-PERFORATED UNDERDRAIN OUTLET (10 TYP THIS SHEET)
6" NON-PERFORATED UNDERDRAIN
PLACE CONCRETE CURB & GUTTER (TYP)
6" NON-PERFORATED UNDERDRAIN TEE, EXTENSION AND CAP PLACED TO RIGHT-OF-WAY (18 TYP THIS SHEET)

#800 FF ELEV 833.95
#805 FF ELEV 836.10
#806 FF ELEV 836.34
#810 FF ELEV 834.69
#811 FF ELEV 835.91
#814 FF ELEV 835.41
#820
#821 FF ELEV 836.49
#823 FF ELEV 836.53
#824 FF ELEV 835.18
#825 FF ELEV 835.40
#827 FF ELEV 836.61
#830 FF ELEV 834.75
#903 FF ELEV 835.25
#906 FF ELEV 835.06
#909 FF ELEV 835.28
#910 FF ELEV 835.05

SB-C1 SB-C2 SB-C3 SB-C6
N87°09'11"E 545.83'

SE COR. OF HOUSE
SW COR. OF HOUSE
SE COR. OF HOUSE
SE COR. OF HOUSE
SW COR. OF BUILDING
3' SW CORNER OF HOUSE
NE CORNER
NW CORNER
NE CORNER OF HOUSE
2' WEST OF NW CORNER OF HOUSE
2' WEST OF NE CORNER OF BUILDING

ADJUST RIM/CASTING BY OTHERS

MATCHLINE STA 5+50

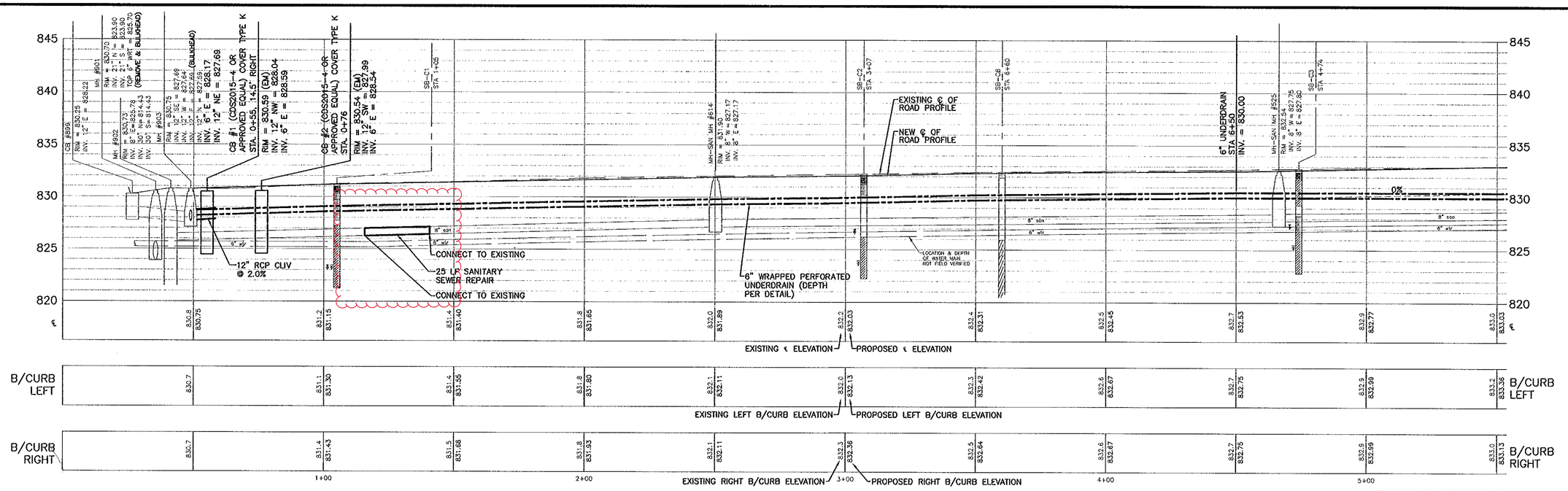
3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

- PROPOSED STANDARD HMA PAVEMENT SECTION
- PROPOSED PERMEABLE HMA PAVEMENT
- (RPL) REPLACE STRUCTURE COVER/RIM/CASTING PER ENGINEER
- (REL) REMOVE & RELOCATE CURB STOP & BOX (SEE NOTE 6 THIS SHEET)
- (ADJ) ADJUST MONUMENT BOX OR GATE VALVE BOX

NOTES

1. CONTRACTOR TO COORDINATE WITH CITY ON ROADWAY LAYOUT AND STAKING OF CURB AND GUTTER AND SIDEWALK. CONTRACTOR SHALL FIELD REVIEW CURB AND GUTTER AND SIDEWALK GRADES FOR LOCATIONS TO IMPROVE VERTICAL SYMMETRY OF LEFT AND RIGHT CURB ELEVATIONS. ALL SIDEWALK AND SIDEWALK RAMPS SHALL COMPLY WITH ADA GUIDELINES.
2. CONTRACTOR TO PROTECT TREES, SHRUBS AND LANDSCAPING FROM ALL DAMAGE DURING CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND EACH PROPERTY OWNER ON LOCATION AND PLACEMENT OF 6" NON-PERFORATED UNDERDRAIN TEE, EXTENSION AND CAP PLACED TO RIGHT-OF-WAY.
4. CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE DURING CONSTRUCTION.
5. PERMANENT SIGNING AND PAVEMENT MARKINGS TO BE INSTALLED BY CITY OF ANN ARBOR.
6. RELOCATE CURB STOP & BOX IF LOCATED IN CURB OR ROAD PER SPECIFICATIONS, AND AS DIRECTED BY THE ENGINEER.
   A. ALL CURB STOP BOX CASTINGS ARE TO BE RELOCATED PER PLAN AND AS DIRECTED BY THE ENGINEER. CITY TO PROVIDE CONTRACTOR WITH CASTINGS.
   B. ALL CURB STOPS ARE TO BE RELOCATED BY THE CITY.



PLAN & PROFILE
STA 0+00 TO 5+50

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

DIGITAL STATUS
SCANNED ON: 11/11
BY: AllG

LEGEND

EXISTING: SHRUBS, CONIFEROUS TREE, HEDGE EDGE OF WOODS, DECIDUOUS TREE, UTILITY POLE, SIGN, FENCE, CURB & GUTTER, TITLE LINE / PROPERTY LINE, ROW LINE, GRAVEL SURFACE, 8" SAN. SANITARY SEWER & MANHOLE, 12" STM. STORM SEWER & MANHOLE, CATCH BASIN CURB TYPE, ROOF DRAIN, VALVE, HYDRANT, 6" WTR. WATER MAIN, 2" GAS GAS MAIN, UNDERGROUND ELECTRIC, FIBER OPTICS, UNDERGROUND TELEPHONE, CABLE TELEVISION
PROPOSED: 12" STORM STORM SEWER & MANHOLE, CATCH BASIN, UNDERDRAIN, PROPOSED CURB & GUTTER
MISC.: GROUND WATER FLOW DIRECTION (PER CITY RECORDS), BENCHMARK, PROPOSED GATE VALVE IN BOX, PROTECTIVE FENCING

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	11/2011	ARG	
			ORIGINAL ISSUE			

frc&h
engineers
scientists
architects
constructors
fishbeck, thompson, carr & huber, inc.

City of Ann Arbor
City of Ann Arbor, Washtenaw County, Michigan

Sylvan Avenue
Permeable Pavement Project

2/26/2010 BIDS AND CONSTRUCTION

Drawn By	MJA
Designer	CEW
Reviewer	CEW
Manager	CEW

Hard copy is intended to be 24"x36" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

PROJECT NO.
G090663

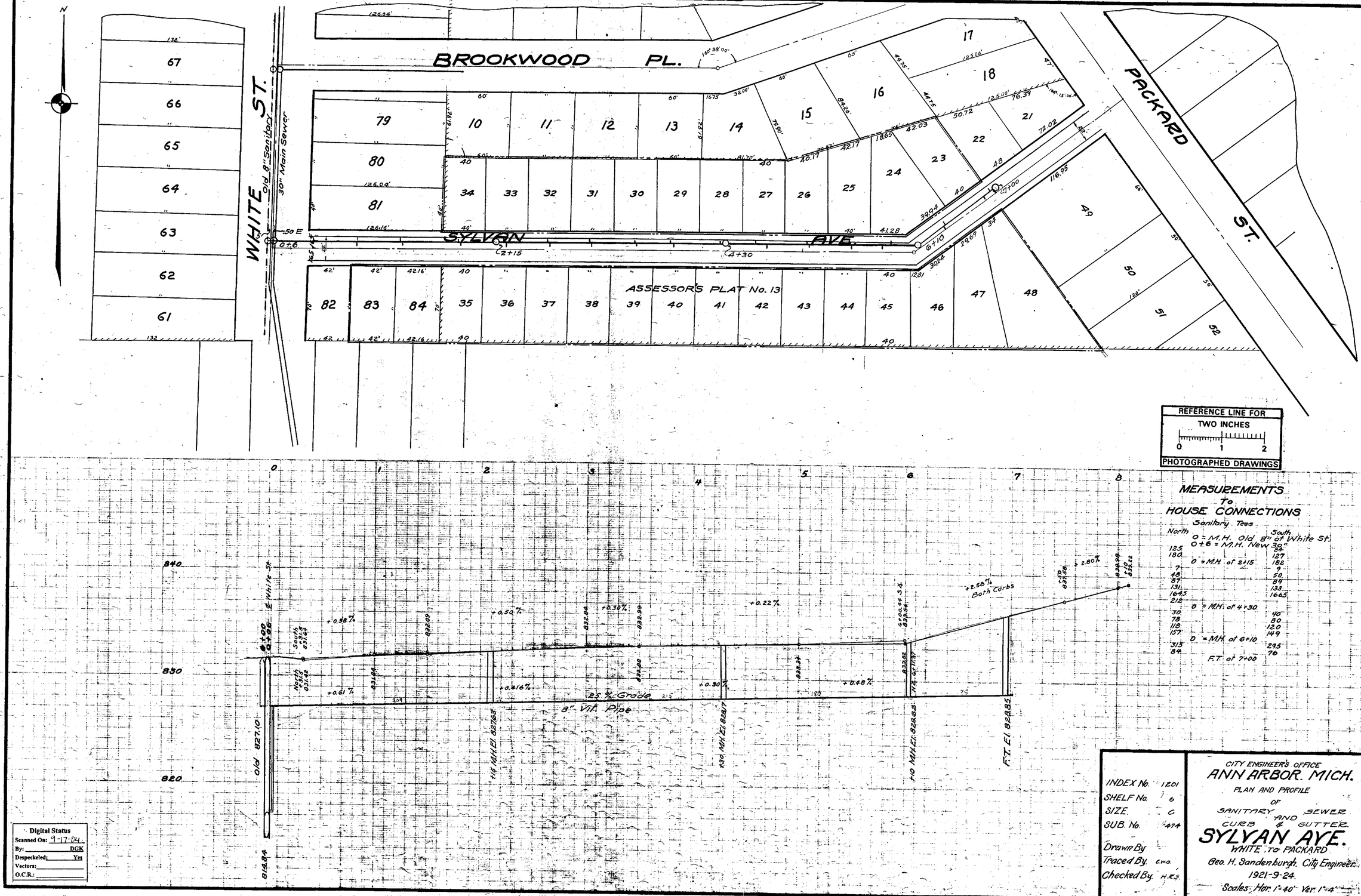
CITY OF ANN ARBOR - PROJECT MANAGEMENT SERVICES UNIT

PERMEABLE PAVEMENT PROJECT
SYLVAN AVENUE
WHITE ST. TO PACKARD ST.

SCALE HORZ. 1"=20' VERT. 1"=5'
INCH 0 1
DRAWING FILE: C0040906663.dwg
SHEET NO. 4 OF 8

2009034-R1

PLOT INFO: S:\PROJECT MANAGEMENT\DRAFTING\AUTOCAD\2009034\AS-BUILT\2009034-R1.DWG DATE: 11/29/2011 TIME: 10:20:04 AM USER: ARCOSHAUX


N
WHITE ST.
Old 8" Sanitary
30" Main Sewer
BROOKWOOD PL.
SYLVAN AVE.
PACKARD ST.
ASSESSOR'S PLAT No. 13
50 E
0+6
2+15
4+30
0+10
7+00
67
66
65
64
63
62
61
79
80
81
10
11
12
13
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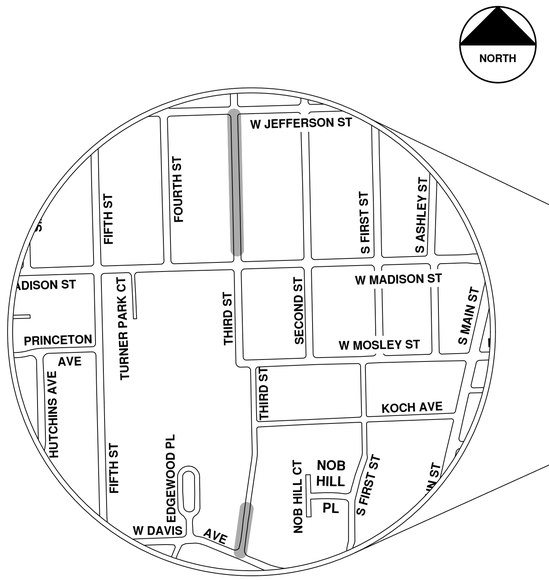
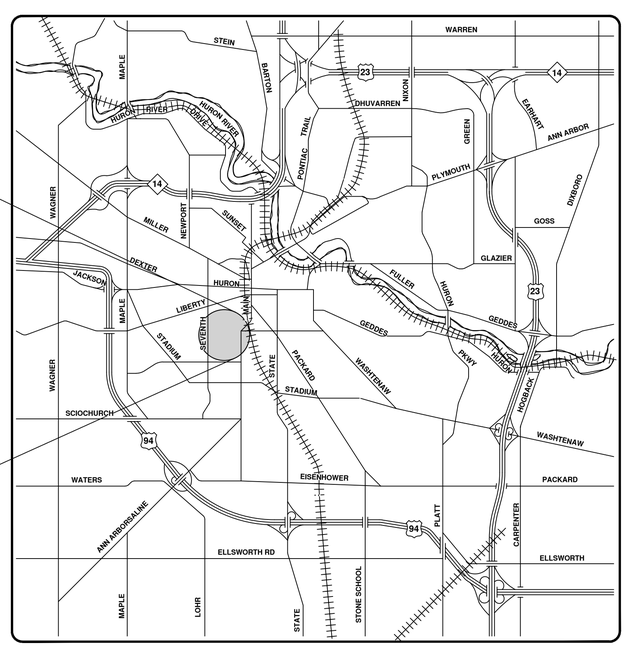
51
52
82
83
84
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
0
1
2
3
4
5
6
7
8
840
830
820
E White St.
0+00
0+06
South
836.8
836.5
North
836.8
836.5
Old 827.10
814.84
+0.38%
+0.61%
+0.50%
+0.16%
+0.30%
+0.22%
+0.48%
+2.58%
Both Curbs
+2.80%
832.09
832.88
832.99
833.34
833.88
833.54
833.37
833.58
833.96
834.12
125' Grade
8" V.T.P. Pipe
1-5 MH El. 827.63
2-30 MH El. 828.17
3-10 MH El. 828.63
F.T. El. 828.85
MEASUREMENTS
To
HOUSE CONNECTIONS
Sanitary Tees
North
South
0 = M.H. Old 8" of White St.
0+6 = M.H. New 30"
125
180
0 + M.H. of 2+15
7
45
97
131
164.5
212
0 = M.H. of 4+30
30
78
118
157
0 = M.H. of 6+10
315
84
F.T. of 7+00
34
127
182
9
50
89
133
166.5
40
80
120
149
295
76
Digital Status
Scanned On: 9-17-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:
INDEX No. 1201
SHELF No. 6
SIZE C
SUB. No. 474
Drawn By
Traced By C.W.A.
Checked By H.R.S.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY AND SEWER
CURB & GUTTER
SYLVAN AVE.
WHITE TO PACKARD
Geo. H. Sandenburgh, City Engineer.
1921-9-24.
Scales: Hor. 1"=40' Ver. 1"=4'

2020 SEWER LINING PROJECT

THIRD ST





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-85

SHEET No. 85 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:49 PM

71-64060
7.46

8" 6C-549

71-64053
12.08

Third St

8" 6C-549

8" 6C-548

W Davis Ave

71-64045
8.98

8" 6C-548

W Davis Ave

W Davis Ave

Wilder Pl

City of Ann Arbor

Third St.

N

CITY OF ANN ARBOR MICHIGAN

Manhole
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms

MOSLEY ST.

THIRD ST.

SUB'D.

EDGEWOOD ADD.

DAVIS ST.

ST.

12" Storm Sewer

8" Sanitary Sewer

4" Water Main

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

N

Not a Vertical Projection

0 Storm Sewer Sta. 1+26.2 M.H. Elev. 871.40

12" Vit. Pipe Storm Sewer 14.02% Grade

8" Vit. Pipe Sanitary Sewer 15.62% Grade

0+00 Storm M.H. @ Roselay Elev. 880.40

0+42.2 M.H. Elev. 864.10

12" Vit. Pipe Storm 8.80% Grade

8" Vit. Pipe Sanitary 10.62% Grade

1+00 M.H. Elev. 858.60

0+00 M.H. Elev. 859.10

3+00 M.H. Elev. 895.70

8" Vit. Pipe 1% Grade

8" Vit. Pipe 10% Grade Sanitary Sewer

4+25 M.H. Elev. 904.00

8.9% Grade

14.02% Grade

12" Storm Sewer

8" Sanitary Sewer 13.62% Grade

3+00 M.H. Elev. 895.70

MEASUREMETS TO HOUSE CONNECTIONS Ys Only 0+00 M.H. @ Mosley

East	0+00 M.H.	West
	100' M.H.	
123		120
163		125
204		165
237.5		206
		237.5
		279
	300' M.H.	
323		321
344.5		363.5
392.5		394.5
	425' M.H.	
454.5		456.5
503.5		594.5
580		532.
592		592
	625 F.T.	

4+25 M.H. Elev. 904.00

6+25 F.T. Elev. 906.99

2+76 F.T. Elev. 907.50

8" Vit. Pipe

5.42% Grade

137' M.H. Elev. 922.00

0+00 M.H. Elev. 892.80

MEASUREMENTS TO HOUSE CONNECTIONS Ys Only 0+00 M.H. @ Davis

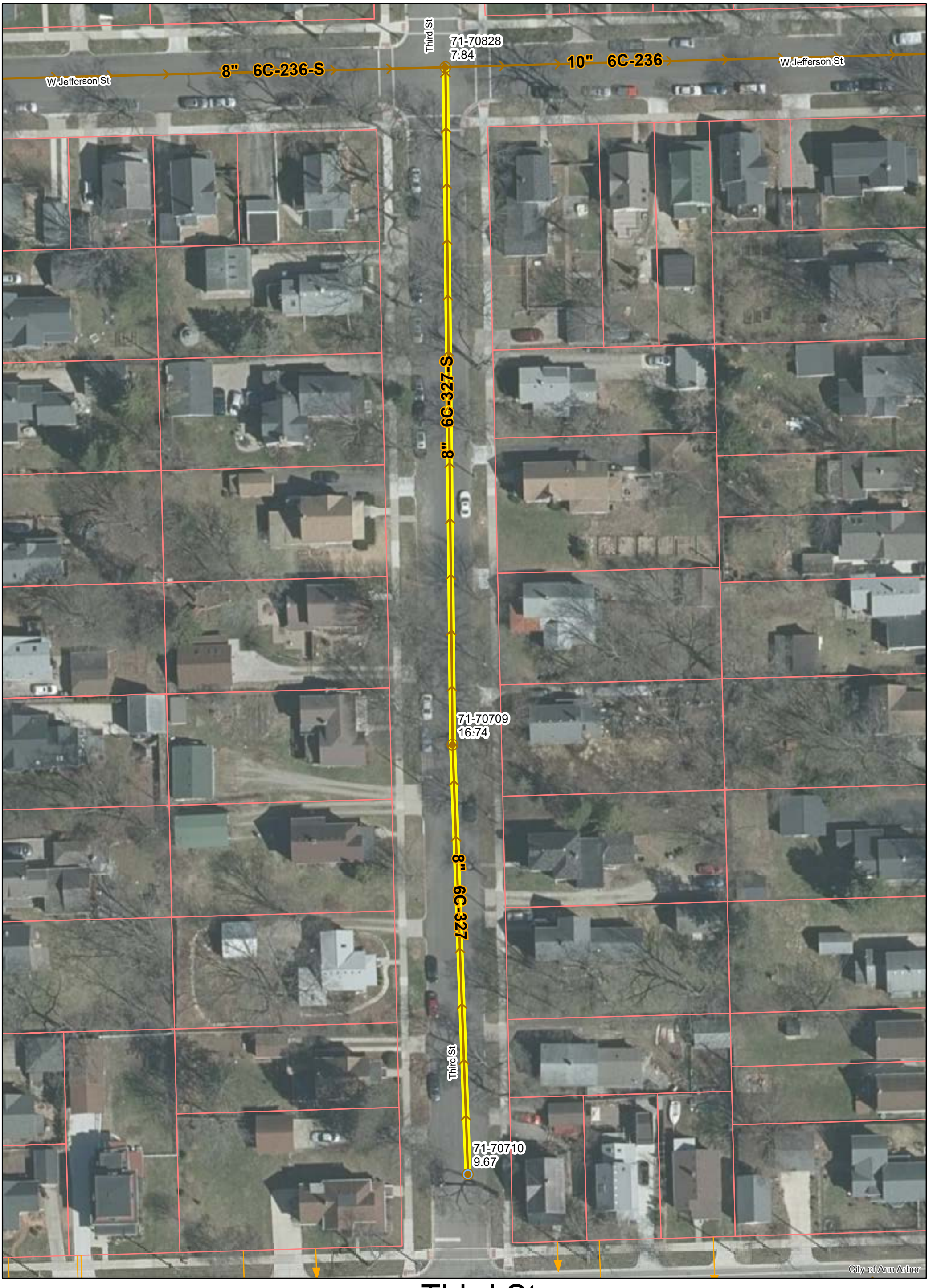
East	0+00 M.H.	West
114		97
	137 M.H.	
159.5		157.5
222		205
260		254.5
	276 F.T.	

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY AND STORM SEWERS
ON
THIRD ST.
FROM MOSLEY to DAVIS

Geo. H. Sandenburgh City Engineer
1924 6-16
Scales: Plan 1"=40' Profile Hor 1"=40' Ver 1"=4'

INDEX No 1451
SHELF No 6
SIZE C
SUB. No 549
Drawn by
Traced by R.F.K.
Checked by L.A.



Third St.

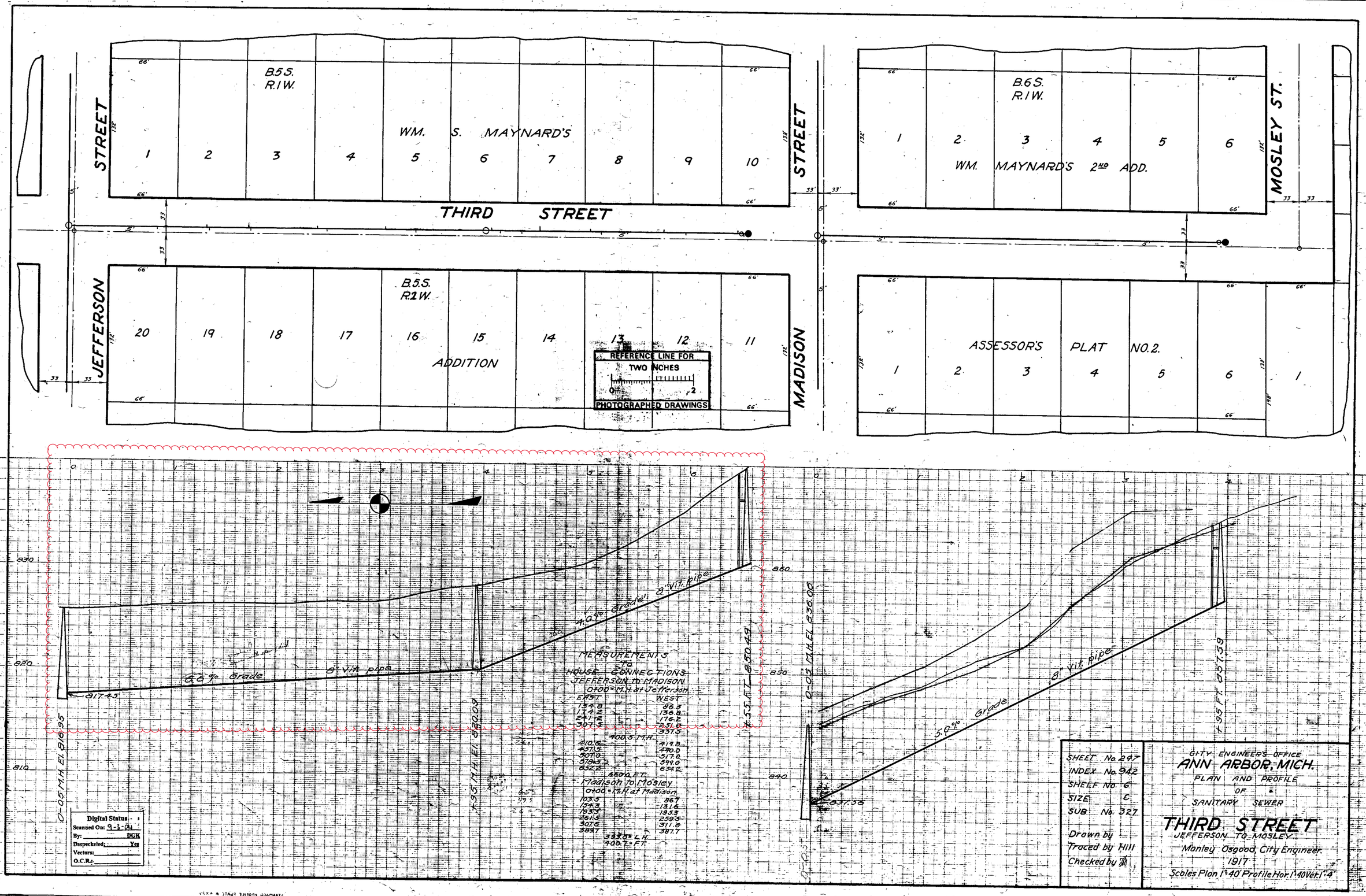
N

Manhole
Manhole, Flush Tank
Proposed Lining
Sanitary Main
Sanitary Lateral

71-XXXXX (Manhole ID)
1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

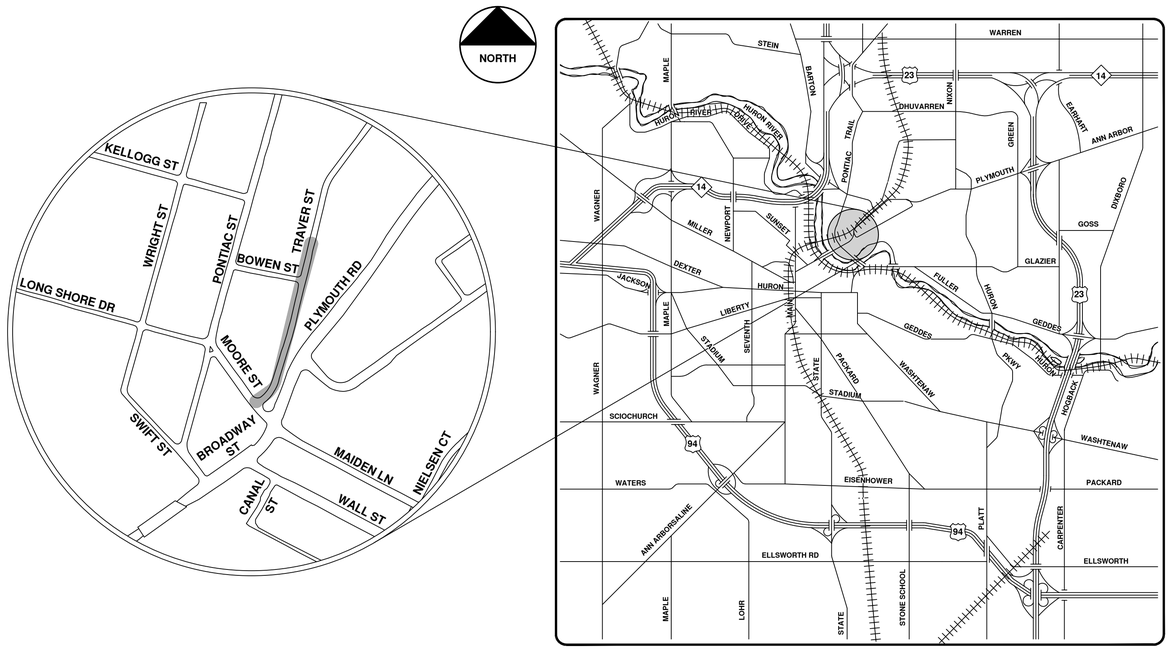
For terms and conditions please visit www.a2gov.org/terms



B.5S. R.1W.
WM. S. MAYNARD'S
1 2 3 4 5 6 7 8 9 10
STREET
THIRD STREET
B.6S. R.1W.
1 2 3 4 5 6
WM. MAYNARD'S 2ND ADD.
MOSLEY ST.
B.5S. R.2W.
20 19 18 17 16 15 14 13 12 11
ADDITION
JEFFERSON
MADISON
ASSESSOR'S PLAT NO.2.
1 2 3 4 5 6 1
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
6.6% Grade
8" Vit. pipe
4.0% Grade
8" Vit. pipe
5.0% Grade
8" Vit. pipe
0-05 M.H. El. 816.95
+95 M.H. El. 820.09
+55 FT. 850.49
0-05 M.H. El. 836.00
+95 FT. 857.59
817.45
837.56
MEASUREMENTS TO HOUSE CONNECTIONS
JEFFERSON TO MADISON
0+00 = M.H. at Jefferson
EAST WEST
134.8 86.3
174.2 136.8
241.2 176.2
307.5 251.0
337.5
400.5 M.H.
410.6 419.8
457.5 440.0
507.0 517.0
578.5 599.0
652.2 654.2
660.0 FT.
Madison to Mosley
0+00 = M.H. at Madison
103.5 86.7
154.3 131.6
193.3 195.3
261.5 259.5
307.5 311.6
389.7 387.7
393.0 = L.H.
400.7 = FT.
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No. 297
INDEX No. 942
SHELF No. 6
SIZE C
SUB No. 327
Drawn by
Traced by Hill
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER
THIRD STREET
JEFFERSON TO MOSLEY
Manley Osgood, City Engineer.
1917
Scales Plan 1"=40' Profile Hor. 1"=40' Vert. 1"=4'

2020 SEWER LINING PROJECT

TRAVER ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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P.O. BOX 8647
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734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-90

SHEET No. 90 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:54 PM

Traver St.

N

Manhole
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 25 50 100 150 200

For terms and conditions please visit www.a2gov.org/terms

TRAVER ST.

131.20 M.H. to M.H.

GIBSON ST.

MOORE ST.

BROADWAY

MAIDEN ST.

14 13 16 15 12 10 11 9 8 7

5 4

18 66 66 66

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

11 10 9 8 7 6 5 4 3 2 1 0+00

8" Vit Pipe 4.87% Grade
171.14'

0.40% Grade
252.9'

8" Vit Pipe 0.40% Grade
200.6'

8" Vit Pipe 9.40% Grade

8" Vit Pipe 3.39% Grade

8" Vit Pipe 3.22% Grade
131.6'

0+00 M.H. Elev 788.72
Same M.H.

0+00 M.H. Elev 790.29

0+52.50 M.H. Elev 806.00

4+29.60 M.H. Elev 808.38

2+29.00 M.H. Elev 805.27

2+03.50 M.H. Elev 805.17

1+77.30 M.H. Elev 805.17

3+85.10 M.H. Elev 820.00

3+53.90 M.H. Elev 818.69

830 820 810 800 790 780 790 780

MEASUREMENTS TO HOUSE CONNECTIONS
VS ONLY

EAST		WEST
	0+00 M.H. @ Angle 135.95 N. of Moore St.	
	1+77.30 M.H.	2+39.2
	2+03.50 M.H.	2+99.3
	2+29.00 M.H.	3+46.8
	4+29.60 M.H. @ Gibson	4+18.5
5+33.0		4+76.5
6+04.1		6+64.5
9+69.1	6+82.50 M.H. @ Tracks	7+33.5
		7+96.0
	8+53.90 M.H.	9+30.0
		9+76.4
	9+85.10 M.H. @ 2nd Angle	9+36.7

NOTE - NOT A VERTICAL PROJECTION.

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

SHEET No.
INDEX No. 1533
SHELF No. 6
SIZE C
SUB No. 605

Drawn By
Traced By
Checked By H.F.

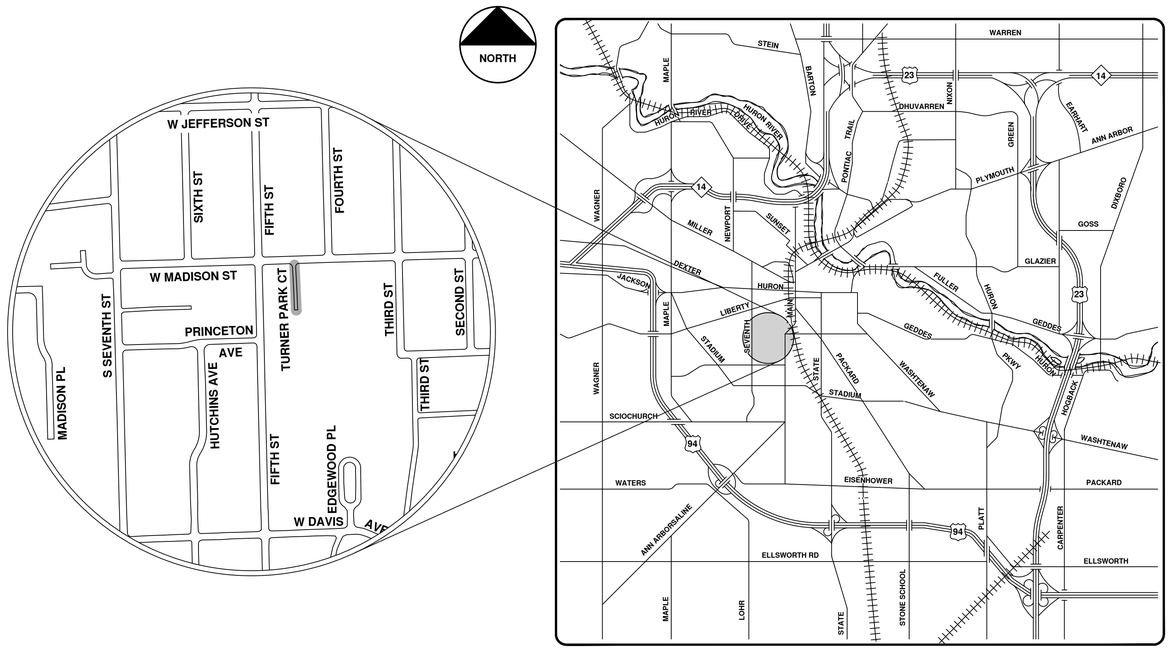
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER ON
TRAVER ST.
MOORE ST NORTH TO ANGLE

Geo. H. Sondenburgh City Engineer
1925-7-2

Scales: Plan 1"=40' Prof. Vert. 1"=4'

2020 SEWER LINING PROJECT

TURNER PARK CT



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-93

SHEET No. 93 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:49:59 PM

Turner Park Ct.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms

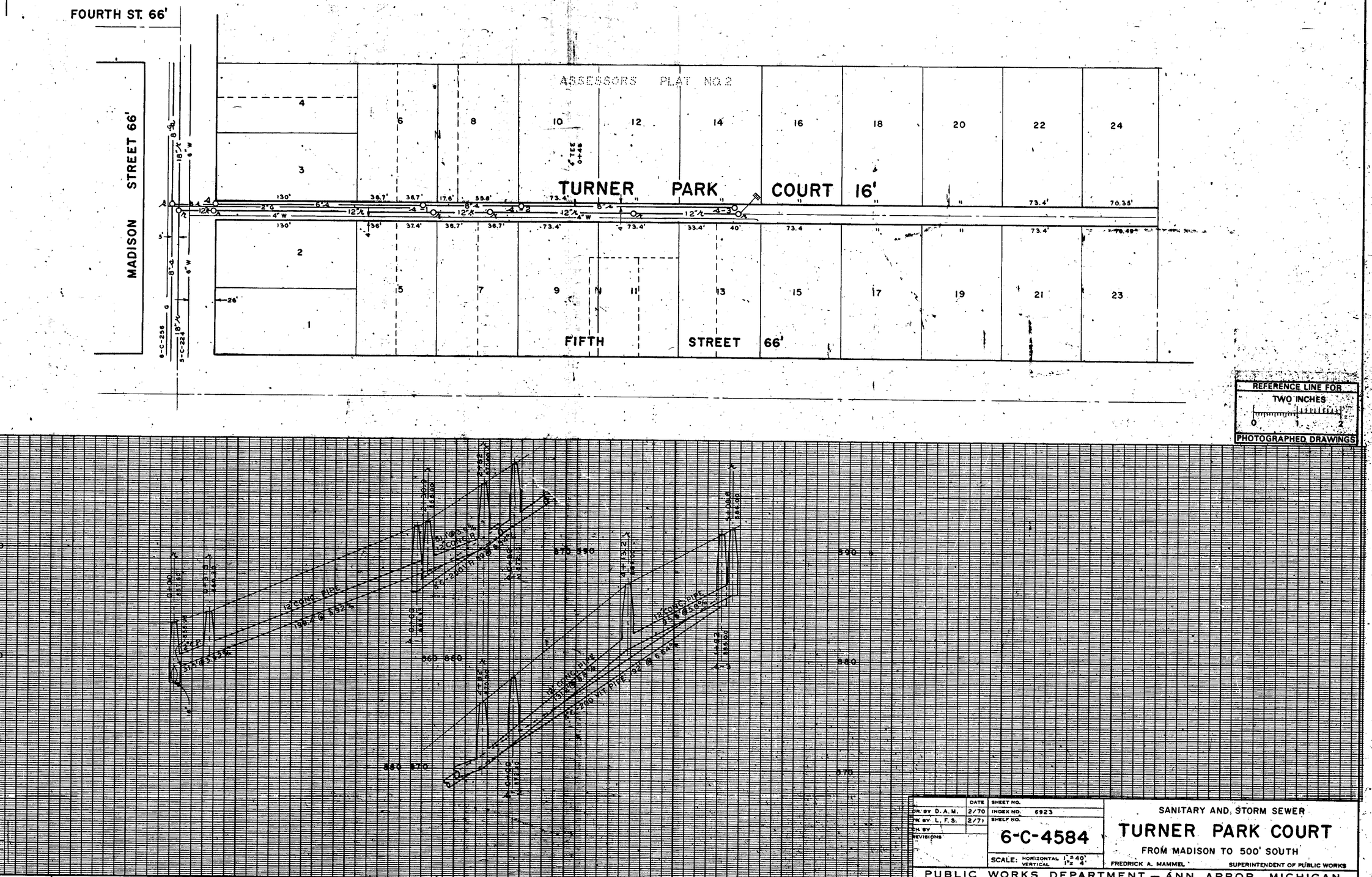
FOURTH ST. 66'

MADISON STREET 66'

ASSESSORS PLAT NO. 2

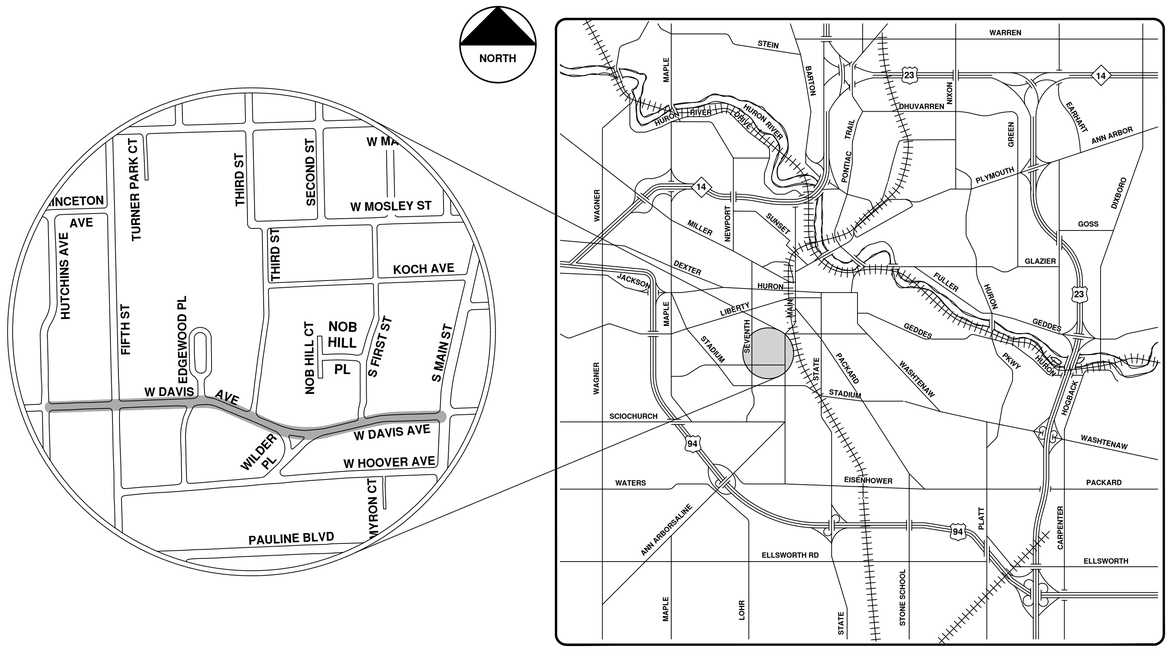
TURNER PARK COURT 16'

FIFTH STREET 66'



2020 SEWER LINING PROJECT

W DAVIS AVE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-96

SHEET No. 96 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg – _a2 standard bw.stb – Plot Date: 9/16/2021 3:50:04 PM

W Davis Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

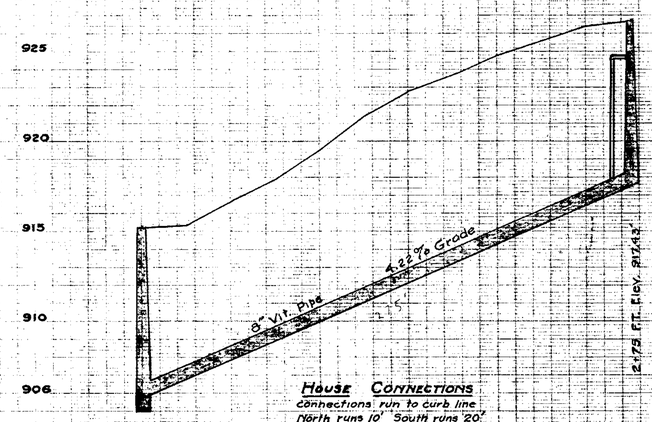
1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

For terms and conditions please visit www.a2gov.org/terms

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

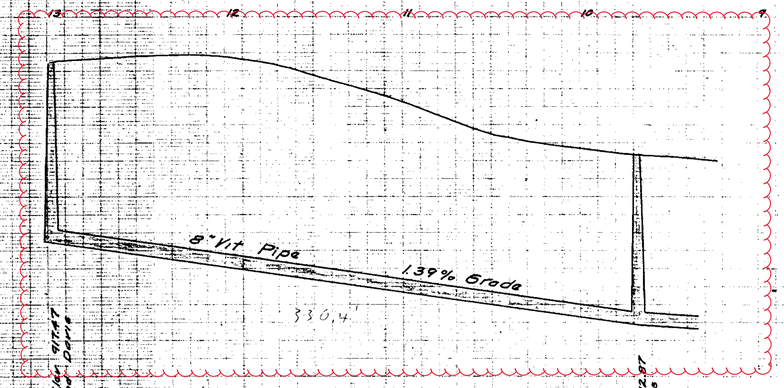


House Connections

Connections run to curb line
North runs 10' South runs 20'

Y's North	Y's South
0+00 M.H. at 7th.	
1+07.5 y only	1+09.5 y only
1+57.0	1+59.0
2+17.0	2+19.0
2+67.5	2+69.5

2-75.0 F.T.



MEASUREMENTS TO HOUSE CONNECTIONS

Y's Only

0+00 M.H. @ Wilder Place

North	968 M.H. @ Fifth	South
1037		1035
1087		1089
1145		1147
1186		1188
1239		1241
	1298.4 M.H.	

SHEET N°	
INDEX N°	1449
SHELF N°	6
SIZE	C
SUB N°	547
Drawn by	
Traced by	R.F.J.
Checked by	

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH

PLAN AND PROFILE

OF

SANITARY SEWER

ON

DAVIS AVENUE

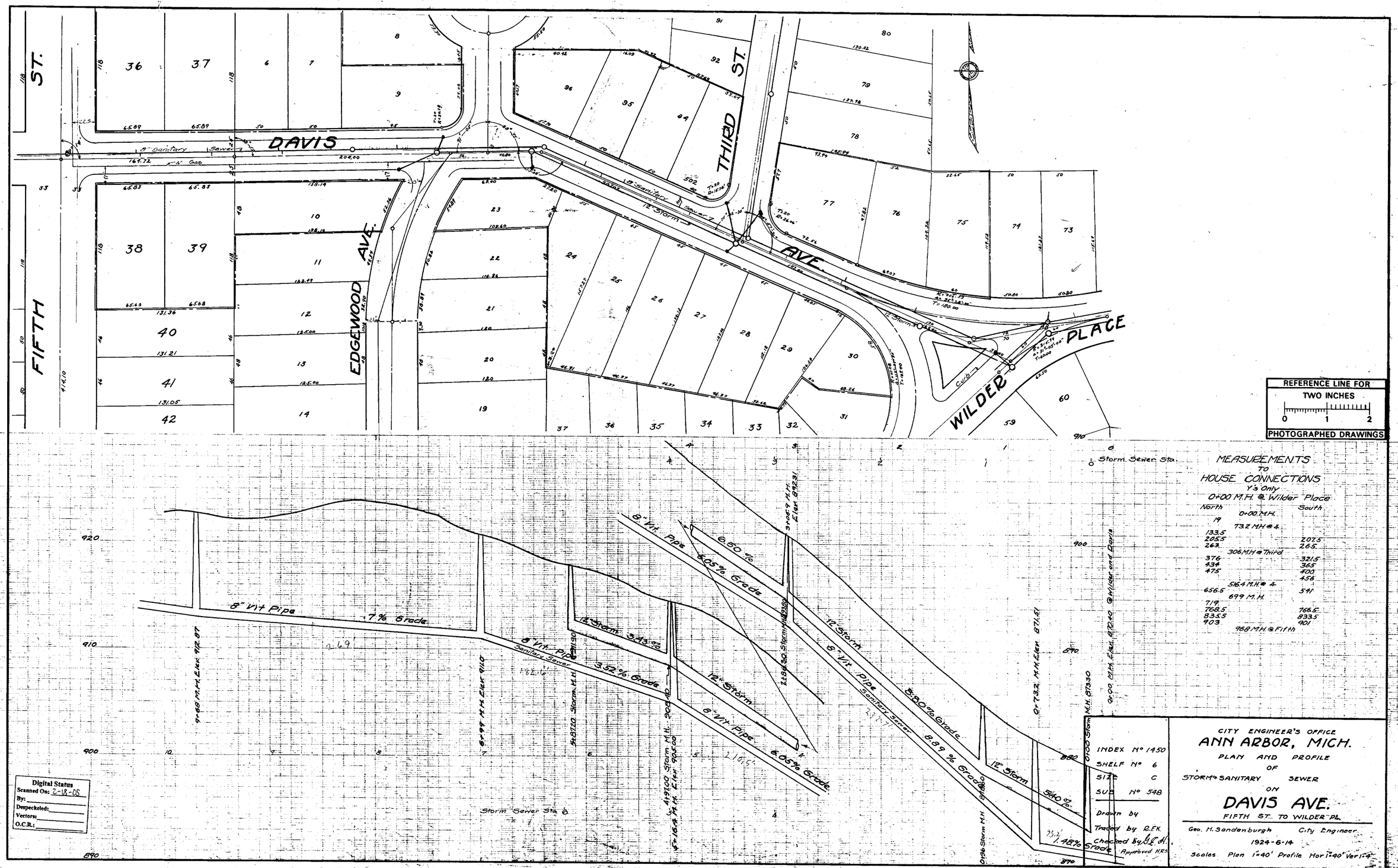
SEVENTH ST. TO FIFTH ST.

Geo. H. Sandenburgh, City Engineer

1929-5-28

Scale Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

Digital Status	
Scanned On:	2-18-05
By:	DGK
Despeckeled:	Yes
Vectors:	
O.C.R.:	



REFERENCE LINE FOR TWO INCHES

0 1 2

PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS

Y's Only

0+00 M.H. @ Wilder Place

North		South
	0+00 M.H.	
19		
	73.2 M.H. @ 4	
133.5		
205.5		207.5
263		265
	306 M.H. @ Third	
376		321.5
434		365
475		400
		456
	516.4 M.H. @ 4	
656.5		541
	699 M.H.	
719		
768.5		766.5
835.5		833.5
903		901
	968 M.H. @ Fifth	

INDEX Nº 1450
SHELF Nº 6
SIZE C
SUB Nº 548

Drawn by
Traced by R.F.K.
Checked by G.E.H.
Approved H.R.S.

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM & SANITARY SEWER
ON
DAVIS AVE.
FIFTH ST. TO WILDER PL.

Geo. H. Sandenburgh City Engineer
1924-6-14
Scales Plan 1"=40' Profile Hor 1"=40' Ver 1"=4'

Digital Status
Scanned On: 2-18-05
By:
Despeckeled:
Vectors:
O.C.R.:

W Davis Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

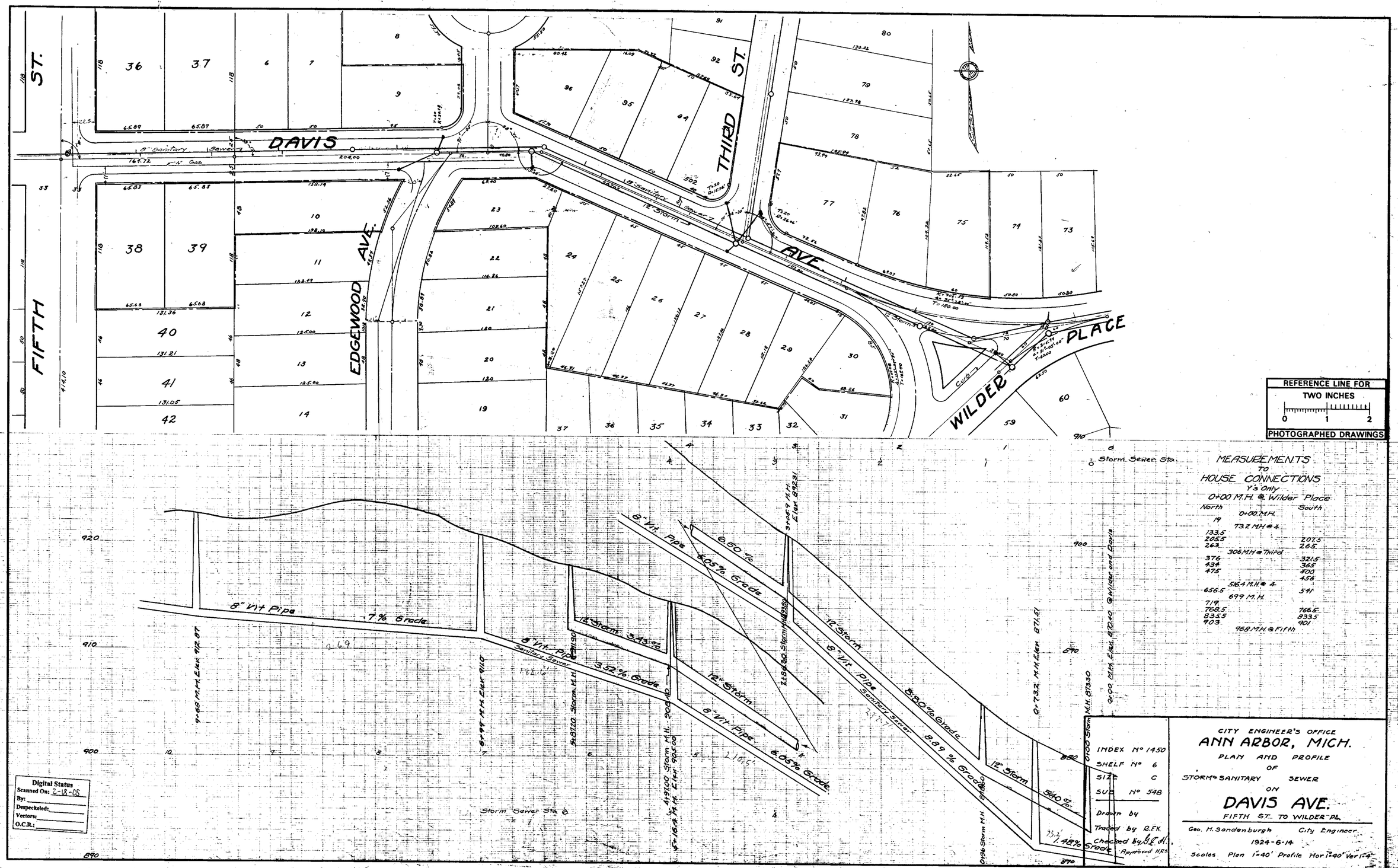
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms



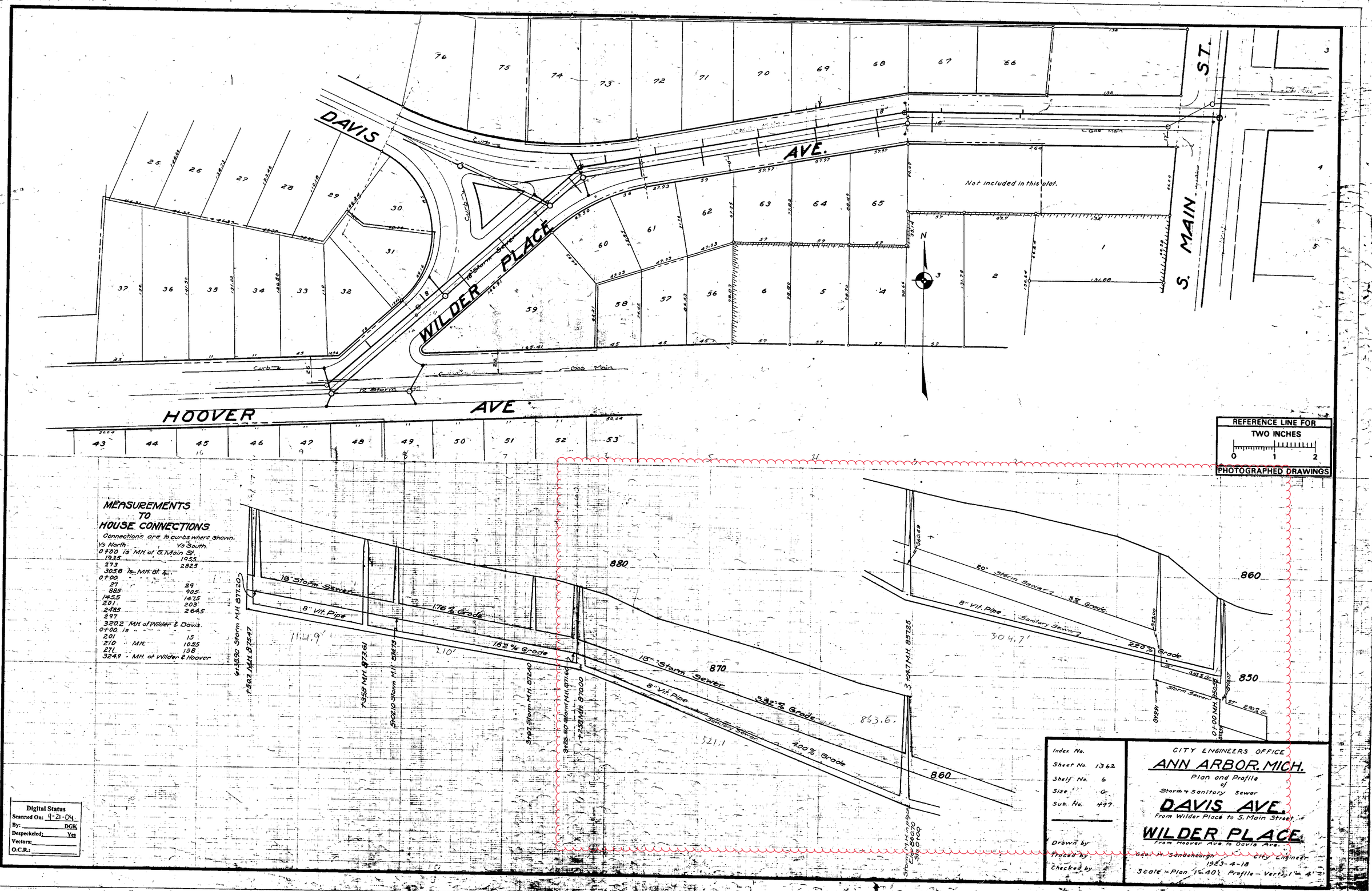
MEASUREMENTS
TO
HOUSE CONNECTIONS
Y's Only
0+00 M.H. @ Wilder Place

North		South
	0+00 M.H.	
19		
	73.2 M.H. @ 4	
133.5		
205.5		207.5
263		265
	306 M.H. @ Third	
376		321.5
434		365
475		400
		456
	516.4 M.H. @ 4	
656.5		541
	699 M.H.	
719		
768.5		766.5
835.5		833.5
903		901
	968 M.H. @ Fifth	

INDEX Nº 1450
SHELF Nº 6
SIZE C
SUB Nº 548
Drawn by
Traced by R.F.K.
Checked by G.E.H.
Approved H.R.S.

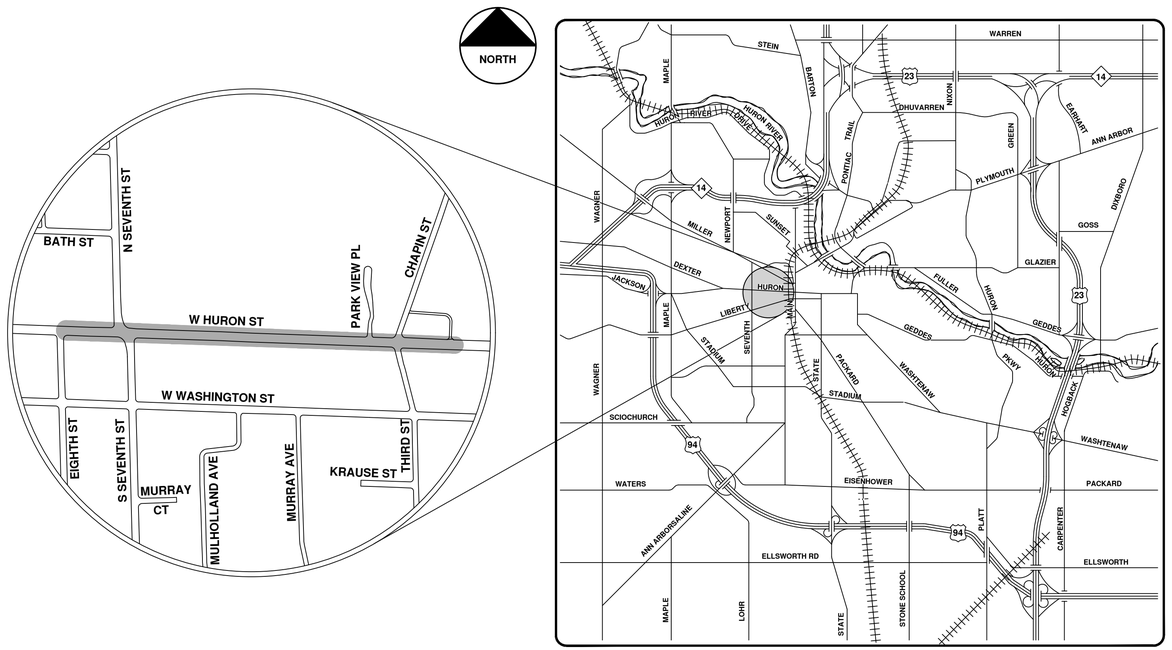
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM & SANITARY SEWER
ON
DAVIS AVE.
FIFTH ST. TO WILDER PL.
Geo. H. Sandenburgh City Engineer
1924-6-14
Scales Plan 1"=40' Profile Hor 1"=40' Ver 1"=4'

Digital Status
Scanned On: 2-18-05
By:
Despeckeled:
Vectors:
O.C.R.:


DAVIS AVE.
WILDER PLACE
HOOVER AVE
S. MAIN ST.
Not included in this plat.
Curb
Gas Main
12" Storm
18" Storm Sewer
8" Vit. Pipe
1.76 % Grade
1.62 % Grade
3.32 % Grade
4.00 % Grade
20" Storm Sewer
3% Grade
Sanitary Sewer
2.20 % Grade
880
870
860
850
114.9'
210'
321.1
863.6
304.7'
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
MEASUREMENTS
TO
HOUSE CONNECTIONS
Connections are to curbs where shown.
Ys North Ys South
0+00 is M.H. of S. Main St.
1935 1955
273 282.5
305.8 is M.H. at ¼
0+00
27 29
88.5 90.5
145.5 147.5
201 203
248.5 264.5
297
320.2 M.H. of Wilder & Davis
0+00 is " " "
201 15
210 M.H. 105.5
271 158
324.9 - M.H. of Wilder & Hoover
Index No.
Sheet No. 1362
Shelf No. 6
Size G
Sub. No. 497
Drawn by
Traced by
Checked by
CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
Plan and Profile
of
Storm & Sanitary Sewer
DAVIS AVE.
From Wilder Place to S. Main Street
WILDER PLACE
From Hoover Ave. to Davis Ave.
Geo. H. Sandenburgh City Engineer
1923-4-18
Scale - Plan 1" = 40'; Profile - Vert. 1" = 4'
Digital Status
Scanned On: 9-21-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

W HURON ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-103

SHEET No. 103 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:09 PM

W Huron St.

Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining
MDOT Proposed Lining

92-XXXXX (Manhole ID)
1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
US-12	81-16	Washtenaw	Ann Arbor		7

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD	W.W. Patzel	1-53

OPERATION	BY	DATE
SURVEYED	Party Chief	2-52
PLAN PLOTTED	M. Majorowicz	1-53
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED	A. Weiss Main	3-53
PRELIM. ART. GRADE		
FIELD INSPECTION		
FIELD INSPECTION		

B.M. 6 - Elev. 838.92
M.S.H.D. Tag in S.W. Root of 18" Elm
47' Lt. of Sta. 86+66

Auth.s 2004 - 2005
This Sheet

Bit. Contr.
46 Syds Rem. Asp. Surf.

Bit. Contr.
46 Syds. Rem. Asph. Surf.

This Sheet
246 sq. yds. Rem. Sidewalk
shown thus
1905 sq. ft. 4" Conc. Sidewalk
316 sq yds Rem. Old Pav't.
Shown thus

Bit. Contr.
42' F to F Bit. Conc. Class I
Conc Curb & Gutter Det. 7 Mod.

Recon (2) MH's 85, E. Huron St.
Conc. with Sheet Asphalt Cap
Adj. (2) MH.
Adj. (1) MH.
Recon. MH.
Adj.
Rem.
Rem. Conc. Curb & Gutter
Rem. 18" Storm Sewer
Rem. 8" San. Sewer
Rem. 6" Water Main
Rem. Conc. Pav't.
Rem. Conc. Base Course
Rem. Conc. Sidewalk
Rem. Conc. Curb
Rem. Conc. Gutter
Rem. Conc. Curb & Gutter
Rem. Conc. Curb with 18" Gutter Pan
Rem. Conc. Curb with 18" Gutter Pan
Rem. Conc. Curb & Gutter with 18" Gutter Pan
Rem. Conc. Curb & Gutter with 18" Gutter Pan
Rem. Conc. Curb & Gutter

EIGHTH ST.

EM. TO EM. =27.0'

GRAPHIC SCALE
TWO INCHES
0 1 2

NOTE
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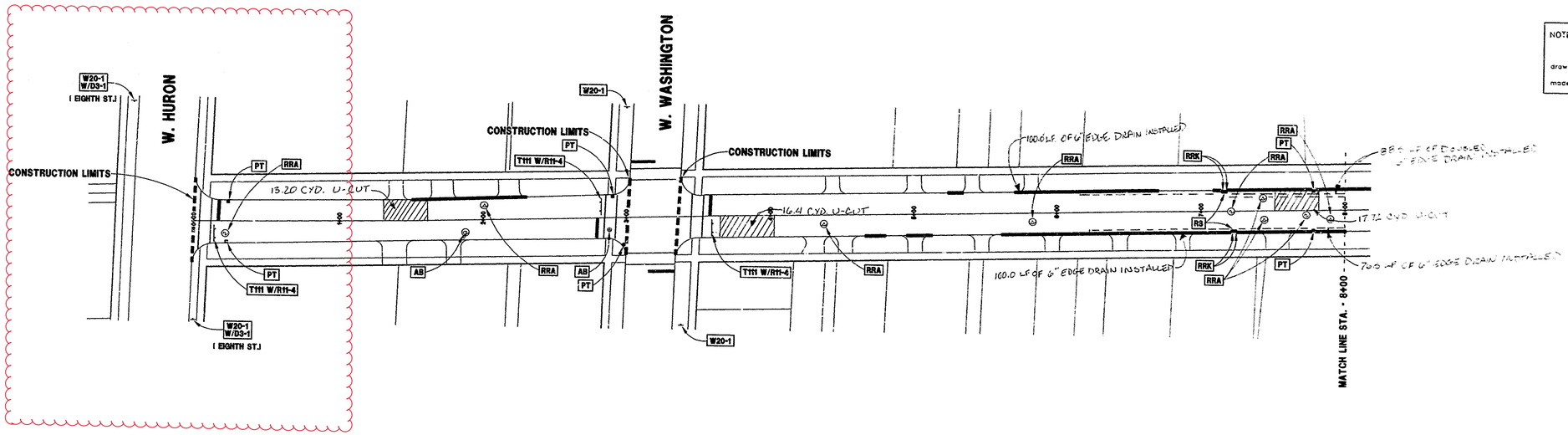


3 WORKING DAYS
BEFORE YOU DIG CALL MISS DIG
800-482-7171
(TOLL FREE)

CONSTRUCTION METHOD AND SEQUENCING

THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.

1. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
2. INSTALL ANY PROPOSED STORM SEWER AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
3. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. MILL THREE-INCHES OF MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL.
6. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
7. GRADE, SHAPE, AND RECOMPACT THE EXISTING ROADBASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
8. PAVE 1-1/2 INCHES OF MDOT 1300L-20AAA LEVELING COURSE IN ONE LIFT.
9. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES,AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
10. PAVE 1-1/2 INCHES OF MDOT 1300T-20AAA WEARING COURSE IN ONE LIFT.
11. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
12. REMOVE ALL TRAFFIC CONTROL DEVICES.

STREET AS-BUILT INFORMATION

THIS STREET WAS MILLED TO A DEPTH OF 3" +/- FULL WIDTH TO EXPOSE A GRAVEL OR BLACK BASE WHICH WAS IN SATISFACTORY CONDITION. FAILING AREAS WERE CUT OUT, REMOVED, UNDERCUT, AND PATCHED. A 4B LEVELING COURSE WAS PLACED AT 1-1/2" DEPTH. THEN A 4C WEARING COURSE WAS PLACED, AT 1-1/2" DEPTH.

ESTIMATED CONSTRUCTION QUANTITIES FOR EIGHTH ST.

ITEM	ITEM DESCRIPTION	ITEM	EST. QUANTITY
206.	COLD MILL BIT. PAVEMENT	TON	800.00
211.	SUBGRADE UNDERCUTTING TYPE II	CY.	230.00
212.	REMOVE CONCRETE CURB & GUTTER - (ANY)	LF.	1000.00
214.	REM. CONC. SIDEWALK & DRIVE - (ANY)	SF.	280.00
226.	BIT. PVMNT. LEVELING, 2C OR 3C	TON	575.00
227.	BIT. PVMNT. WEARING, 4B OR 4C	TON	385.00
230.	21-AA LIMESTONE - C.I.P.	CY.	230.00
240.	CONC. CURB & GUTTER - (ANY)	LF.	700.00
241.	CONC. CURB & GUTTER - (DLE)	LF.	300.00
244	6" SIDEWALK OR RAMP - (DLE)	SF.	150.00
254.	ADJUST DRAINAGE STRU. COVER	EA.	17.00
255	ADJUST GAS & GATE VALVE BOX	EA.	5.00
257.	LOWER DRAINAGE STRU. COVER	EA.	13.00
258	LOWER GAS & GATE VALVE BOX	EA.	5.00
260.	DRAINAGE STRUCTURE COVERS	LB.	7150.00
261.	POINT DRAINAGE STRUCTURE	EA.	5.00
282.	TYPE II BARR. - LIGHTED/FURNISH	EA.	58.00
283.	TYPE II BARR. - LIGHTED/OPERATE	EA.	58.00
284.	TYPE III BARR. LIGHTED/FURNISH/OPERATE	EA.	4.00
285.	TEMPORARY SIGNS - TYPE B	SF.	152.00
286.	NO PARKING SIGNS	EA.	40.00

CONSTRUCTION KEY

C/G	REMOVE AND REPLACE CURB AND GUTTER	PT	POINT STRUCTURE.
C/GNE	REMOVE CURB AND GUTTER, REPLACE WITH CONCRETE CURB AND GUTTER H.E.	C4	REMOVE EXISTING RAMP OR SIDEWALK REPLACE WITH 4" SIDEWALK OR RAMP.
C4HE	REMOVE EXISTING RAMP OR SIDEWALK, REPLACE WITH 4" SIDEWALK OR TYPE 1 SIDEWALK RAMP,H.E.	C HE	REMOVE EXISTING DRIVE APPROACH, RAMP OR SIDEWALK. REPLACE WITH 6" OR 8" APPROACH, RAMP,OR SIDEWALK, H.E.
CR	REMOVE SIDEWALK, DRIVE OR RAMP.	CP	PLACE 4" SIDEWALK OR RAMP.
AA	ADJUST MDOT TYPE A CASTINGS.	AK	ADJUST MDOT TYPE K CASTING.
AB	ADJUST GATE VALVE BOX OR MONUMENT BOX.	TIII	MDOT TYPE III BARRICADE.
ADSR	ADDITIONAL DEPTH STRUCTURE REPAIR.	TII	MDOT TYPE II BARRICADE.
RRA	REMOVE AND REPLACE MDOT TYPE A CASTING ADJUST TO FINISH GRADE.	RRK	REMOVE AND REPLACE MDOT TYPE K CASTING. ADJUSTTO FINISH GRADE.
CPRHE	CONCRETE PAVEMENT REPAIR, H.E.	RS	RECONSTRUCT STRUCTURE.
DS	CONSTRUCT 2, 3 OR 4' DIAM. DRAINAGE STRUCTURE.	RCP	REMOVE CONC. PAVEMENT - ANY THICKNESS.

TRAFFIC CONTROL & SIGN LEGEND

QTY.	TYPE	DESCRIPTION
7	W20-1	"CONSTRUCTION AHEAD"
	W20-2	"DETOUR AHEAD"
	W20-5	"RIGHT LANE CLOSED AHEAD"
	W4-2	LANE DROP SYMBOL, RIGHT
	W20-1a	WORKER SYMBOL
	W13-1	"SPEED LIMIT"
	M4-9 L&R	DETOUR (LEFT OR RIGHT ARROW)
4	D3-1	CONVENTIONAL GUIDE
	M4-8a	"DETOUR ENDS"
	M4-10	"DETOUR"
	R6-1 L&R	"ONE WAY" (LEFT & RIGHT)
4	TYPE III	TYPE III LIGHTED BARRICADE
58	TYPE II	TYPE II LIGHTED BARRICADE (DRUM)
4	R11-4	"ROAD CLOSED TO THRU TRAFFIC"
	TYPE A	LIGHTED ARROW, TYPE A
	TYPE B	LIGHTED ARROW, TYPE B

DRAWING SYMBOL LEGEND

SYMBOL	DESCRIPTION
S	EXISTING SANITARY SEWER MANHOLE
S	EXISTING STORM SEWER MANHOLE
W	EXISTING WATER MAIN VALVE IN WELL
A	AMERITECH TELEPHONE VAULT
G	MICHCON GAS CO. VALVE BOX/WELL
W	WATER MAIN GATE VALVE IN BOX
B	SOIL BORING
	EXISTING STORM SEWER INLET
	MONUMENT BOX
	REMOVE AND REPLACE CONC. SIDEWALK
	PLACE CONCRETE SIDEWALK
	REMOVE & REPLACE CONC. CURB & GUTTER
	CONSTRUCTION LIMITS

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE
CONTOUR 847	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR 847
WATER MAIN & VALVE-IN-BOX	END SECTION			ROAD C GRADE

PROPOSED CURB & GUTTER

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	LR.BY	CH.BY
			AS BUILT	1-98	LAGC	
			ORIGINAL ISSUE	1/97	JTB	

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

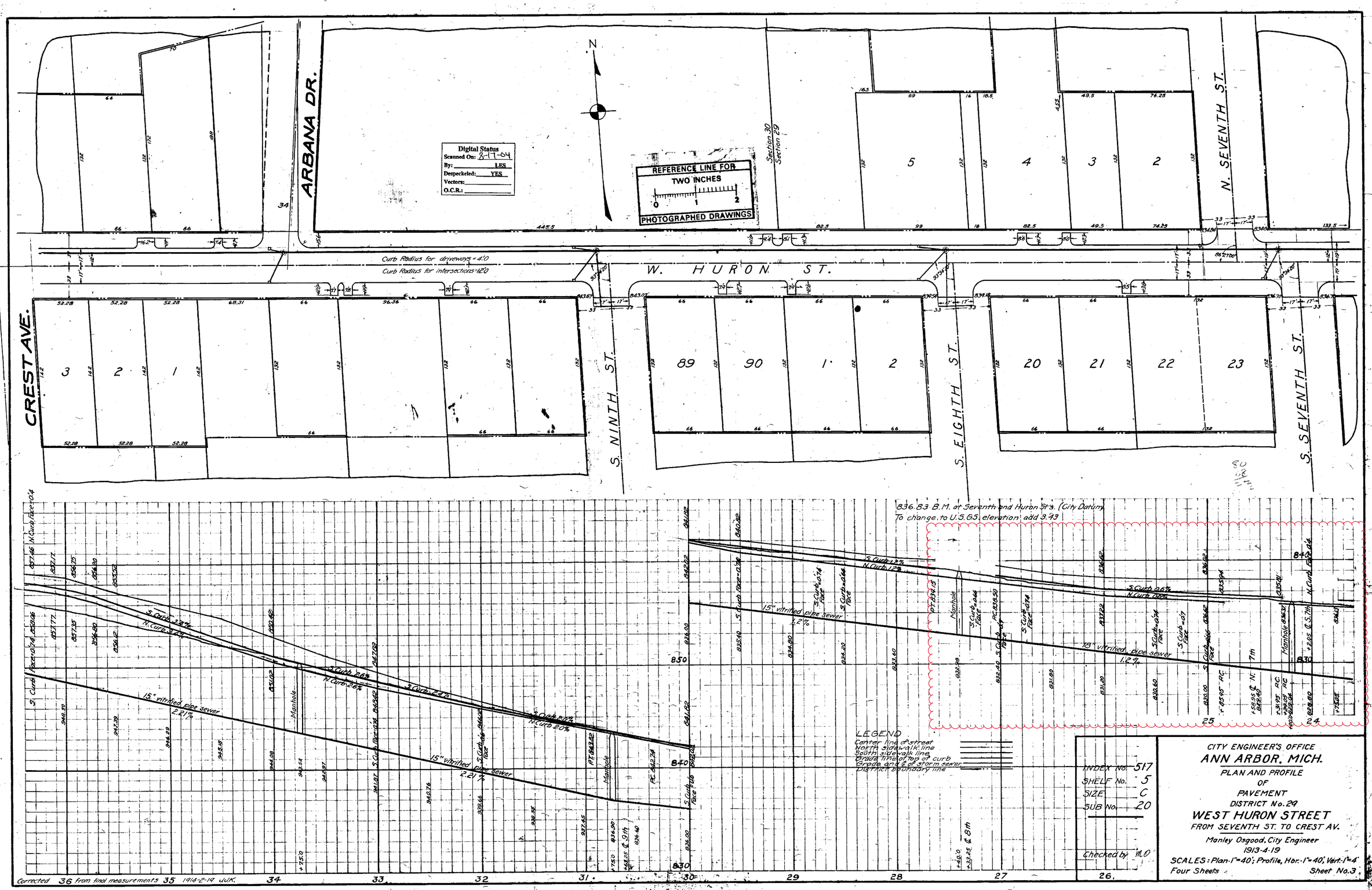
EIGHTH ST.
W. HURON TO STA. 8+00

SCALE HORIZ. 1"=40' VERT. 1"=4' — INCH 0 1

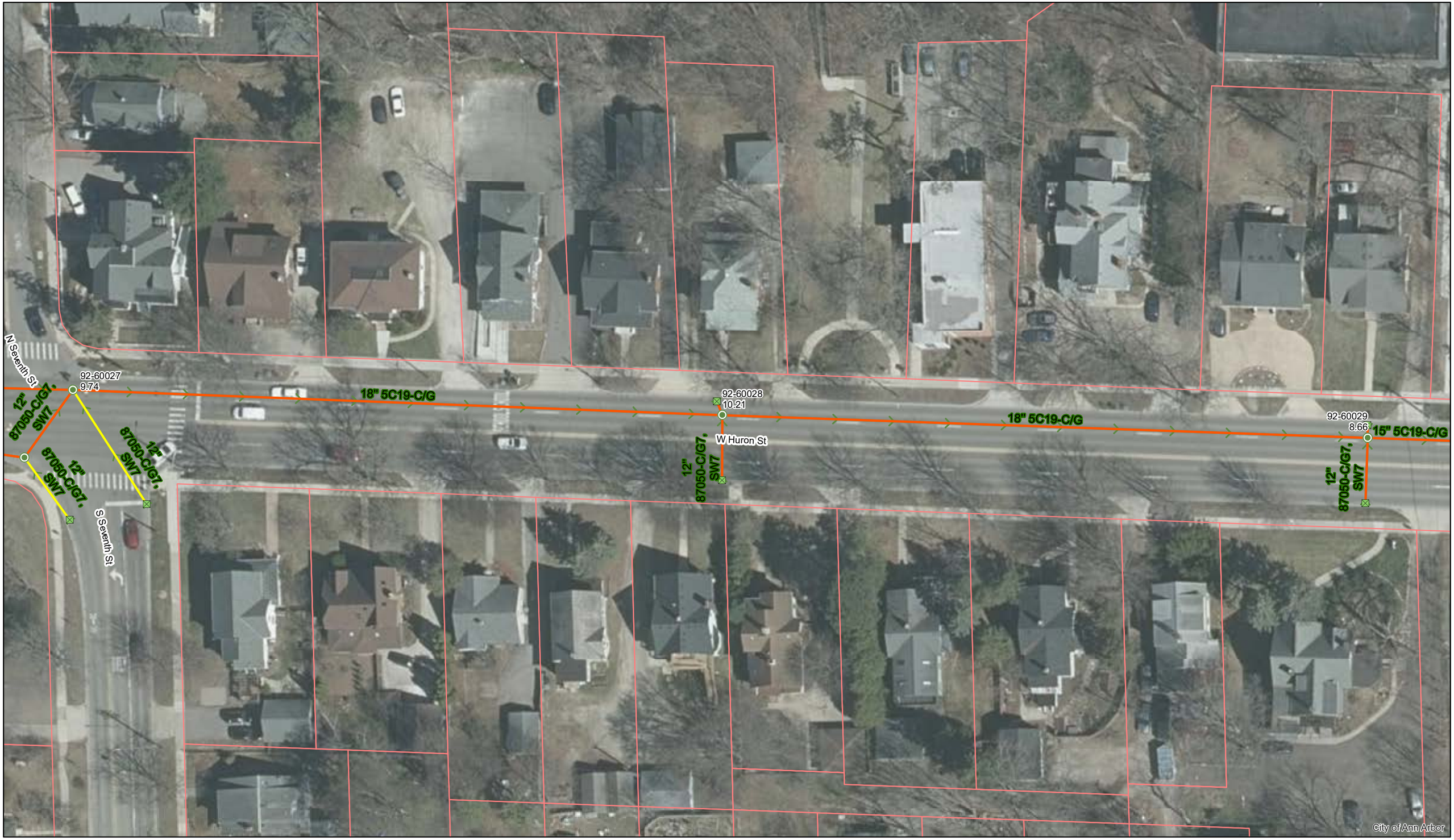
DRAWING NO. **97004-50**

SHEET NO. 50 OF 58

U:\TAG\SURSURVEIGHH1 Wed Feb 19 12:35:48 1997 CDE



ARBANA DR.
N. SEVENTH ST.
W. HURON ST.
CREST AVE.
S. NINTH ST.
S. EIGHTH ST.
S. SEVENTH ST.
Section 30
Section 29
Curb Radius for driveways = 4'0
Curb Radius for intersections = 12'0
Digital Status
Scanned On: 8-17-04
By: LES
Despeckeled: YES
Vectors:
O.C.R.:
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
836.83 B.M. at Seventh and Huron St's. (City Datum)
To change to U.S.G.S. elevation add 3.43
15" vitrified pipe sewer 2.21%
15" vitrified pipe sewer 1.2%
18" vitrified pipe sewer 1.2%
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and ℄ of storm sewer
District boundary line
INDEX No. 517
SHELF No. 5
SIZE C
SUB No. 20
Checked by M.O.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM SEVENTH ST. TO CREST AV.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets
Sheet No. 3
Corrected 36 from final measurements 35 1914-2-19 JJK.



W Huron St.

Manhole
Catchbasin
Storm Main
AA Proposed Lining
MDOT Proposed Lining

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

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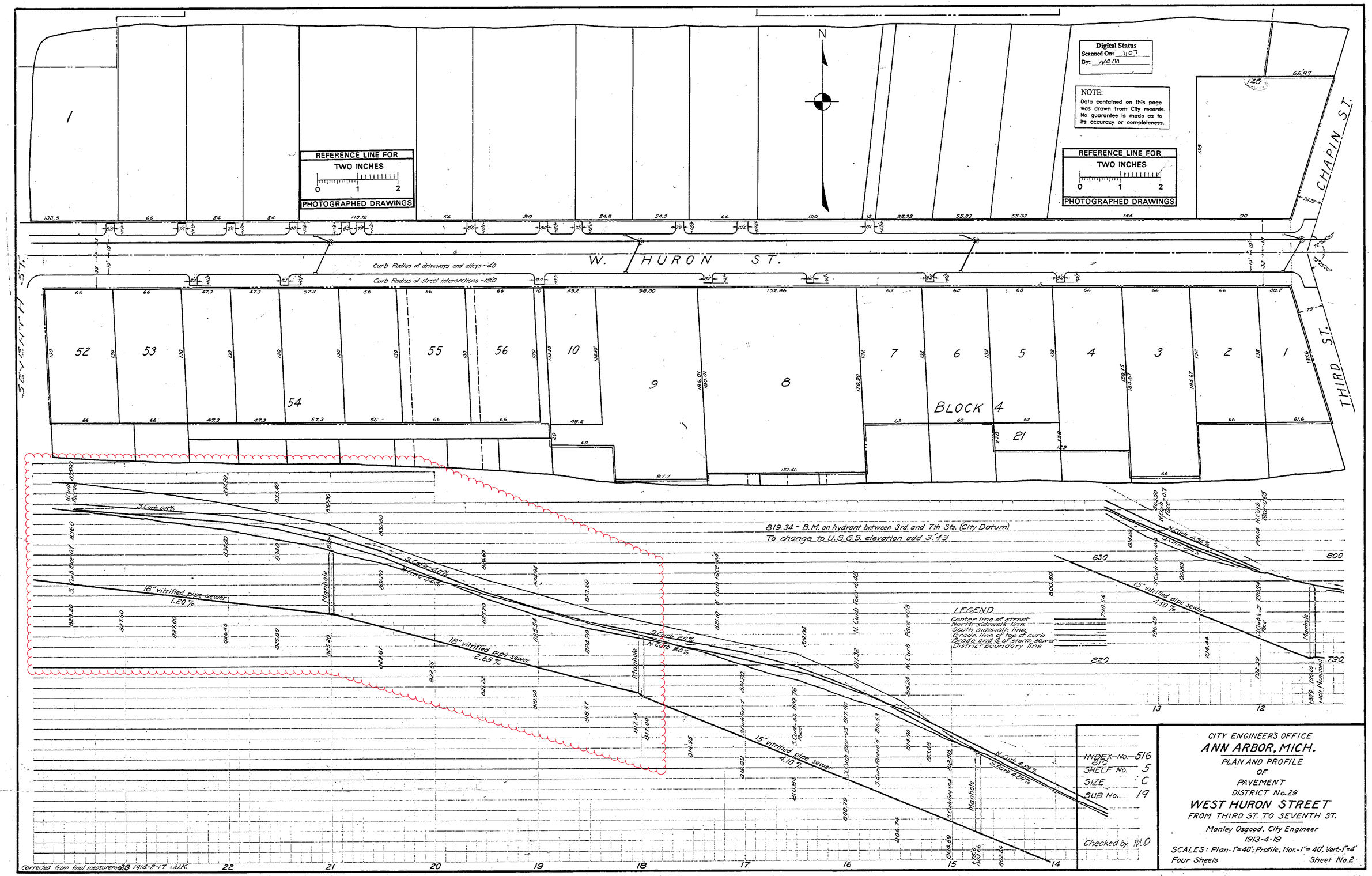


Digital Status
Scanned On: 1107
By: NAM
NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
N
W. HURON ST.
SEVENTH ST.
THIRD ST.
CHAPIN ST.
Curb Radius at driveways and alleys = 4.0
Curb Radius at street intersections = 12.0
BLOCK 4
819.34 - B.M. on hydrant between 3rd. and 7th Sts. (City Datum)
To change to U.S.G.S. elevation add 3.43
18" vitrified pipe sewer 1.20%
18" vitrified pipe sewer 2.65%
15" vitrified pipe sewer 4.10%
15" vitrified pipe sewer 4.10%
S. Curb 0.8%
S. Curb 4.0%
N. Curb 4.0%
S. Curb 2.0%
N. Curb 2.0%
N. Curb 4.36%
S. Curb 4.89%
N. Curb 4.89%
Manhole
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and ℄ of storm sewer
District boundary line
INDEX No. 516
SHELF No. 5
SIZE C
SUB No. 19
Checked by MO
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM THIRD ST. TO SEVENTH ST.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets
Sheet No. 2
Corrected from final measurement 1914-2-17 JJK

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
US-12	81-16	Washtenaw	Ann Arbor	7	

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
SQUAD	W.M. Rafael	1-53

OPERATION	BY	DATE
SURVEYED	Party Chief	2-52
PLAN PLOTTED	M. Mazurowski	1-53
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED	A. Weiss-Main	3-53
PRELIM. ART. GRADE		
FIELD INSPECTION		
FIELD INSPECTION		

B.M. 6 - Elev. 838.92
M.S.H.D. Tag in S.W. Root of 18" Elm
47' Lt. of Sta. 86+66

Auth.s 2004 - 2005
This Sheet

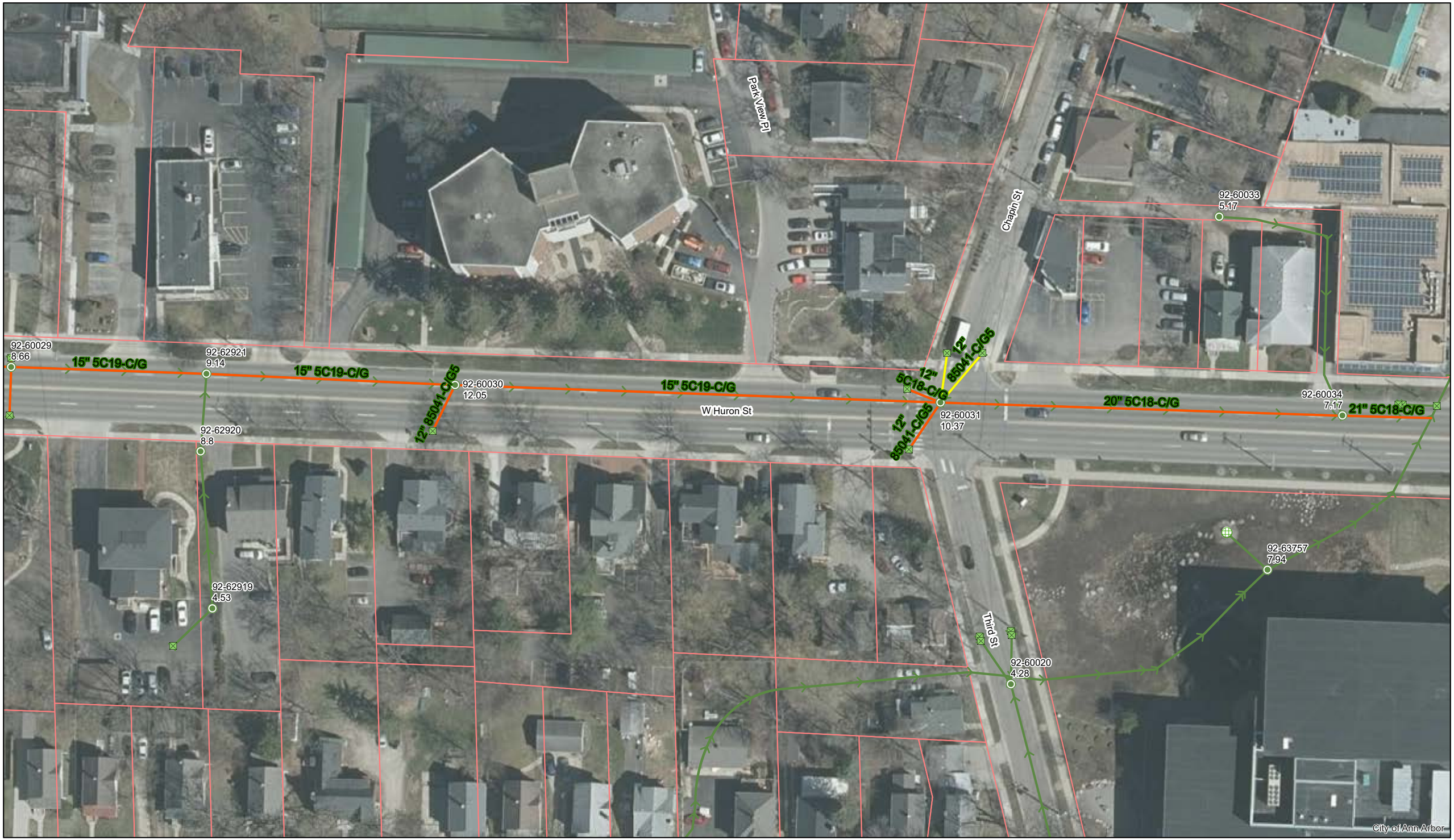
Bit. Contr.
46 Syds Rem. Asp. Surf.

Bit. Contr.
46 Syds. Rem. Asph. Surf.

This Sheet
246 sq. yds. Rem. Sidewalk
shown thus
1905 sq. ft. 4" Conc. Sidewalk
316 sq yds Rem. Old Pav't.
Shown thus

Bit. Contr.
42' F to F Bit. Conc. Class I
Conc Curb & Gutter Det. 7 Mod.

Recon (2) MH's 65, 6 Huron St.
Conc. with Sheet Asphalt Cap
Adj. (2) MH.
Adj. (1) MH.
MH. 5A
MH. 1A
Recon. MH.
Water Main
Gate Valve
Adj.
Rem.
Ramp
Curb with 18" Gutter Pan
8" San. Sewer
18" Storm Sewers
4" Conc. Block Sidewalk
Bit. Conc. Class I Surface
Bit. Conc. Class I Base
Gravel Base
Sand Subbase
Bit. Conc. Class I Surface Course
Bit. Conc. Class I Base Course



W Huron St.

Manhole
Catchbasin
Storm Main
AA Proposed Lining
MDOT Proposed Lining

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

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122676

Digital Status
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By: NAM

NOTE:
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REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

N

SEVENTH ST.

W. HURON ST.

CHAPIN ST.

THIRD ST.

Curb Radius at driveways and alleys = 4.0
Curb Radius at street intersections = 12.0

BLOCK 4

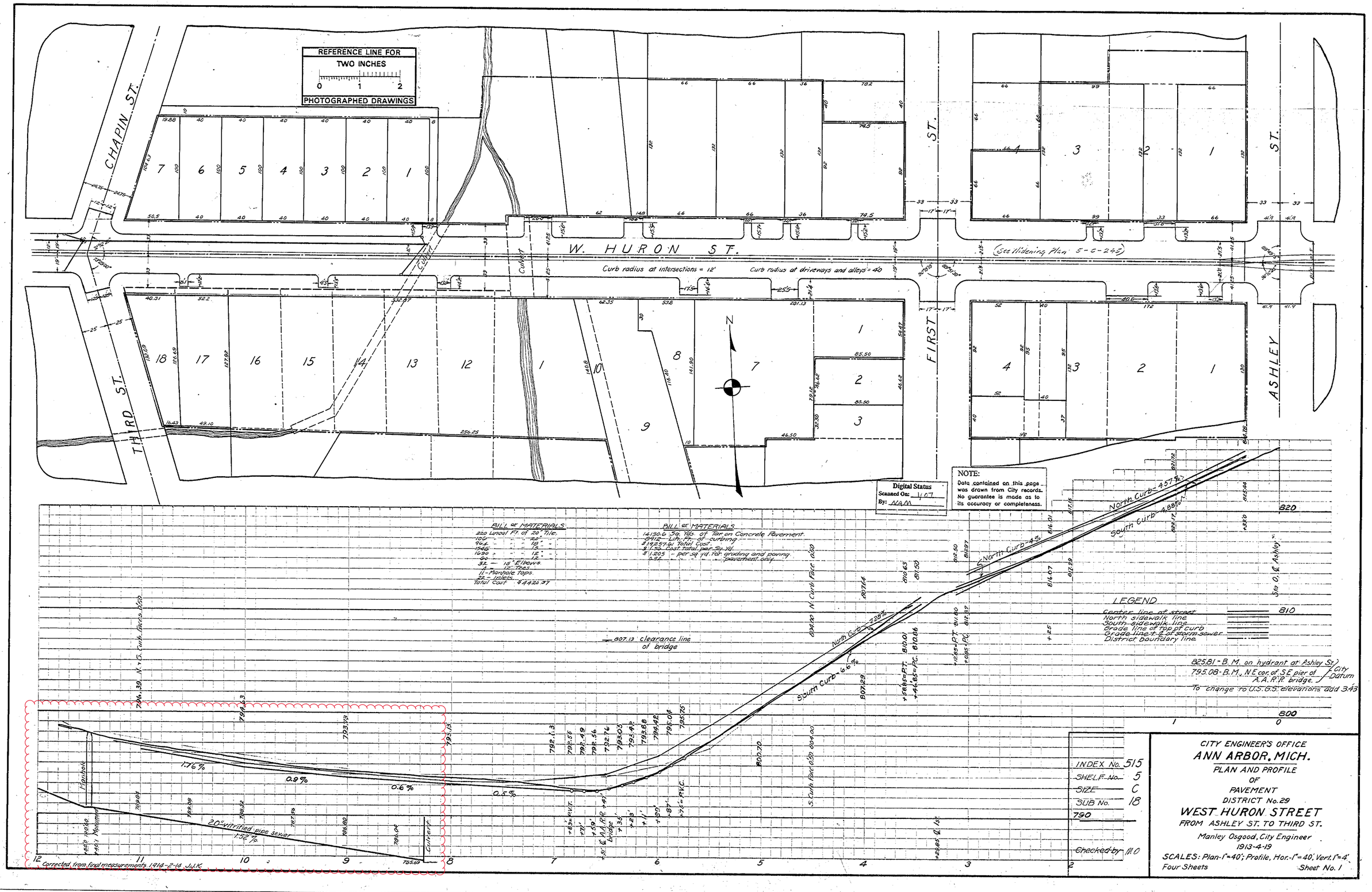
819.34 - B.M. on hydrant between 3rd. and 7th Sts. (City Datum)
To change to U.S.G.S. elevation add 3.43

LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and C of storm sewer
District boundary line

INDEX No. 516
BTO
SHELF No. 5
SIZE C
SUB No. 19
Checked by: NLO

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM THIRD ST. TO SEVENTH ST.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets Sheet No. 2

Corrected from final measurements 1914-2-17 J.J.K.



REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
CHAPIN ST.
THIRD ST.
W. HURON ST.
FIRST ST.
ASHLEY ST.
(See Widening Plan 5-C-245)
Curb radius at intersections = 12'
Curb radius at driveways and alleys = 40
Culvert
N
Digital Status
Scanned On: 1/07
By: NAM
NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.
BILL OF MATERIALS
220 Lineal Ft. of 20" Tile.
106 " " " 20" "
964 " " " 18" "
1546 " " " 15" "
1690 " " " 12" "
32 — 18" Elbows.
4 — 12" Tees.
11 - Manhole Tops.
22 - Inlets.
Total Cost $4420.37
BILL OF MATERIALS
14190.6 Sq. Yds. of Tar on Concrete Pavement.
8912 Lin. Ft. of curbing.
$19257.61 Total Cost.
$1.36 Cost total per Sq. Yd.
$1.205 " per sq. yd. for grading and paving.
0.92 " " " " pavement only.
807.13 clearance line of bridge
North Curb - 4.57%
South Curb - 4.88%
North Curb - 4%
North Curb - 7.28%
South Curb - 6.6%
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade line of ℄ of storm sewer
District boundary line
825.81 - B.M. on hydrant at Ashley St.
795.08 - B.M., N.E. cor. of S.E. pier of A.A.R.R. bridge.
City Datum
To change to U.S.G.S. elevations add 3.43
1.76%
0.9%
0.6%
0.5%
20" vitrified pipe sewer 1.52%
Manhole
Culvert
Corrected from final measurements 1914-2-14 J.J.K.
INDEX No. 515
SHELF No. 5
SIZE C
SUB No. 18
790
Checked by MO
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM ASHLEY ST. TO THIRD ST.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert. 1"=4'
Four Sheets
Sheet No. 1

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
US-12	81-16	Washtenaw	Ann Arbor	8	

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
PRELIMINARY DESIGN CHECKED		
FINAL DESIGN CHECKED		
TRACED		
QUANTITIES CHECKED		
SQUAD	W. W. Bartzell	52

OPERATION	BY	DATE
SURVEYED	Bridgeland	2-53
PLAN PLOTTED	M. Gerardeau	2-53
PLAN CHECKED		
PROFILE PLOTTED	M. Gerardeau	3-53
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FINAL INSPECTION		

B.M. 7 - Elev. 825.19
M.S.H.D. Tag in S.E. Root of 25" Maple
22' Lt. of Sta. 94+58

B.M. 8 - Elev. 803.24
M.S.H.D. Tag in S. Root of 38" Elm
31' Lt. Sta. 99+74

This Sheet
116 Sq.yds. Rem. Sidewalk
Shown: thus
760 Sq.ft. 4" Conc. Sidewalk
209 Sq.yd's. Rem. Old Pav't
shown thus

20 Syds Rem. Asph. Surf.

98 E. Huron St.

Conc. with sheet Asphalt Cap.

Conc. with 18" Gutter Pan

Gas Station Area
Conc. Bit. Conc. Cap.

American Broach & Machine Company

Allens Creek Drain

Bit. Cont.
70 Syds. Rem. Asph. Surf.

Bit. Cont.
28 Syds. Rem. Asph. Surf.

State Proj. 81-16 Ends Sta. 103+80

Bit. Cont.
42' F to F Bit. Conc. Class I
Conc. Curb & Gutter Det. 7 Mod.

Bit. Cont.
46' F to F Bit. Conc. Class I
Conc. Curb & Gutter Det. 7 Mod.

Driveway Returns

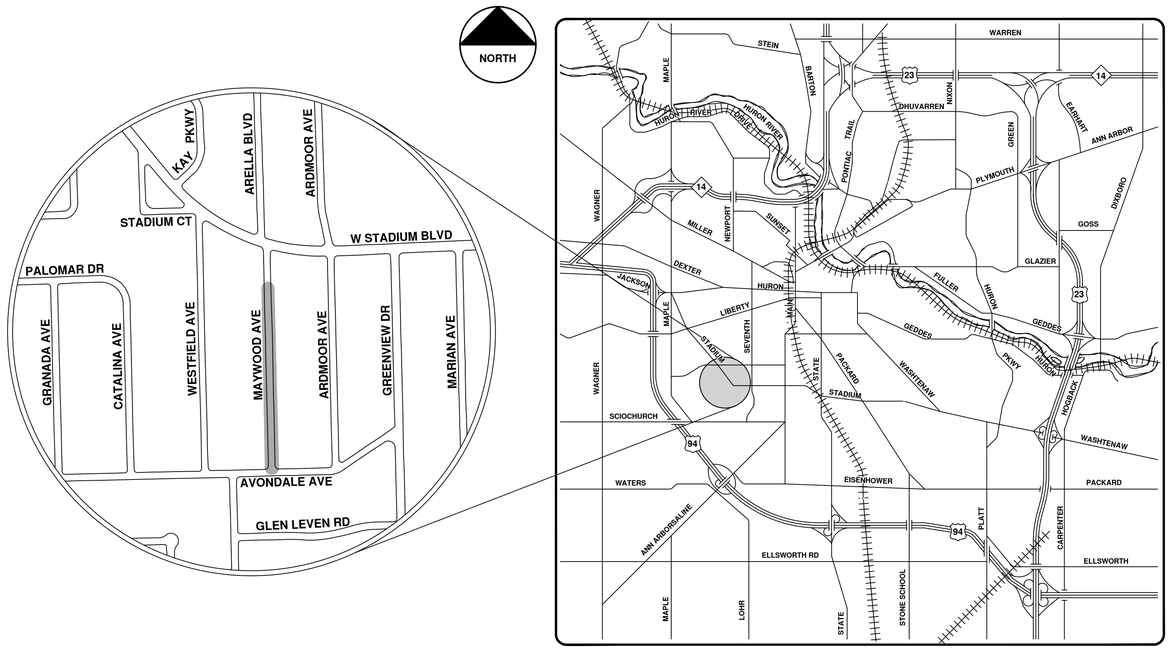
Sta.	Det. 16 Lin. ft.	7" Conc. Pav't Sq. Yds.	7" Conc. Sid. Sq. Ft.	Sta.	Det. 1 Lin. ft.	7" Conc. Pav't Sq. Yds.	7" Conc. Sid. Sq. Ft.
94+72 R.	28	9		98+74 L.	30	13	
94+66 L.	28	12		98+72 R.	28	9	
95+19 R.	28	9	70	99+49 R.	28	9	
95+78 L.	28	12		100+70 L.	45	39	
96+36 R.	28	9		102+57 L.	28	14	
97+00 R.	28	9	"	103+69 L.	35	26	
97+63 R.	28	9	"				

13' Sidewalk Profile & Curb Profile

825
820
825.90
823.55
823.22
819.78
815.20
R = 15.9%
4.59%
150' V.C.
825
825.95
825.65
825.32
823.27
823.55
819.38
816.18
R = 15.9%
4.59%
100' V.C.
825.95
823.55
819.38

2020 SEWER LINING PROJECT

MAYWOOD AVE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO.	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

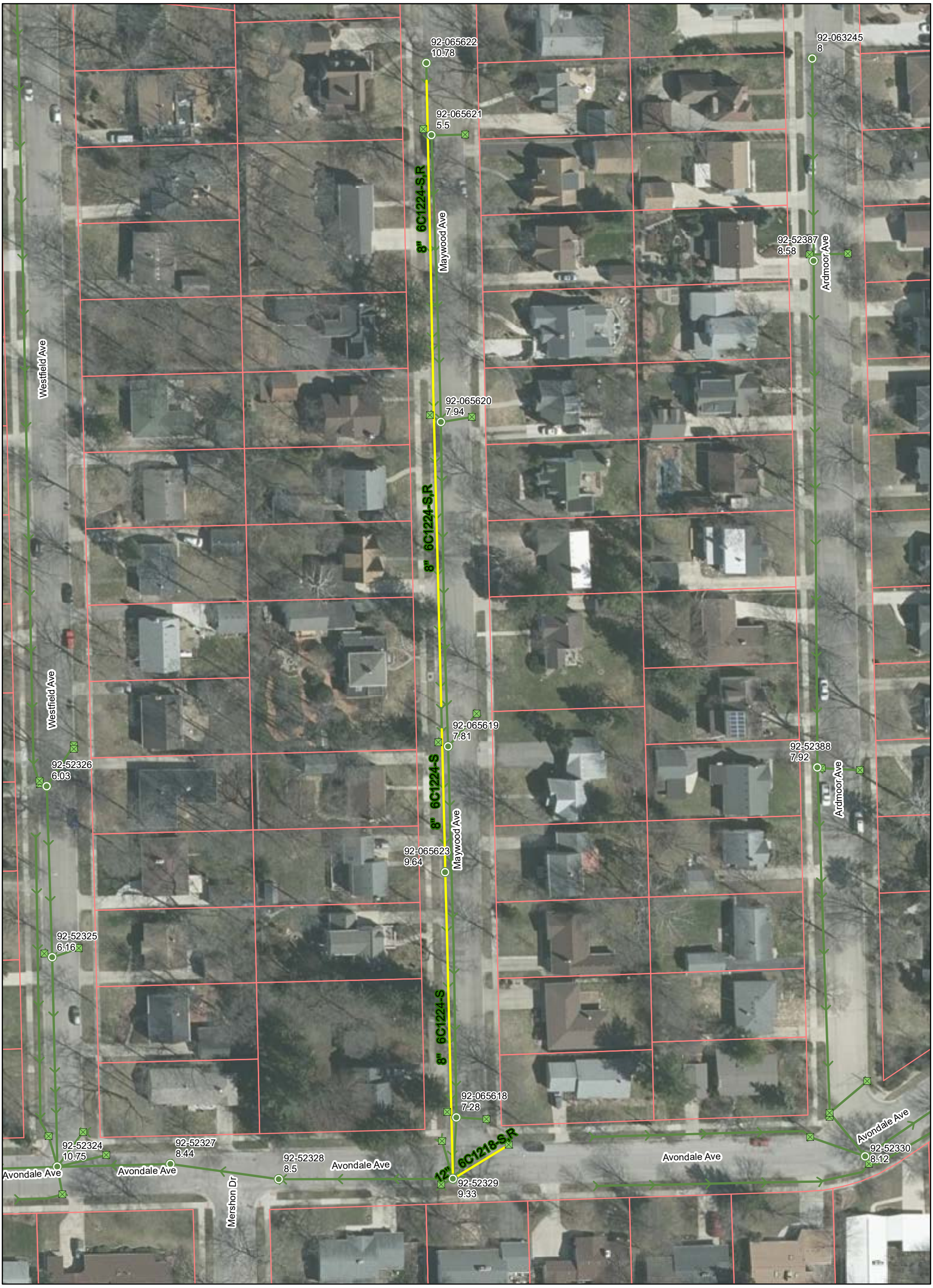
DRAWING No. 2020039-115

SHEET No. 115 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:14 PM

Maywood Ave.



92-XXXXX (Manhole ID)

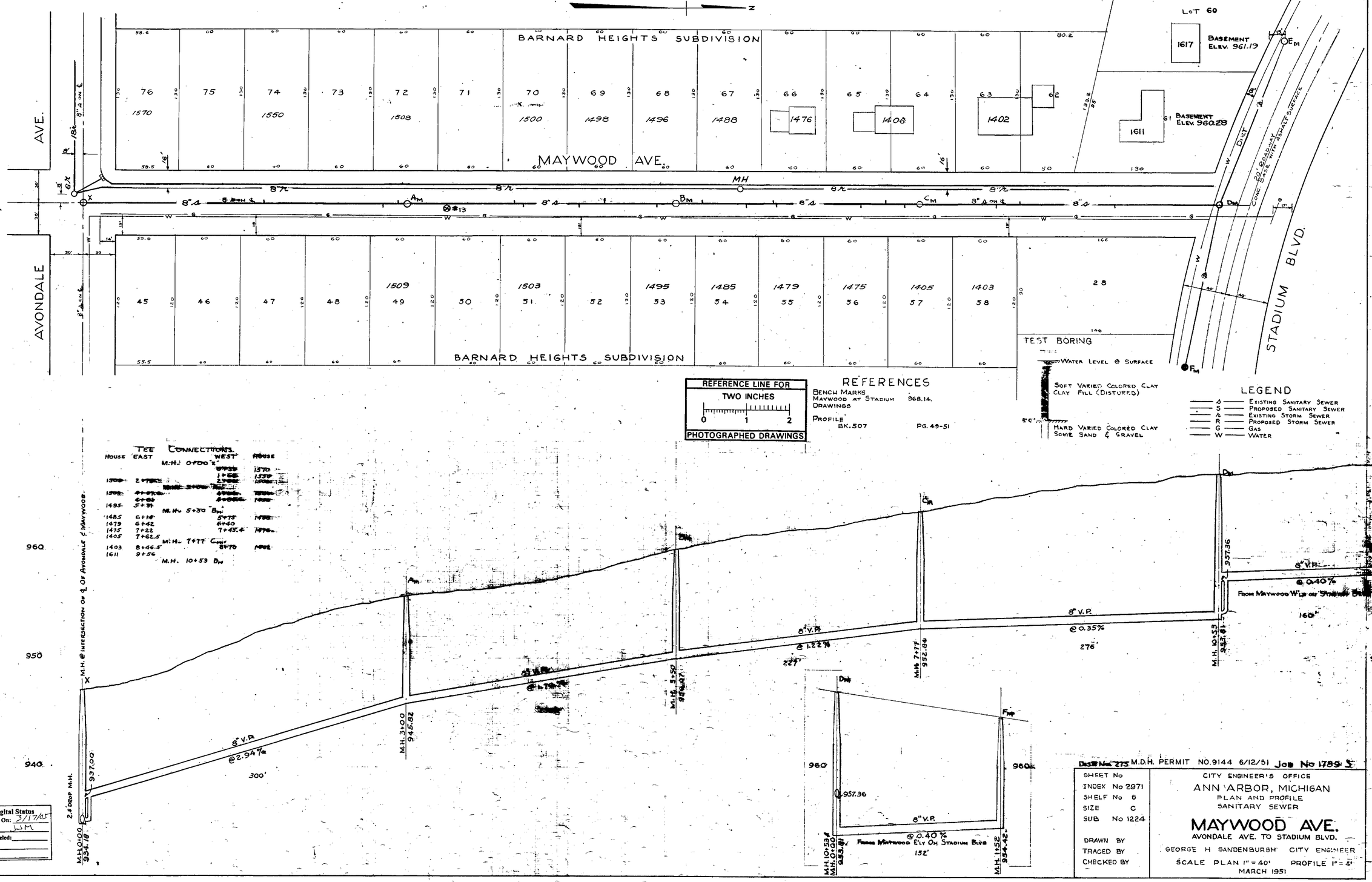
1.00 (Manhole Depth)

Manhole
Catchbasin
Storm Main
AA Proposed Lining

N

0 35 70 140 210 280 Feet

For terms and conditions please visit www.a2gov.org/terms



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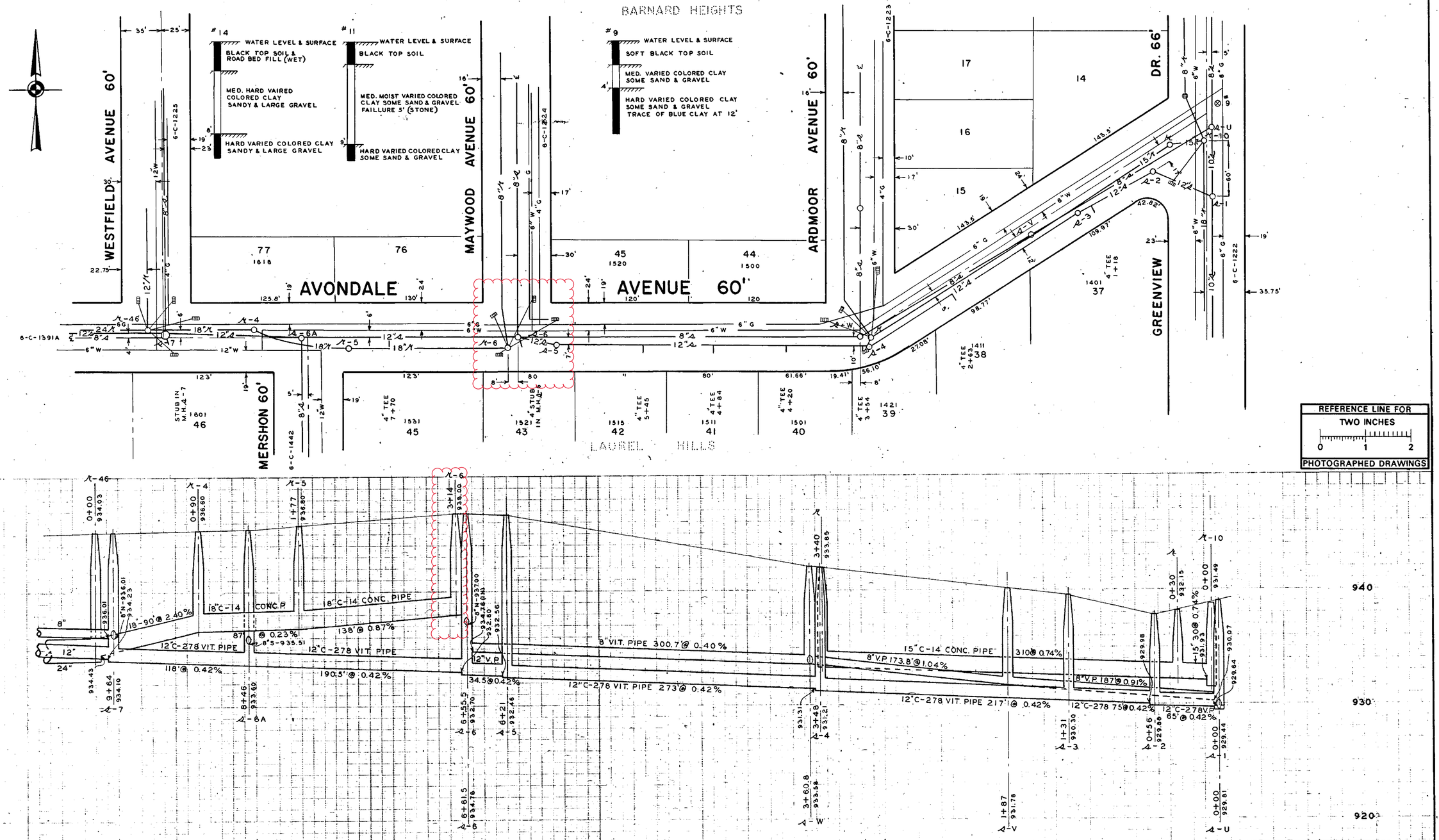
By: JM
Despeckled:
Vectors:
O.C.R.:

Dwg. No. 273 M.D.H. PERMIT NO. 9144 6/12/51 Job No 1785 S

SHEET No	
INDEX No 2971	CITY ENGINEER'S OFFICE
SHELF No 6	ANN ARBOR, MICHIGAN
SIZE C	PLAN AND PROFILE
SUB No 1224	SANITARY SEWER
DRAWN BY	**MAYWOOD AVE.**
TRACED BY	AVONDALE AVE. TO STADIUM BLVD.
CHECKED BY	GEORGE H SANDENBURGH CITY ENGINEER
	SCALE PLAN 1" = 40' PROFILE 1" = 4'
	MARCH 1951



Digital Status
Scanned On: 3/17/05
By: JJM
Despeckeled:
Vectors:
O.C.R.:

	DATE	SHEET NO.
DR BY	3/51	INDEX NO. 2965
TR BY L.F.S.	11/69	SHELF NO.
CH BY		6-C-1218
REVISIONS AS BLT. L.F.S. 11/69		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'

SANITARY AND STORM SEWER

AVONDALE AVENUE

GREENVIEW DR. TO WESTFIELD AVE.

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

JOB 2204-S	DIST. 451	PREPARED BY McNAMEE, PORTER & SEELEY
JOB 1789-S	DIST. 275	
JOB 2204-R	DIST. 12	APPROVED BY HOWARD RUSSELL 1/21/69
JOB 3708-S	DIST.	

LEGEND: UNDERGROUND UTILITIES — PROFILES

EXISTING SANITARY — PROPOSED SANITARY — EXISTING STORM — PROPOSED STORM — EXISTING GAS — EXISTING WATER

CENTER LINE — LEFT PROPERTY LINE — RIGHT PROPERTY LINE

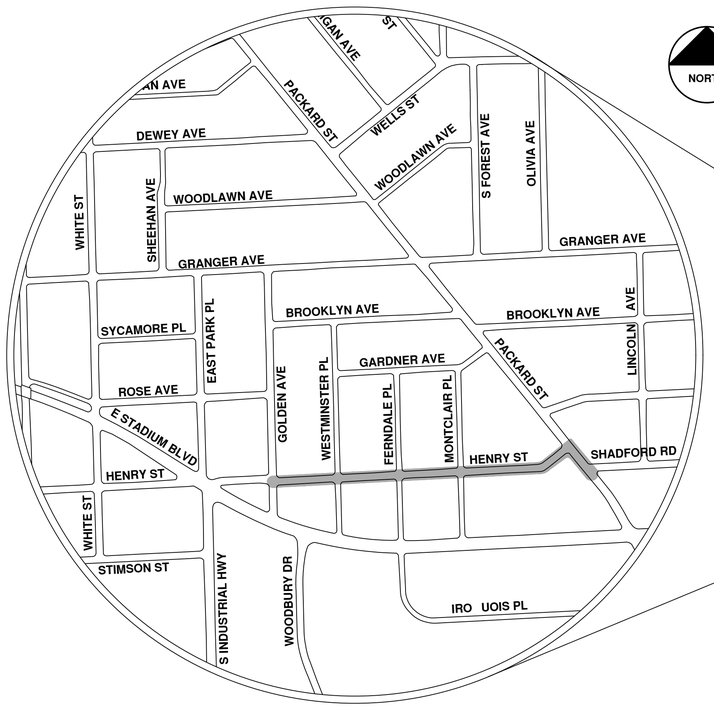
REFERENCES: BENCH MARK CITY '53 - 938.93 — PROFILES BY 507 PG. 52-54

DRAWINGS — FIELD BOOK 905 PG. 15-20

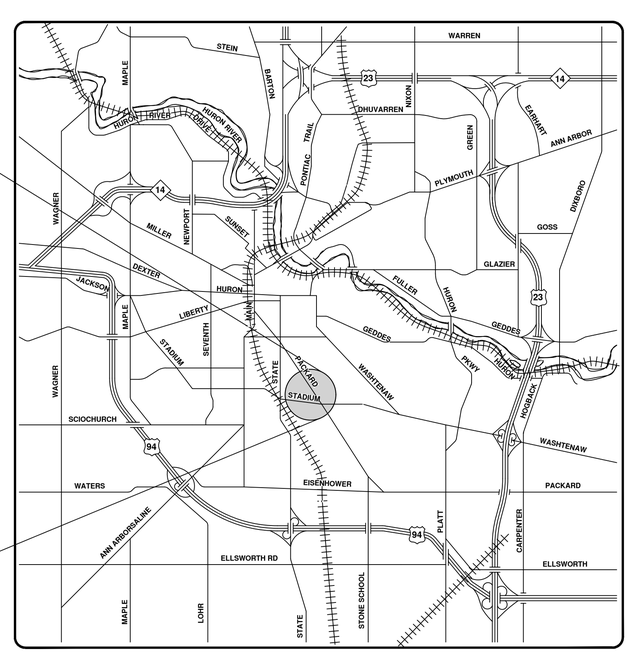
JOB-3708 M.D.P.H. PERMIT NO. 690062 1/23/69

2020 SEWER LINING PROJECT

HENRY ST



NORTH



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-119

SHEET No. 119 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:19 PM

Henry St.

Manhole — Storm Main

Catchbasin — AA Proposed Lining

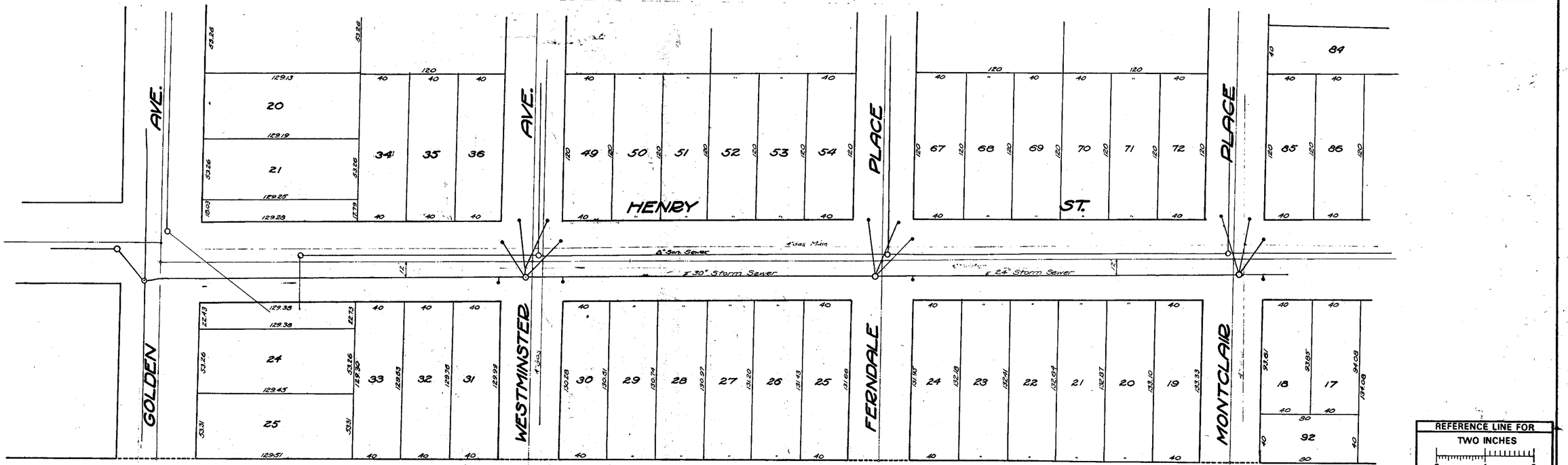
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

For terms and conditions please visit www.a2gov.org/terms



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By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

SHEET No.
INDEX No. 1638
SHELF No. 6
SIZE C
SUB No. 648
DRAWN BY
TRACED BY K&D
CHECKED BY

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
STORM SEWER
HENRY ST.
GOLDEN TO MONTCLAIR
Geo. H. Sandenburgh City Engineer
1927-1-20
Scales: Plan Hor. 1"=40' Prof. Vert. 1"=4'

Henry St.

Manhole
Catchbasin
Storm Main
AA Proposed Lining

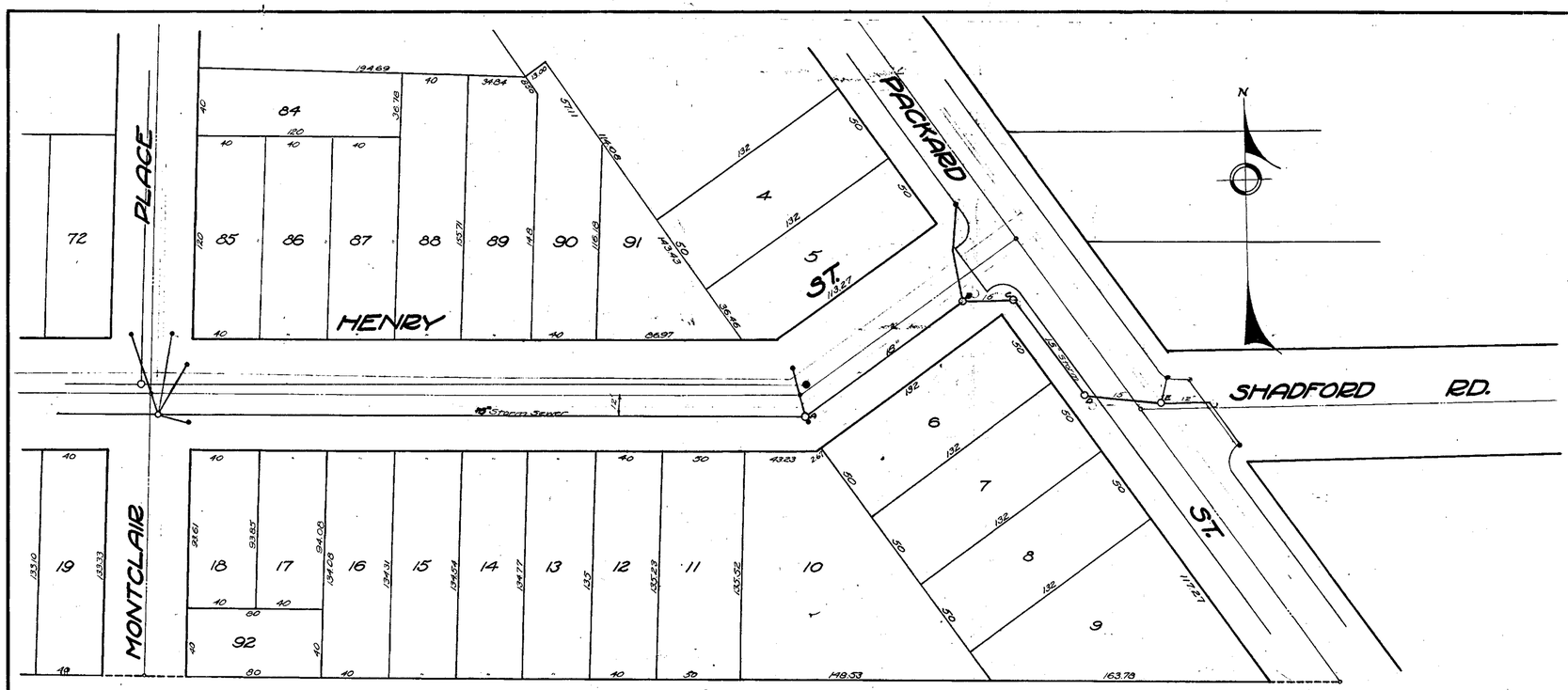
92-XXXXX (Manhole ID)

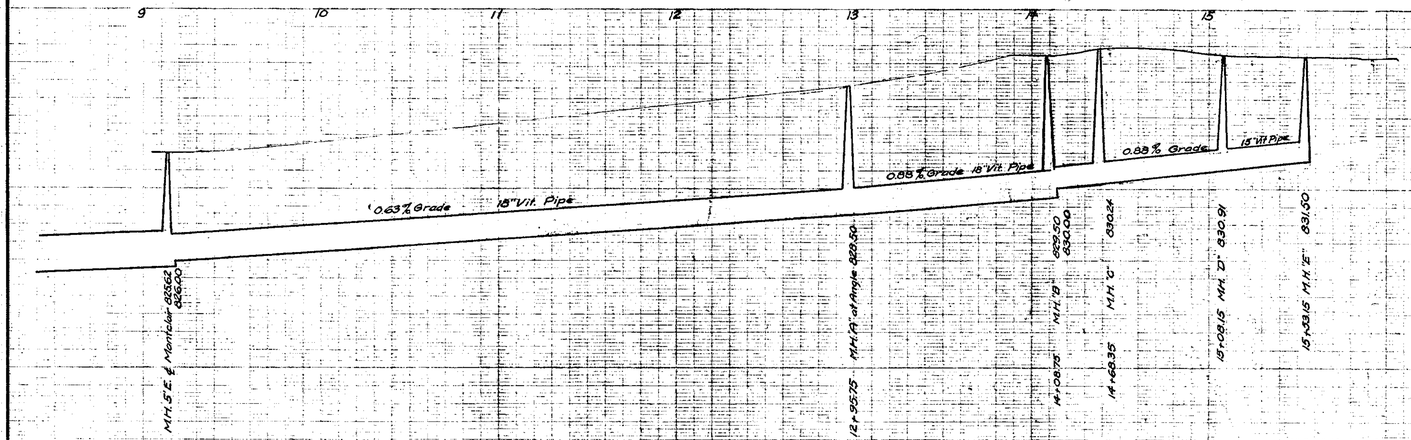
1.00 (Manhole Depth)

Feet
0 20 40 80 120 160

N

For terms and conditions please visit www.a2gov.org/terms



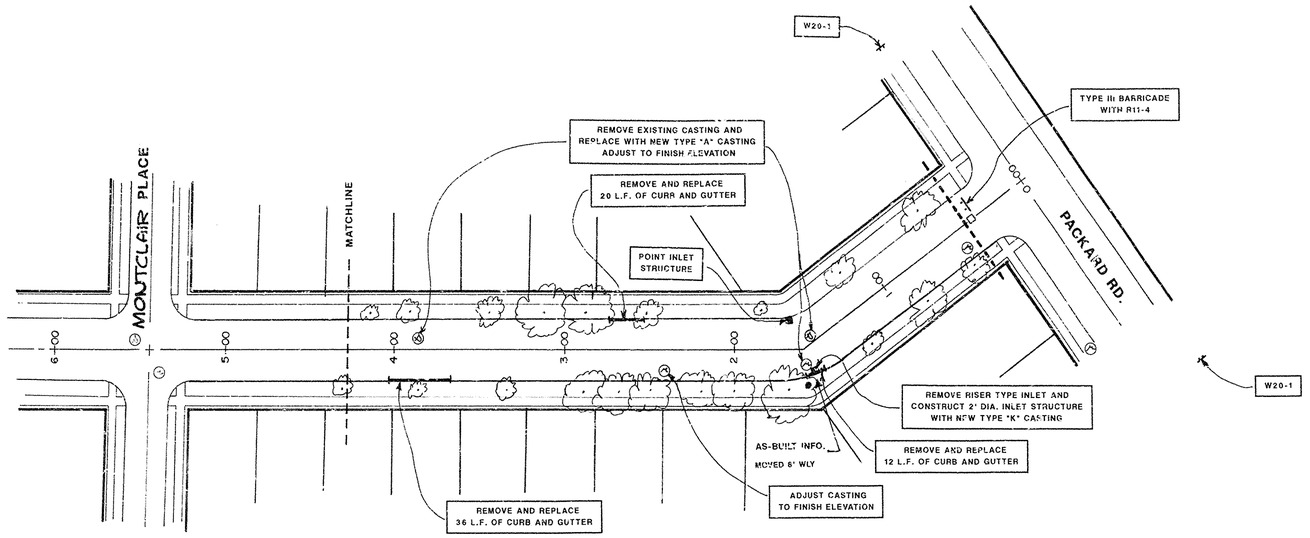


SHEET No.	CITY ENGINEER'S OFFICE
INDEX No. 1639	ANN ARBOR, MICH.
SHELF No. 6	PLAN AND PROFILE
SIZE C	OF
SUB No. 649	STORM SEWER
DRAWN BY	HENRY ST.
TRACED BY KAD	MONTCLAIR to PACKARD
CHECKED BY	Geo. H. Sandenburgh City Engineer
	1927-1-2
	Scales: Plan Hor. 1"=40' Prof. Vert. 1"=4'

Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

HENRY ST.

31' E/M TO E/M



STREET AS-BUILT INFORMATION

THIS STREET WAS CUT, PATCHED AND OVERLAYED. EXISTING FAILED AREAS WERE CUT OUT AND PATCHED, THEN A 1" THICKNESS OF 1300L-20AAA LEVELING COURSE WAS PLACED. THE FINAL COURSE WAS A 1 1/2" THICKNESS OF 1300T-20AAA WEARING COURSE WHICH INCLUDED THE OVERLAYING OF THE CONCRETE GUTTERPAN.

NOTE

Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

SIGN LEGEND

QTY	TYPE	DESCRIPTION
8	W20-1	"CONSTRUCTION AHEAD"
	W20-2	"DETOUR AHEAD"
	W20-3	"STREET CLOSED AHEAD"
	W20-5	RIGHT LANE CLOSED AHEAD
	W4-2	RIGHT LANE DROP SYMBOL
	W21-1a	WORKER SYMBOL
	M4-9	DETOUR (LEFT ARROW)
	M4-9	DETOUR (RIGHT ARROW)
	M4-9	DETOUR (STRAIGHT ARROW)
	D3-1	CONVENTIONAL GUIDE
	M4-8a	"DETOUR ENDS"
	M4-10	"DETOUR"
	R6-1	"ONE WAY" (LEFT)
8	TYPE III	TYPE III LIGHTED BARRICADE
56	TYPE II	TYPE II LIGHTED BARRICADE (DRUM)
8	R11-4	"ROAD CLOSED TO THRU TRAFFIC"
	TYPE "A"	TYPE "A" LIGHTED ARROW BOARD

GENERAL CONSTRUCTION NOTES

1. All work shall conform to current City of Ann Arbor Standards and Specifications.
2. The Contractor shall maintain access to all drives during the course of construction, and in no case shall a drive be permitted to remain closed during non-working hours.
3. The Contractor shall completely restore all existing site features to better than, or equal to, their existing condition. This activity will be closely monitored by the Engineering Department.
4. The Contractor shall be aware that there are buried utilities in these streets which include, but are not limited to, gas mains, watermains, vitrified clay storm sewer, sanitary sewer and other utilities. The Contractor shall conduct his work on these streets and all streets in such a fashion so not to damage or alter in any way, existing utilities except where called for on the plans or as directed by the Engineer. The city has inspected by television cameras and cleaned all sanitary and storm sewers, including storm leads and has found them to be in good condition except where being replaced.
5. The Contractor is solely responsible for any delays, damages, costs and/or charges incurred due to and/or by reason of any utility, structure, feature and/or site condition whether shown on the plans or not, and the Contractor shall repair and/or replace, at his sole expense, to as good or better condition, any and all utilities, structures, features and/or site conditions which are impacted by reason of the work or injured by him during his operations or injured during the operations of his subcontractors or suppliers.
6. No extra payments or adjustments to unit prices will be made for damages, delays, costs and/or charges due to existing utilities, structures, features and/or site conditions not shown or being incorrectly shown or represented on the plans.

CONSTRUCTION METHOD AND SEQUENCE

The work to be completed on Henry St. shall include but not be limited to the following items. The order of construction shall be as given below unless otherwise authorized by the Engineer.

1. Implementation of the traffic control and traffic maintenance plan.
2. Perform concrete removals and replacements as shown on the plans or as directed by the Engineer.
3. Remove and replace bituminous pavement as directed by the Engineer.
4. Pave 1 inch M.D.O.T. 1300L-20AAA scratch leveling course.
5. Adjust structure covers, valve boxes and monument boxes to their finished elevations.
6. Pave 1 1/2 inches M.D.O.T. 1300T-20AAA wearing course.
7. Complete miscellaneous construction including restoration.
8. Remove traffic control.

ESTIMATED CONSTRUCTION QUANTITIES FOR HENRY ST.

ITEM	ITEM DESCRIPTION	UNIT	EST. QUANTITY
2.	REMOVE BITUMINOUS PAVEMENT	SY	904.00
8.	SUBGRADE UNDERCUTTING TYPE II	CY	226.00
9.	REMOVE CONCRETE CURB OR CURB & GUTTER - ANY TYPE	LF	622.00
11.	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS	SF	942.00
12.	BITUMINOUS PATCHING - M.D.O.T. NO. 706-20C OR NO. 1300T-20AAA	TON	154.00
14.	BITUMINOUS P EMENT LEVELING M.D.O.T. NO. 1300L-20AAA	TON	408.00
15.	BITUMINOUS PAVEMENT WEARING M.D.O.T. NO. 1300T-20AAA	TON	384.00
17.	BITUMINOUS PAVEMENT FINISH WEDGING M.D.O.T. 1300T-35A	TON	15.00
20	22-A AGGREGATE - C.I.P.	CY	226.00
27	CONCRETE CURB AND GUTTER ANY TYPE	LF	622.00
29.	4" SIDEWALK OR RAMP	SY	942.00
36.	ADJUST DRAINAGE STRUCTURE COVER	EA	14.00
37.	ADJUST MONUMENT BOX OR GATE VALVE BOX	EA	6.00
42.	DRAINAGE STRUCTURE COVERS	LBS	3290.00
43.	POINT DRAINAGE STRUCTURE	EA	6.00
44.	RECONSTRUCT GATE VALVE BOX	EA	3.00
60.	BARRICADE TYPE II (DRUM) LIGHTED - OPERATE	EA	56.00
61.	BARRICADE TYPE III - LIGHTED FURNISH AND OPERATE	EA	8.00
62.	TEMPORARY SIGN - TYPE B	SF	228.00
63.	NO PARKING SIGN	EA	16.00

LEGEND

S	EXISTING SANITARY SEWER
ST	EXISTING STORM SEWER
W	EXISTING WATERMAIN
MBT	MICHIGAN BELL TELEPHONE
G	GAS CO. VALVE
	GATE VALVE IN BOX
	SOIL BORING
	EXISTING CURB INLET
	MONUMENT BOX
	REMOVE AND REPLACE SIDEWALK
	CONSTRUCTION LIMITS
	REMOVE AND REPLACE CONCRETE CURB

GRAPHIC SCALE

TWO INCHES

0 1 2

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATERMAIN W/F.H. ASSEM.	
WATERMAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	
WATERMAIN & VALVE-IN-BOX	END SECTION			ROAD & GRADE	

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	1-11-94	RAG	
			ORIGINAL ISSUE	12-92	WAGS	DWT

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

HENRY ST.

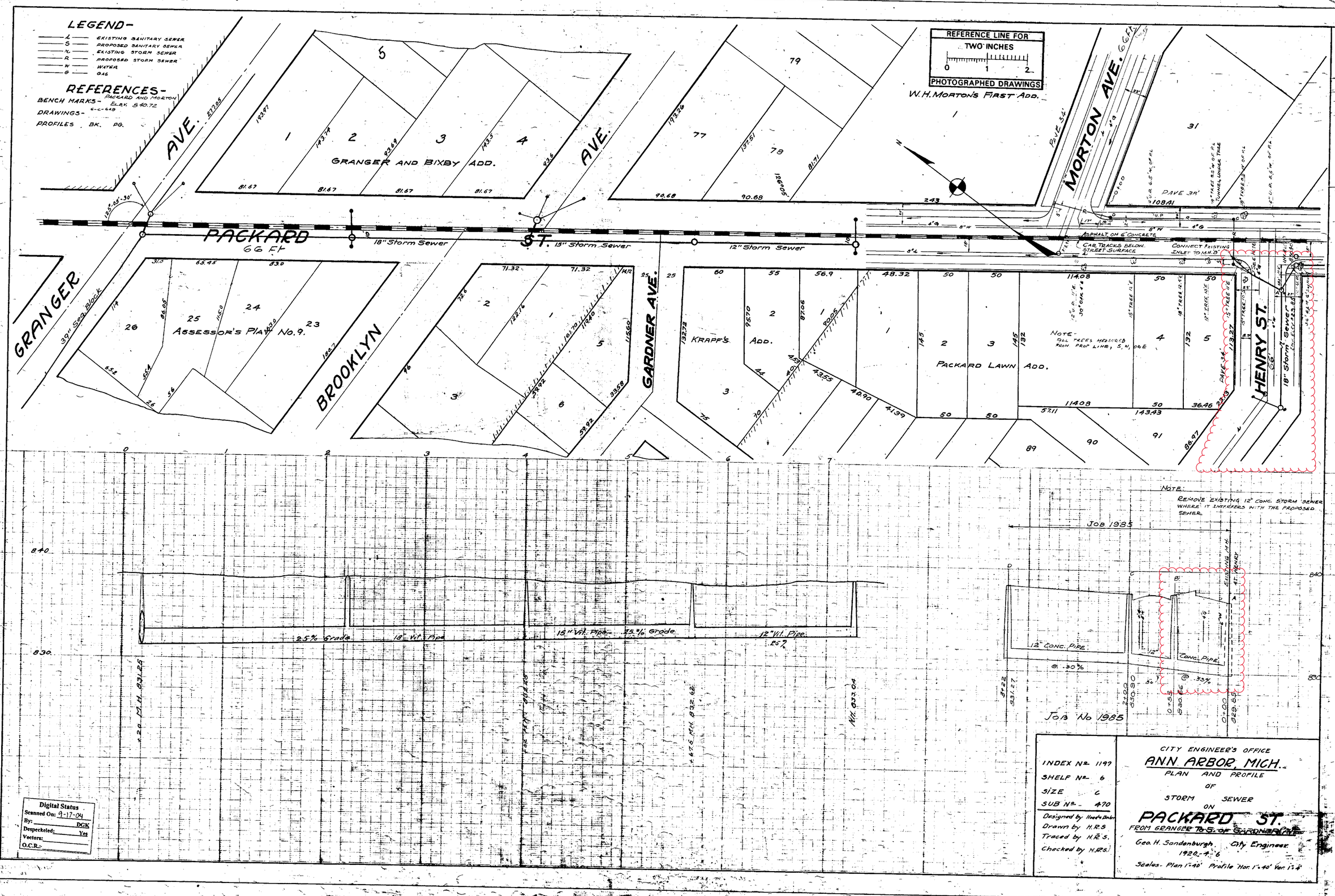
PACKARD TO STA. 4+27

1993 ANNUAL STREET RESURFACING PROJECT

SCALE HORIZ. 1"=40' VERT. 1"=4' | INCH 0 1

DRAWING NO. 93004-29

SHEET NO. OF


LEGEND-
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER
EXISTING STORM SEWER
PROPOSED STORM SEWER
WATER
GAS
REFERENCES-
BENCH MARKS- PACKARD AND MORTON ELEV. 840.72
DRAWINGS- 6-C-649
PROFILES BK. PG.
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
W.H. MORTON'S FIRST ADD.
GRANGER AVE.
GRANGER AND BIXBY ADD.
MORTON AVE. 66 Ft.
PACKARD ST. 66 Ft
18" Storm Sewer
15" Storm Sewer
12" Storm Sewer
ASPHALT ON 6" CONCRETE
CAR TRACKS BELOW STREET SURFACE
CONNECT EXISTING INLET TO M.H. 8
39" Seg. Block
ASSESSOR'S PLAT No. 9.
BROOKLYN
GARDNER AVE.
KRAPF'S ADD.
PACKARD LAWN ADD.
NOTE- ALL TREES MEASURED FROM PROP LINE, S, N, OR E
HENRY ST. 66'
18" Storm Sewer
NOTE: REMOVE EXISTING 12" CONC. STORM SEWER WHERE IT INTERFERS WITH THE PROPOSED SEWER.
JOB 1985
25% Grade
18" Vit. Pipe
15" Vit. Pipe
25% Grade
12" Vit. Pipe
12" CONC. PIPE
CONC. PIPE
@ .30%
@ .33%
JOB No 1985
INDEX No. 1197
SHELF No. 6
SIZE C
SUB No. 470
Designed by Hoad & Decker
Drawn by H.R.S.
Traced by H.R.S.
Checked by H.R.S.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
ON
PACKARD ST.
FROM GRANGER TO S. OF GARDNER AVE.
Geo. H. Sandenburgh City Engineer
1920-4-6
Scales- Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'
Digital Status
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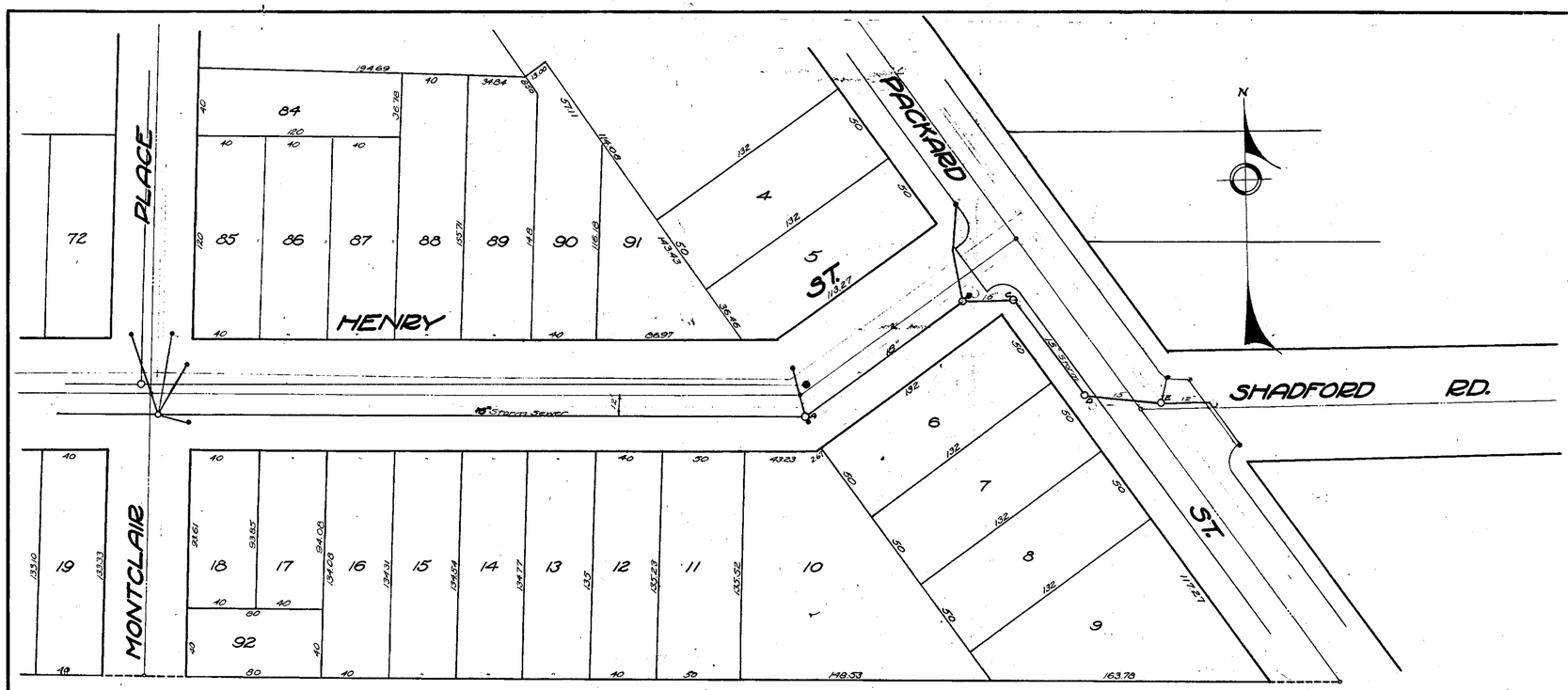
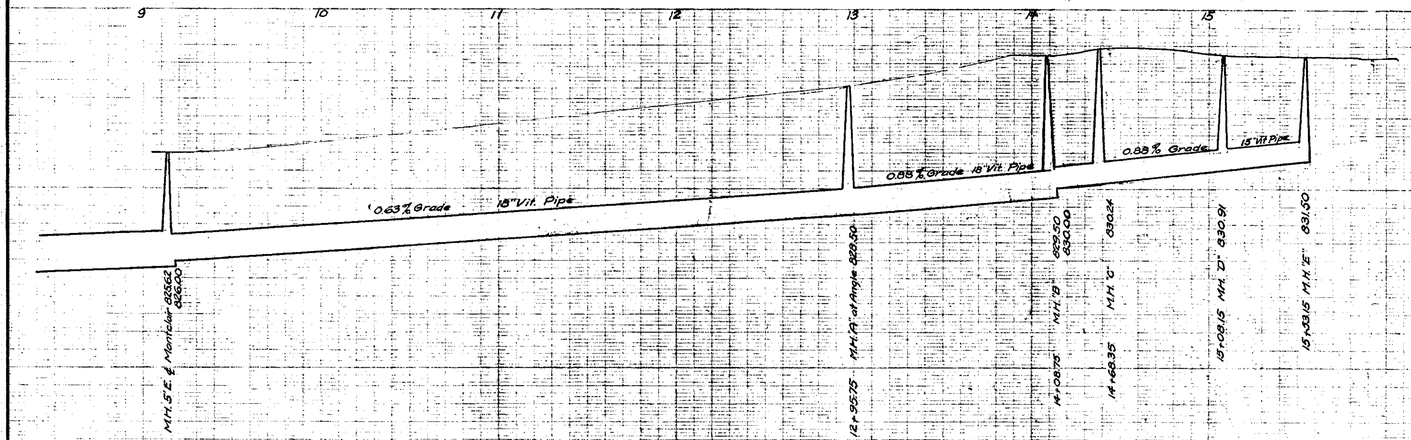
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:





SHEET No.	CITY ENGINEER'S OFFICE
INDEX No. 1639	ANN ARBOR, MICH.
SHELF No. 6	PLAN AND PROFILE
SIZE C	OF
SUB No. 649	STORM SEWER
DRAWN BY	HENRY ST.
TRACED BY KAD	MONTCLAIR to PACKARD
CHECKED BY	Geo. H. Sandenburgh City Engineer
	1927-1-2
	Scales: Plan Hor. 1"=40' Prof. Vert. 1"=4'

Digital Status
Scanned On: 2-23-05
By: DGK
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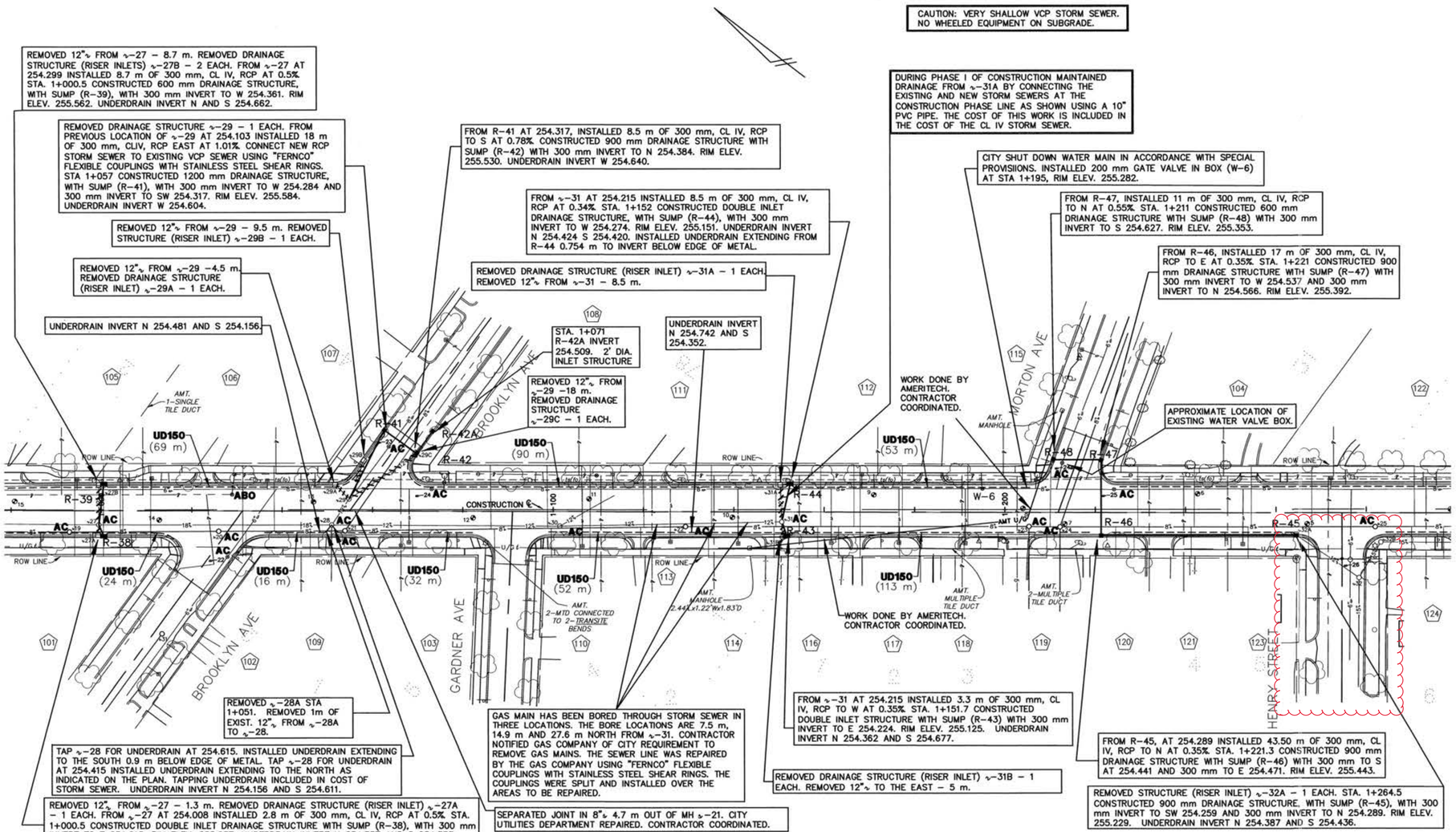
Vectors:
O.C.R.:



INDEX NO	Parcel Number	Prop Address	Owner Name	Owner Address	
101	09–09–33–303–024	1221 BROOKLYN AVE	BLACK DUANE	820 HILL ST	MI 48104 3306
102	09–09–33–328–012	1224 BROOKLYN AVE	JONES LOWELL & ANNE	39 DARLYN DR	OH 43402 1609
103	09–09–33–328–010	1309 GARDNER AVE	ALEXANDER MICHAEL	1309 GARDNER AVE	MI 48104 4322
104	09–09–33–309–001	1400 MORTON AVE	YARMAIN RICHARD A	1625 ARLINGTON BLVD	MI 48104 4103
105	09–09–33–307–013	1411 PACKARD ST	SCHREIBER & WATKINS	1411 PACKARD ST	MI 48104
106	09–09–33–307–014	1415 PACKARD ST	LATENDRESSE NANCY	1415 PACKARD ST	MI 48104
107	09–09–33–307–015	1425 PACKARD ST	SILVERMAN KENNETH & PATRICIA	1425 PACKARD ST	MI 48104
108	09–09–33–308–006	1426 BROOKLYN AVE	DARDEN ROBERT & JOANNE	1426 BROOKLYN AVE	MI 48104 4495
109	09–09–33–328–011	1506 PACKARD ST	CROSS ANNE & RICHARD	1416 HILLTOP DR	MI 48197
110	09–09–33–310–010	1526 PACKARD ST	WITH HOUSING INC	216 CATHERINE ST	MI 48104
111	09–09–33–308–007	1527 PACKARD ST	JAMES THOMAS	* PO BOX 1825	MI 48106
112	09–09–33–308–900	1531 PACKARD ST			
	09–09–33–308–010	1531 PACKARD ST 1	STUART LEE & RUTH ANN	1531 PACKARD ST 1	MI 48104
	09–09–33–308–019	1531 PACKARD ST 10	LEVY YEFIM & MARINA	1756 STAUCH DR	MI 48324
	09–09–33–308–020	1531 PACKARD ST 11	SHEGREN ERIK PETER	1531 PACKARD ST 11	MI 48104
	09–09–33–308–021	1531 PACKARD ST 12	SKLAR MELISSA	1531 PACKARD ST 12	MI 48104
	09–09–33–308–022	1531 PACKARD ST 13	LEE SUNG HI TRUST	3228 TWIN POND CT	MI 48304
	09–09–33–308–023	1531 PACKARD ST 14	LEE DONG HAE & EUN KYUNG	4529 FARMINGTON RD	OH 43623
	09–09–33–308–024	1531 PACKARD ST 15	MORGAN PATRICK & MORGAN JAMES P	1531 PACKARD ST 15	MI 48104
	09–09–33–308–025	1531 PACKARD ST 16	ROSENFELD DAVID M	1531 PACKARD ST 16	MI 48104
	09–09–33–308–026	1531 PACKARD ST 17	PATEL PRERANA	1531 PACKARD ST 17	MI 48104
	09–09–33–308–027	1531 PACKARD ST 18	WIELAND SHARON	1531 PACKARD ST 18	MI 48104
	09–09–33–308–028	1531 PACKARD ST 19	WISCHMEYER JOHN & WISCHMEYER MARK	1531 PACKARD ST 19	MI 48104
	09–09–33–308–011	1531 PACKARD ST 2	CHEN HSUAN & C	4804 WARBLER'S WAY	MI 48640–1967
	09–09–33–308–029	1531 PACKARD ST 20	GREEN RALPH & BARBARA	1531 PACKARD ST 20	MI 48104
	09–09–33–308–012	1531 PACKARD ST 3	PERRY TIMOTHY J	1531 PACKARD ST 3	MI 48104
	09–09–33–308–013	1531 PACKARD ST 4	STEELMAN KEITH & MARY	9148 CORUNNA RD	MI 48532
	09–09–33–308–014	1531 PACKARD ST 5	JOHNSON DANIEL & SUSAN	5738 WAGONEER CT	MI 48103
	09–09–33–308–015	1531 PACKARD ST 6	LUBERTO MICHAEL & MARCIA	1531 PACKARD ST 6	MI 48104
	09–09–33–308–016	1531 PACKARD ST 7	FERRER GREGORIO V & ESTRELLA	1215 CLUB	MI 48013
	09–09–33–308–017	1531 PACKARD ST 8	MANCHERIAN CHARLES TRUST	1485 KING GEORGE BLV	MI 48108
	09–09–33–308–018	1531 PACKARD ST 9	PEASE HOWARD C	1531 PACKARD ST 9	MI 48104
113	09–09–33–310–009	1532 PACKARD ST	MAYER WALTER & GERALDINE	1000 BERKSHIRE RD	MI 48104
114	09–09–33–310–008	1536 PACKARD ST	SINGER MICHAEL	2015 DAY ST	MI 48104
115	09–09–33–308–009	1537 PACKARD ST	JACOBS CHRISTINE	1407 MORTON AV	MI 48104
116	09–09–33–310–007	1540 PACKARD ST	HAGER DEANNA	1540 PACKARD ST	MI 48104
117	09–09–33–310–006	1542 PACKARD ST	ALLISON LYNN	1542 PACKARD ST	MI 48104
118	09–09–33–310–005	1546 PACKARD ST	GREENMAN EMERSON & MARJORIE	1546 PACKARD ST	MI 48104
119	09–09–33–310–004	1600 PACKARD ST	CHANG BYUNG & SHARON	5521 OVERBROOK DR	MI 48105
120	09–09–33–310–003	1602 PACKARD ST	MAYER WALTER & GERALDINE	1602 PACKARD ST	MI 48104
121	09–09–33–310–002	1614 PACKARD ST	MORGAN ANDREW & MAYESKY VANESSA	1614 PACKARD ST	MI 48104
122	09–09–33–418–005	1615 PACKARD ST	WILD JEAN R	2335 LONDONDERRY RD	MI 48104
123	09–09–33–310–001	1616 PACKARD ST	YOUNG FUDAH	1616 PACKARD ST	MI 48104
124	09–09–33–311–004	1700 PACKARD ST	HEALD STEPHEN & B	1700 PACKARD ST	MI 48104

BENCH MARKS:

BM #1 SE CORNER OF CONCRETE BASE OF TRAFFIC SIGNAL AT THE SW CORNER OF PACKARD AND STATE STREETS. ELEVATION IN METERS = 254.158

BM#2 BOLT ON COLLAR OF FIRE HYDRANT 10' NORTH OF DRIVE TO 811 PACKARD ST, EAST SIDE OF PACKARD STREET ELEVATION IN METERS = 255.289

BM#3 BOLT ON COLLAR OF FIRE HYDRANT AT STREET ADDRESS 1003 PACKARD, EAST SIDE OF PACKARD STREET ELEVATION IN METERS = 255.950

BM#4 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD AND WELLS STREETS ELEVATION IN METERS = 256.042

BM#5 BOLT ON COLLAR OF FIRE HYDRANT SW CORNER OF PACKARD STREET AND WOODLAWN AVENUE. ELEVATION IN METERS = 255.707

BM#6 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND GRANGER AVENUE ELEVATION IN METERS = 256.383

BM#7 BOLT ON COLLAR OF FIRE HYDRANT SE CORNER OF PACKARD STREET AND BROOKLYN AVENUE ELEVATION IN METERS = 256.149

BM#8 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND MORTON AVENUE ELEVATION IN METERS = 256.368

BM#9 US COAST AND GEODETIC SURVEY DISC SET IN CONCRETE, STAMPED: "11 1" NE CORNER OF PACKARD ROAD AND STADIUM BLVD, 2.3' NORTH OF SIDEWALK. ELEVATION IN METERS = 255.370

CONSTRUCTION KEY

ABO	ADJUST BY OTHERS.
AC	ADJUST CASTING (INCLUDES GATE WELL, MONUMENT BOX, & VALVE BOX)
UD150	PLACE UNDERDRAIN, 150 mm

LEGEND:

795.7	EXISTING SPOT ELEV.
795	EXISTING CONTOUR
x x	EXISTING FENCE
	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING LIGHT POLE
	EXISTING GUARD RAIL
8"ϕ	EXISTING GAS MAIN
O/H¢	EXISTING OVERHEAD ELECTRIC
O/H¢	EXISTING OVERHEAD TELEPHONE
U/G¢	EXISTING UNDERGROUND ELECTRIC
U/G¢	EXISTING UNDERGROUND TELEPHONE
8"ω	EXISTING WATER MAIN
	EXISTING WATER SHUTOFF
12"ϕ	EXISTING STORM SEWER
8"S	EXISTING SANITARY SEWER
	EX SANITARY SEWER LEAD
	EXISTING FIRE HYDRANT
	EXISTING GATE VALVE
12"R	NEW STORM SEWER
8"S	NEW SANITARY SEWER
8"W	NEW WATER MAIN
	NEW FIRE HYDRANT
	NEW GATE VALVE
795	NEW CONTOUR
SB #20	NEW FENCE / SOIL BORING
AMT U/G¢	NEW CURB & GUTTER AMERITECH / NEW UNDERGRND TELEPHONE
	NEW STOPBAR
	NEW WALK CROSSING
	NEW PAVEMENT
	NEW SIDEWALKS & DRIVE APPROACHES

CASTING SCHEDULE

FOR PACKARD STREET

FILE NO. 2000 045

PLEASE NOTE: FOR PURPOSES OF THIS TABLE, PACKARD STREET IS CONSIDERED TO RUN NORTH AND SOUTH.

	STRUCTURE/ STATION	TOP OF CASTING ELEVATION	INVERT ELEV.		PIPE SIZE	DIRECTION	DEPTH (METERS)		STRUCTURE SIZE	DETAIL	APPLICATION/ CONSTRUCTION
ϕ	-22/1+028	255.329	253.989	T/P	6"	E & W	1.340	T/P	---	---	GV/B
	#250	**255.317**									**ADJUSTED TO FINISH GRADE**
ϕ	-23/1+063.5	255.682	254.482	T/P	8"	E & W	1.200	T/P	---	---	GV/B
	#249	**255.644**									**ADJUSTED TO FINISH GRADE**
ϕ	-24/1+073	255.578	253.597	T/P	8"	N & S	1.981	T/P	5' DIA	SD-W-3	GV/M
	#1528	**255.786**									**ADJUSTED TO FINISH GRADE**
ω	-24A/1+212.7 Lt	**255.487**	---		6"	E & W	---		---	---	GV/B
											ADJUSTED TO FINISH GRADE
ϕ	-25/1+224	255.448	253.900	T/P	8"	N & S	1.548	T/P	---	---	GV/B
	#1547	**255.457**									**ADJUSTED TO FINISH GRADE**
ϕ	-26/1+276.5	255.230	---		6"	E & W	---		---	SD-W-3	GV/M/**OUTSIDE LIMITS**
	#660										
W	-6/1+195	**255.443**	---		8"	N & S	---		---	---	GATEWELL IN BOX/**NEW**
											ADJUSTED TO FINISH GRADE
S	-19/0+993	255.433	252.263		8"	N	3.170		4' DIA.	SD-S-1	**ADJUSTED TO FINISH GRADE**
		255.272	252.263		8"	S	3.170				
S	-20/1+025	255.550	252.340		8"	N	3.210		4' DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.361	252.340		8"	S	3.210				
S	-21/1+054	255.531	252.431		8"	N	3.100		4' DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.509	252.491		8"	SE	3.040				
			252.431		8"	S	3.100				
S	-22/1+129	255.385	252.595		8"	N	2.790		4' DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.271	252.595		8"	S	2.790				
S	-23/1+205	255.446	252.806		8"	N	2.640		4' DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.464	252.806		8"	S	2.640				
					4"	W					
S	-24/1+212	255.438	252.788		8"	N	2.650		4" DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.499	252.788		8"	E	2.650				
			252.788		8"	S	2.650				
			253.038		4"	W	2.400				
S	-25/1+282	255.251	252.971		8"	N	2.280		4' DIA.	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
		255.183	252.971		8"	S	2.280				
S	-31/1+015	255.114	252.564		6"	W	2.550		4' DIA.	SD-S-1	SAN MH/**OUTSIDE LIMITS**
S	-27/0+999 Rt	255.468	253.608		18"	N	1.860		4' DIA.	SD-S-1	STORM MH/
		255.305	254.088		12"	E	1.380				**ADJUSTED TO FINISH GRADE**
			253.608		18"	S	1.860				
			254.088		12"	W	1.380				
			254.299		**300 m m**	**W**	1.006				
S	-27A/0+999 Rt	255.210	254.170		12"	E	1.040		RISER	---	RISER INLET/REMOVED
S	-27B/0+999 Lt	255.236	254.526		12"	W	0.710		RISER	---	RISER INLET/REMOVED
S	-28/1+051 Rt	255.599	253.949		12"	E	1.650		4' DIA.	SD-S-11	STORM MH/
		255.532	253.899		12"	SE	1.700				**ADJUSTED TO FINISH GRADE**
			253.729		18"	S	1.870				
			253.729		12"	N	1.870				
			254.099		12"	W	1.500				
S	-29/1+055 Lt	255.680	254.380		12"	NE	1.300		4' DIA.	SD-S-1	STORM MH/REMOVED
			254.103		12"	E	1.560				
			254.330		12"	SE	1.350				
			254.120		12"	W	1.560				
S	-29A/1+050 Lt	255.416	254.479		12"	SW	0.940		RISER	---	RISER INLET/REMOVED
S	-29B/1+057 Lt	255.456	254.436		12"	W	1.020		RISER	---	RISER INLET/REMOVED
S	-29C/1+066 Lt	255.494	254.624		12"	NW	0.870		RISER	---	RISER INLET/REMOVED
S	-30/1+101 Rt	255.516	253.856		12"	N	1.660		4' DIA.	SD-S-1	STORM MH/
		255.415	254.106		12"	SE	1.410				**ADJUSTED TO FINISH GRADE**
			253.856		12"	S	1.660				
S	-31/1+152 Rt	255.355	254.215		12"	N	1.140		4' DIA.	SD-S-1	STORM MH/ADJUSTED TO FINISH GRADE
		255.207	254.215		12"	E	1.140				
			254.215		12"	W	1.140				
S	-31A/1+156 Lt	255.126	254.566		12"	W	0.560		RISER	---	RISER INLET/REMOVED
S	-31B/1+160 Rt	255.126	254.298		12"	E	0.830		RISER	---	RISER INLET/REMOVED
S	-32/1+280 Rt	255.117	253.427		12"	NE	1.690		4' DIA.	SD-S-1	STORM MH, **OUTSIDE LIMITS**
			252.867		15"	E	2.250				
			252.882		15"	SE	2.235				
S	-32A/1+265 Rt	255.159	254.259		12"	SW	0.900		RISER	---	RISER INLET/REMOVED
S	-32B/1+284 Rt	255.287	252.977		15"	S	2.310		4' DIA.	SD-S-1	STORM MH
		255.393	253.007		15"	NW	2.280				**ADJUSTED TO FINISH GRADE**
R	-38/1+000.5 Rt	**255.237**	**254.018**		**300 mm**	**E**	1.219		DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-39/1+000.5 Lt	**255.562**	**254.361**		**300 mm**	**W**	1.201		600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-41/1+057 Lt	**255.584**	**254.284**		**300 mm**	**W**	1.300		1200mm	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
			254.317		**300 mm**	**SW**	1.267				
R	-42/1+068 Lt	**255.530**	**254.384**		**300 mm**	**NE**	1.146		600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-42A/1+077 Lt	**255.546**	**254.909**		**300 mm**	**NW**	1.037		600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-43/1+151.7 Rt	**255.125**	**254.224**		**300 mm**	**E**	0.901		DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-44/1+152.4 Lt	**255.151**	**254.274**		**300 mm**	**W**	0.877		DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R	-45/1+264.5 Rt	**255.229**	**254.259**		**300 mm**	**SW**	0.970		900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
			254.289		**300 mm**	**N**	0.940				
R	-46/1+221.3 Rt	**255.443**	**254.441**		**300 mm**	**S**	1.002		900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
			254.471		**300 mm**	**E**	0.972				
R	-47/1+221 Lt	**255.392**	**254.537**		**300 mm**	**W**	0.855		900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
			254.566		**300 mm**	**N**	0.826				
R	-48/1+211 Lt	**255.353**	**254.427**		**300 mm**	**S**	0.726		600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
PROPOSED GRADES / WORK IN BOLD TEXT											Note: For Specific Casting Model See Standard Casting Schedule, Detail SD-GU-5

AS–BUILT WATER DRAWING
CORRECTED 10/2001
MDEQ PERMIT No. N/A (HYD. ONLY)
IN SERVICE DATE (MO/YR) 8/2001
CONTRACTOR FONSON CONST.

AS–BUILT STORM DRAWING
CORRECTED 1/2002
IN SERVICE DATE (Mo/Yr) 9/2001
CONTRACTOR FONSON CONST.

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

72 HOURS
BEFORE YOU DIG
CALL MISS DIG
800–482–7171
(TOLL FREE)

BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS–BUILT	9–02	MLL	PWJ
			REVISIONS	02–12–01	KLW	ROC
			CITY/MDOT REVIEW	01–19–01	KLW	REL
			ORIGINAL ISSUE	11–28–00	KLW	REL

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

PACKARD STREET RECONSTRUCTION, PHASE I

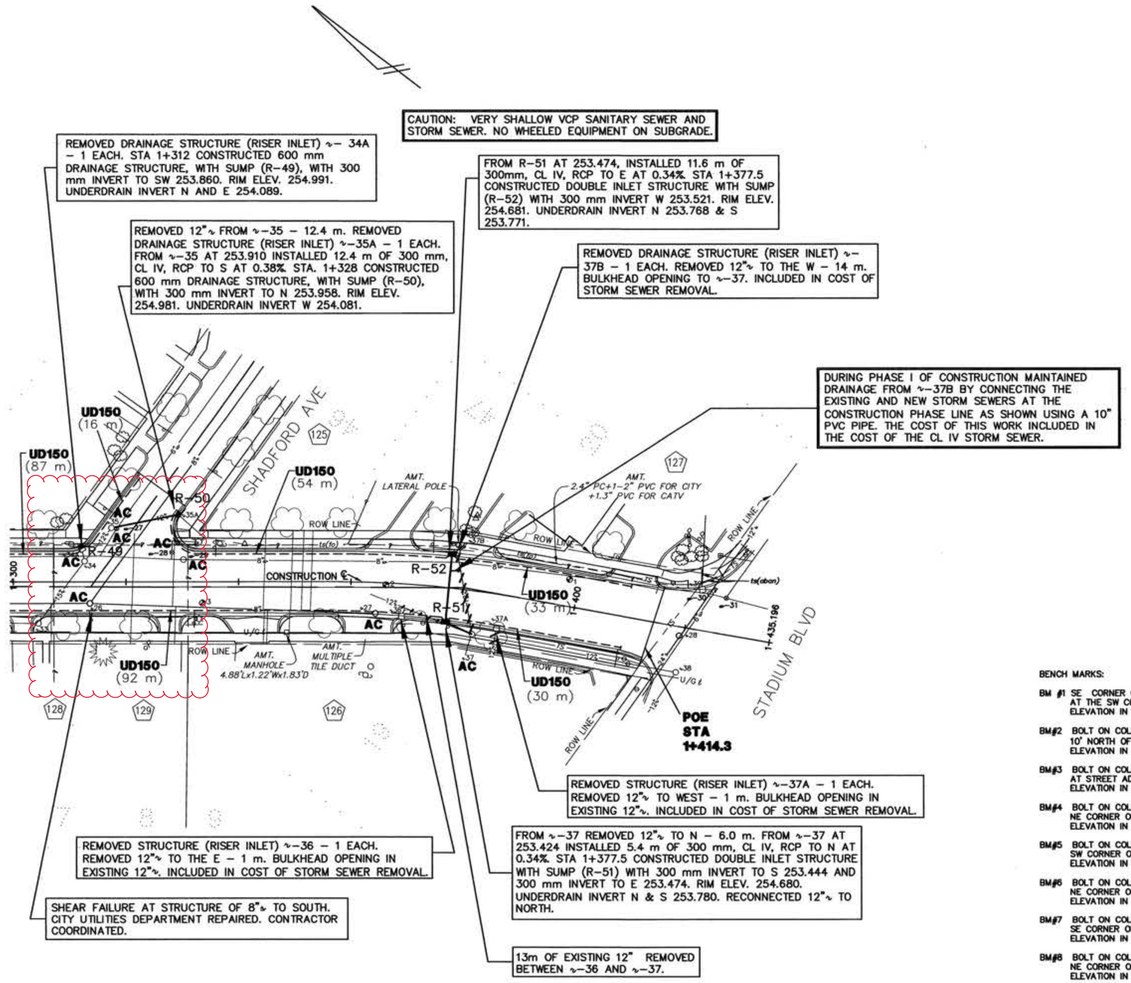
sheet title: UTILITIES (STA. 0+980 TO STA. 1+300)

consultants: WASHTENAW ENGINEERING CO. ROBERT E. LINDSTROM, P.E., MI No. 36093

SCALE HORIZONTAL 1:500 VERTICAL 1:50 — mm 0 5 10 15

DRAWING NO. 2000 045 R4,S4

SHEET NO. 9 OF 51



INDEX NO	Parcel Number	Prop Address	Owner Name	Owner Address	
125	09–09–33–416–020	1408 SHADFORD AVE	HURBIS CHARLES J & IRENE M	2075 MERSHON DR	MI 48103 6042
126	09–09–33–415–001	1423 E STADIUM BLVD	FOOD & DRUG MART	1423 E STADIUM BLVD	MI 48104 4409
127	09–09–33–416–001	1501 E STADIUM BLVD	NDB BANK N A	*P O BOX 33580	MI 48232 5580
128	09–09–33–311–003	1706 PACKARD ST	SHAPIRO LETITIA R	1706 PACKARD ST	MI 48104
129	09–09–33–311–002	1710 PACKARD ST	REGER MELODY TRUST	1710 PACKARD ST	MI 48108

CASTING SCHEDULE
FOR PACKARD STREET
FILE NO. 2000 045

PLEASE NOTE: FOR PURPOSES OF THIS TABLE, PACKARD STREET IS CONSIDERED TO RUN NORTH AND SOUTH.

STRUCTURE/ STATION	TOP OF CASTING ELEVATION	INVERT ELEV.	PIPE SIZE	DIRECTION	DEPTH (METERS)	STRUCTURE SIZE	DETAIL	APPLICATION/ CONSTRUCTION
∿–27/1+316	255.119	253.657 T/P	6"	E & W	1.462 T/P	—	—	GVIB
#1817	**255.032**							**ADJUSTED TO FINISH GRADE**
∿–28/1+328	255.055	253.528 T/P	6"	E & W	1.526 T/P	—	—	GVIB
	254.914							**ADJUSTED TO FINISH GRADE**
∿–29/1+330.5	255.044	—	8"	N & S	—	5' DIA	SD-W-3	GVIW
#1554	**254.935**							**ADJUSTED TO FINISH GRADE**
∿–30/1+423.5	254.823	—	8"	N & S	—	5' DIA	SD-W-3	GVIW
#1896			6"	E				**OUTSIDE LIMITS**
∿–31/1+426	254.797	253.377 T/P	8"	N & S	1.420 T/P	5' DIA	SD-W-3	GVIB
#1896			6"	E				**OUTSIDE LIMITS**
∿–26/1+313	254.999	253.099	8"	E	1.900	4' DIA	SD-S-1	**ADJUSTED TO FINISH GRADE**
	255.029	253.044	8"	N	1.955			
		253.044	8"	S	1.955			
∿–27/1+364	254.680	253.250	8"	N	1.430	4' DIA	SD-S-1	**ADJUSTED TO FINISH GRADE**
	254.732							
∿–28/1+419	254.753	250.393	12"	E	4.360	4' DIA	SD-S-1	**OUTSIDE LIMITS**
		250.393	24"	W	4.360			
∿–33/1+304 Rt	255.206	253.151	15"	N	2.055	4' DIA	SD-S-1	STORM MH
		253.156	15"	E	2.050			**ADJUSTED TO FINISH GRADE**
∿–34/1+313 Lt	255.069	253.759	12"	NE	1.310	4' DIA	SD-S-1	STORM MH
	255.030	253.739	12"	E	1.330			**ADJUSTED TO FINISH GRADE**
		253.679	15"	W	1.390			
∿–34A/1+312 Lt	255.018	253.866	12"	SW	1.150	RISER	SD-S-1	RISER INLET/REMOVED
∿–35/1+317 Lt	255.132	253.892	12"	S	1.240	4' DIA	SD-S-1	STORM MH
	255.030	253.782	12"	W	1.350			**ADJUSTED TO FINISH GRADE**
∿–35A/1+328 Lt	254.947	254.227	12"	N	0.720	RISER	SD-S-1	RISER INLET/REMOVED
∿–36/1+368 Rt	254.608	253.578	12"	N	1.030	2'	SD-S-1	INLET/REMOVED
∿–37/1+383 Rt	254.944	253.424	12"	N	1.520	4' DIA	SD-S-1	STORM MH/ADJUSTED TO FINISH GRADE
	254.944	253.404	12"	S	1.540			
		253.554	12"	E	1.390			
∿–37A/1+387 Rt	254.790	253.470	12"	W	1.320	2'	SD-S-1	INLET/REMOVED
∿–37B/1+378 Lt	254.622	253.702	12"	W	0.920	2'	SD-S-1	INLET/REMOVED
∿–38/1+420 Rt	254.670	253.270	12"	N	1.400	4' DIA	SD-S-1	**OUTSIDE LIMITS**
		253.270	12"	W	1.400			
∿–39/1+422 Lt	254.703	254.113	12"	E	0.590	4' DIA	SD-S-1	**OUTSIDE LIMITS**
R –49/1+312 Lt	**254.991**	**253.860**	**300 mm**	**SW**	1.131	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R –50/1+328 Lt	**254.981**	**253.958**	**300 mm**	**N**	1.023	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
R –51/1+377.5 Rt	**254.680**	**253.444**	**300 mm**	**S**	1.236	DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**
		253.474		**E**	1.206			
R –52/1+377.5 Lt	**254.681**	**253.521**	**300 mm**	**W**	1.160	DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/**NEW**

PROPOSED GRADES / WORK IN BOLD TEXT

Note: For Specific Casting Model See Standard Casting Schedule,

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BM#5 BOLT ON COLLAR OF FIRE HYDRANT SW CORNER OF PACKARD STREET AND WOODLAWN AVENUE. ELEVATION IN METERS = 255.707

BM#6 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND GRANGER AVENUE ELEVATION IN METERS = 256.383

BM#7 BOLT ON COLLAR OF FIRE HYDRANT SE CORNER OF PACKARD STREET AND BROOKLYN AVENUE ELEVATION IN METERS = 256.149

BM#8 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND MORTON AVENUE ELEVATION IN METERS = 256.368

BM#9 US COAST AND GEODETIC SURVEY DISC SET IN CONCRETE, STAMPED: "11 1" NE CORNER OF PACKARD ROAD AND STADIUM BLVD, 2.3' NORTH OF SIDEWALK. ELEVATION IN METERS = 255.370

CONSTRUCTION KEY

ABO	ADJUST BY OTHERS.
AC	ADJUST CASTING (INCLUDES GATE WELL, MONUMENT BOX, & VALVE BOX)
UD150	PLACE UNDERDRAIN, 150 mm

AS–BUILT WATER DRAWING
CORRECTED 10/2001
MDEQ PERMIT No. N/A (HYD. ONLY)
IN SERVICE DATE (MO/YR) 8/2001
CONTRACTOR FONSON CONST.

AS–BUILT STORM DRAWING
CORRECTED 1/2002
IN SERVICE DATE (Mo/Yr) 9/2001
CONTRACTOR FONSON CONST.

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

72 HOURS
BEFORE YOU DIG CALL MISS DIG
800-482-7171 (TOLL FREE)

LEGEND:

795.7 EXISTING SPOT ELEV.
795 EXISTING CONTOUR
x — x EXISTING FENCE
EXISTING UTILITY POLE
EXISTING GUY WIRE
EXISTING LIGHT POLE
EXISTING GUARD RAIL
8"G EXISTING GAS MAIN
O/He EXISTING OVERHEAD ELECTRIC
O/Ht EXISTING OVERHEAD TELEPHONE
U/Ge EXISTING UNDERGROUND ELECTRIC
U/Gt EXISTING UNDERGROUND TELEPHONE
EXISTING WATER SHUTOFF
12"∿ EXISTING STORM SEWER
8"∿ EXISTING SANITARY SEWER
EX SANITARY SEWER LEAD
8"W EXISTING WATER MAIN
EXISTING FIRE HYDRANT
EXISTING GATE VALVE
12"R NEW STORM SEWER
8"S NEW SANITARY SEWER
8"W NEW WATER MAIN
NEW FIRE HYDRANT
NEW GATE VALVE
795 NEW CONTOUR
NEW FENCE
SB #20 SOIL BORING
AMT NEW CURB & GUTTER AMERITECH
U/Gt NEW UNDERGRND TELEPHONE
NEW STOPBAR
NEW WALK CROSSING
NEW PAVEMENT
NEW SIDEWALKS & DRIVE APPROACHES

BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	9–02	MLL	PWJ
			REVISIONS	02–12–01	KLW	ROC
			CITY/MDOT REVIEW	01–19–01	KLW	REL
			ORIGINAL ISSUE	11–28–00	KLW	REL

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

PACKARD STREET RECONSTRUCTION, PHASE I

sheet UTILITIES
title: (STA. 1+300 TO STA. 1+414.1)

consultants:
WASHTENAW ENGINEERING CO. ROBERT E. LINDSTROM, P.E., MI No. 36093

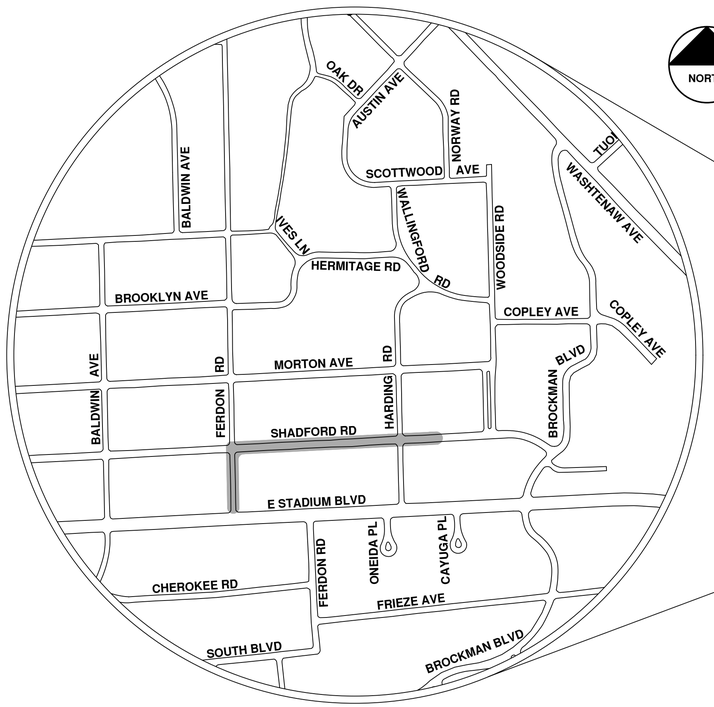
SCALE HORIZONTAL 1:500 VERTICAL 1:50 — mm 0 5 10 15

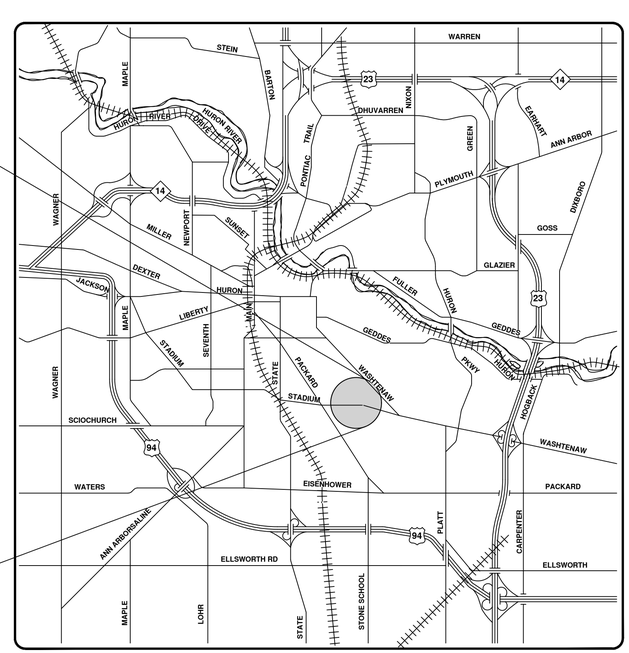
DRAWING NO. 2000 045 R5,S5

SHEET NO. 10 OF 51

2020 SEWER LINING PROJECT

FRENDON RD SHADFORD RD





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
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P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-129

SHEET No. 129 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:24 PM

Frendon Rd. & Shadford Rd.

Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

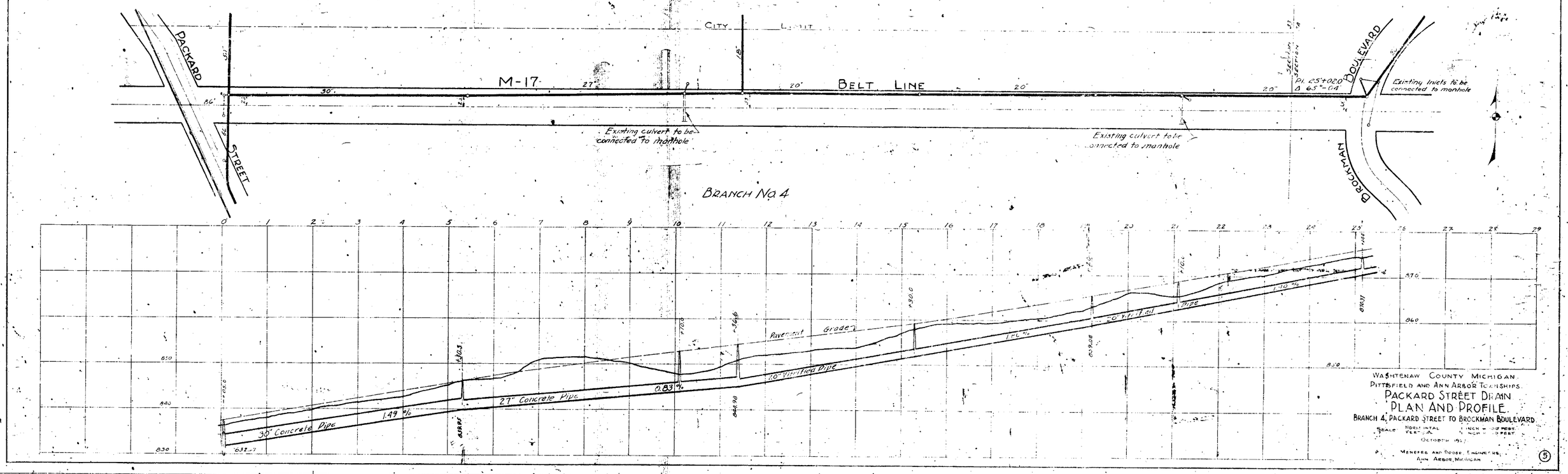
92-XXXXX (Manhole ID)
1.00 (Manhole Depth)

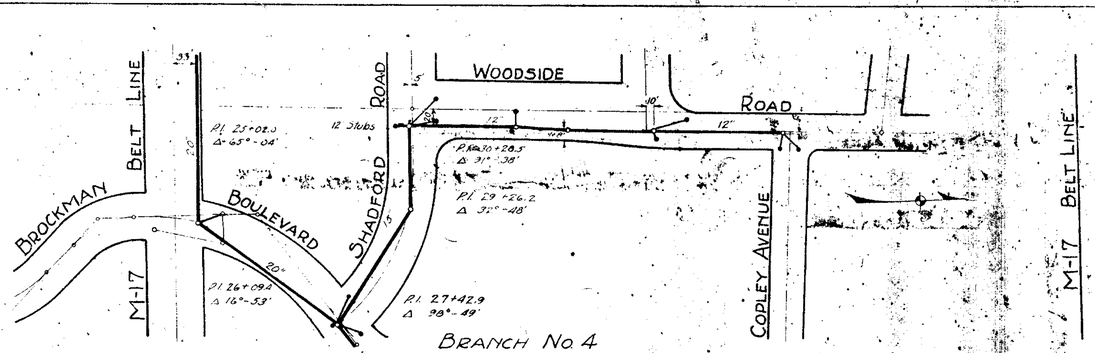
0 37.5 75 150 225 300 Feet

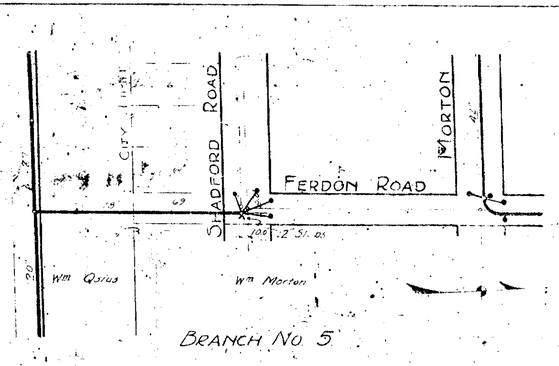
N

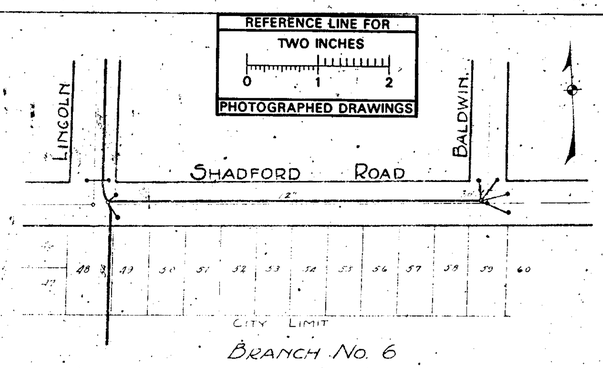
For terms and conditions please visit www.a2gov.org/terms

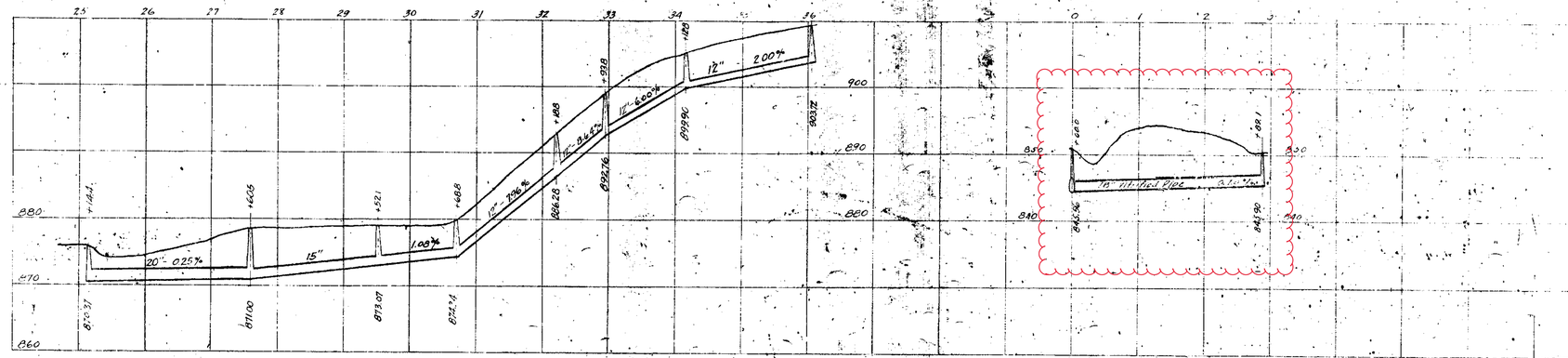
City of Ann Arbor

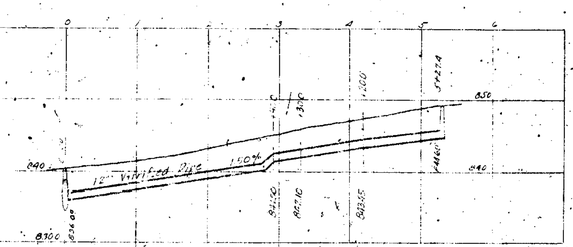












WASHTENAW COUNTY MICHIGAN.
PITTSFIELD AND ANN ARBOR TOWNSHIPS.
PACKARD STREET DRAIN.
PLAN AND PROFILE.
BRANCHES NO. 4, 5, AND 6.
SCALE HORIZONTAL 1 INCH = 100 FEET.
VERTICAL 1 INCH = 10 FEET.
OCTOBER 1937.
MENEFEE AND DODGE, ENGINEERS.
ANN ARBOR, MICHIGAN.
6

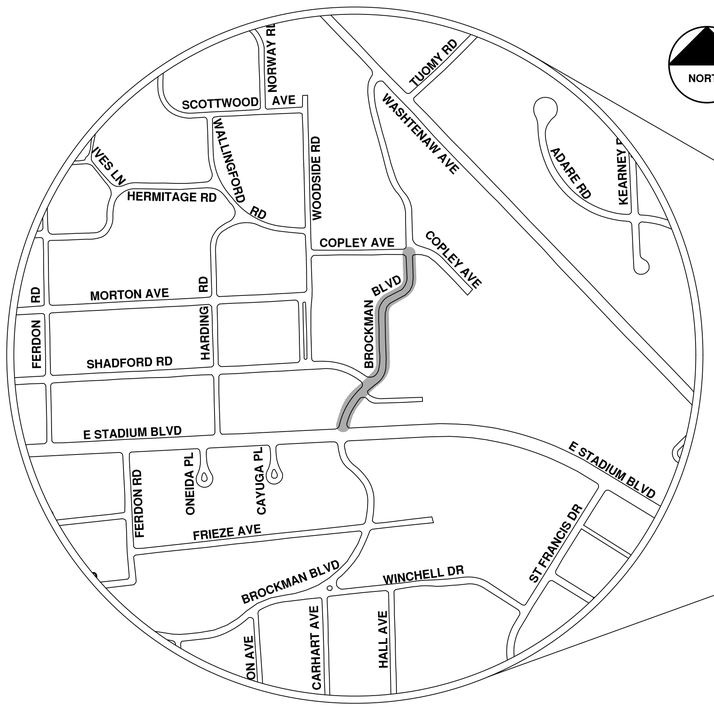
Digital Status
Scanned On: 6/22/06
By: LES

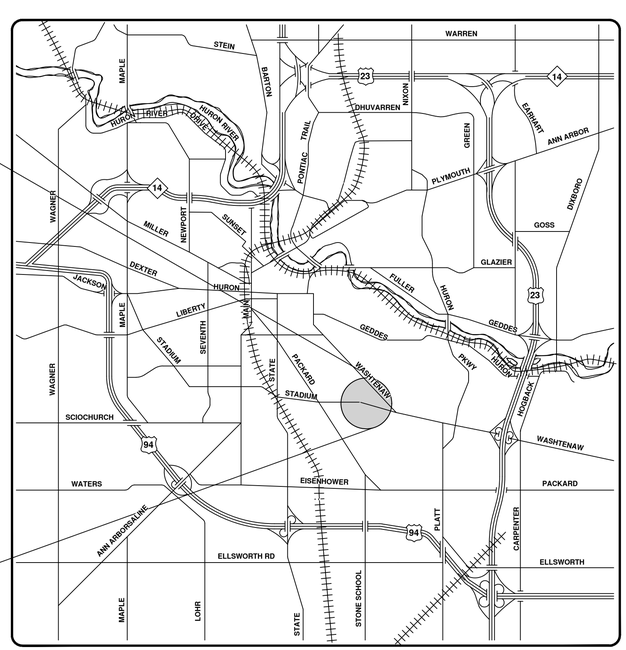
7032
6-C-4682

FERDON ROAD
SHADFORD ROAD
HARDING ROAD
WOODSIDE ROAD
12" Storm Sewer
18" Storm Sewer
30" C.& G.
START 1951 DUSTLAYER J1691
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
This is not a Vertical Projection.
12" Concrete 325% Grade
12" Concrete 42% Grade
45% Grade
5.7% Grade
66% Grade
1.18% Grade
1.01% Grade
7.96% Grade
7.22% Grade
5.27% Grade
DIST J 1691 DUSTLAYER
LEGEND
Black
Digital Status
Scanned On: 2-25-09
By: DGK
Despeckered: Yes
Vectors:
O.C.R.:
SHEET
INDEX 1980
SHELF 6
SIZE C
SUB. 757
DRAWN BY GMB
TRACED BY GMB
CHECKED BY
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
STORM SEWER AND
CURB AND GUTTER
ON
SHADFORD ROAD
FERDON TO WOODSIDE
George H. Sandenburgh City Engineer
1931
Scales PLAN: 1"=40' PROF: 1"=4'

2020 SEWER LINING PROJECT

BROCKMAN BLVD





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
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P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-133

SHEET No. 133 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:29 PM

Brockman Blvd.

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

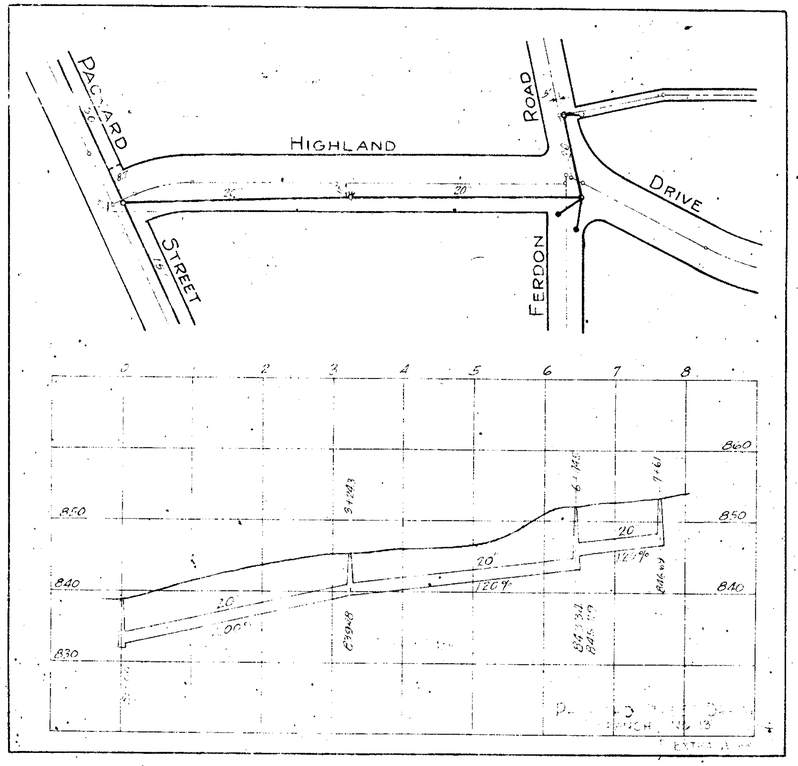
Manhole — Storm Main

Catchbasin — AA Proposed Lining

N

0 35 70 140 210 280 Feet

For terms and conditions please visit www.a2gov.org/terms

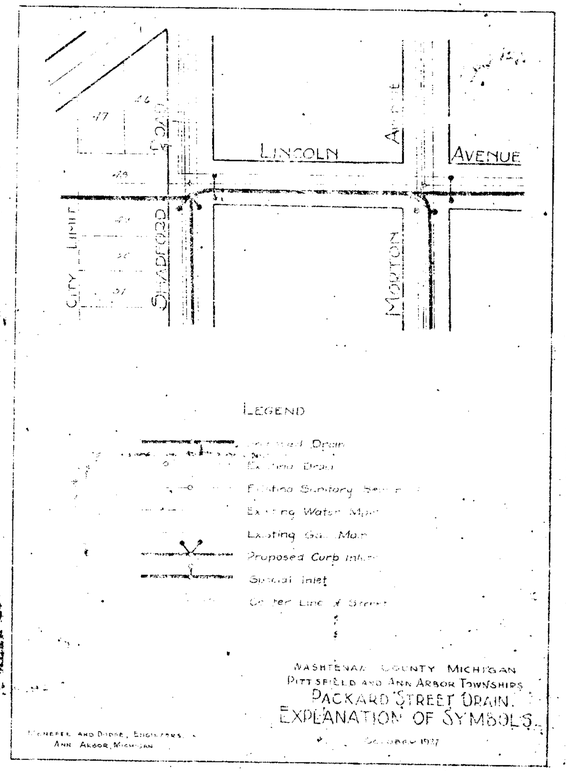


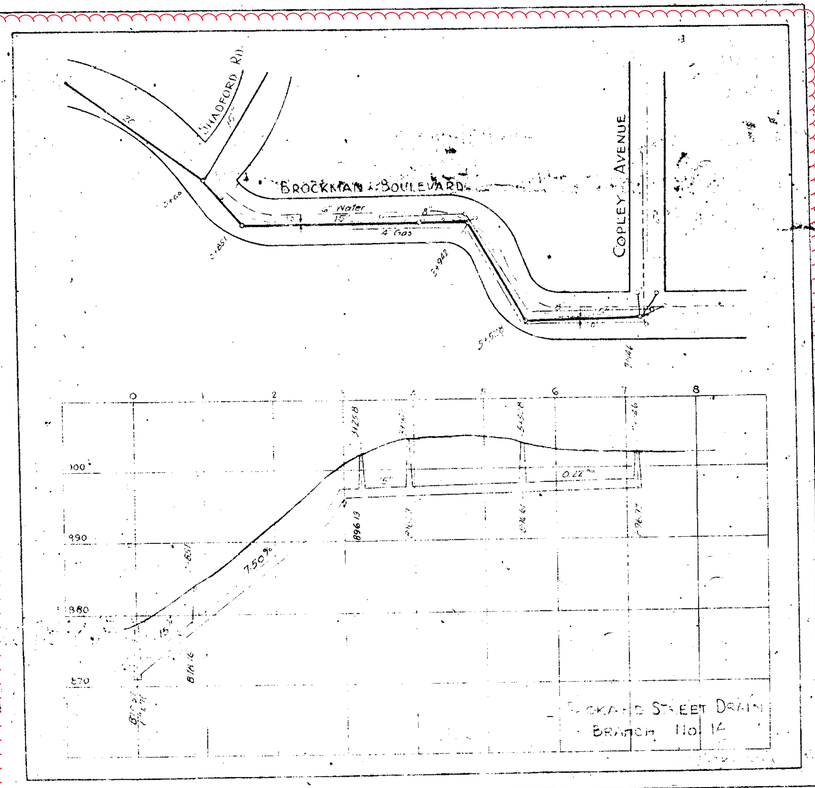
WASHTENAW COUNTY, MICHIGAN.
PITTSFIELD AND ANN ARBOR TOWNSHIPS

PLANS FOR PACKARD STREET DRAIN.

OCTOBER 1927.

CLAYTON E. DEAKE, DRAIN COMMISSIONER
MENEFEE AND DODGE, ENGINEERS.
ANN ARBOR, MICHIGAN.





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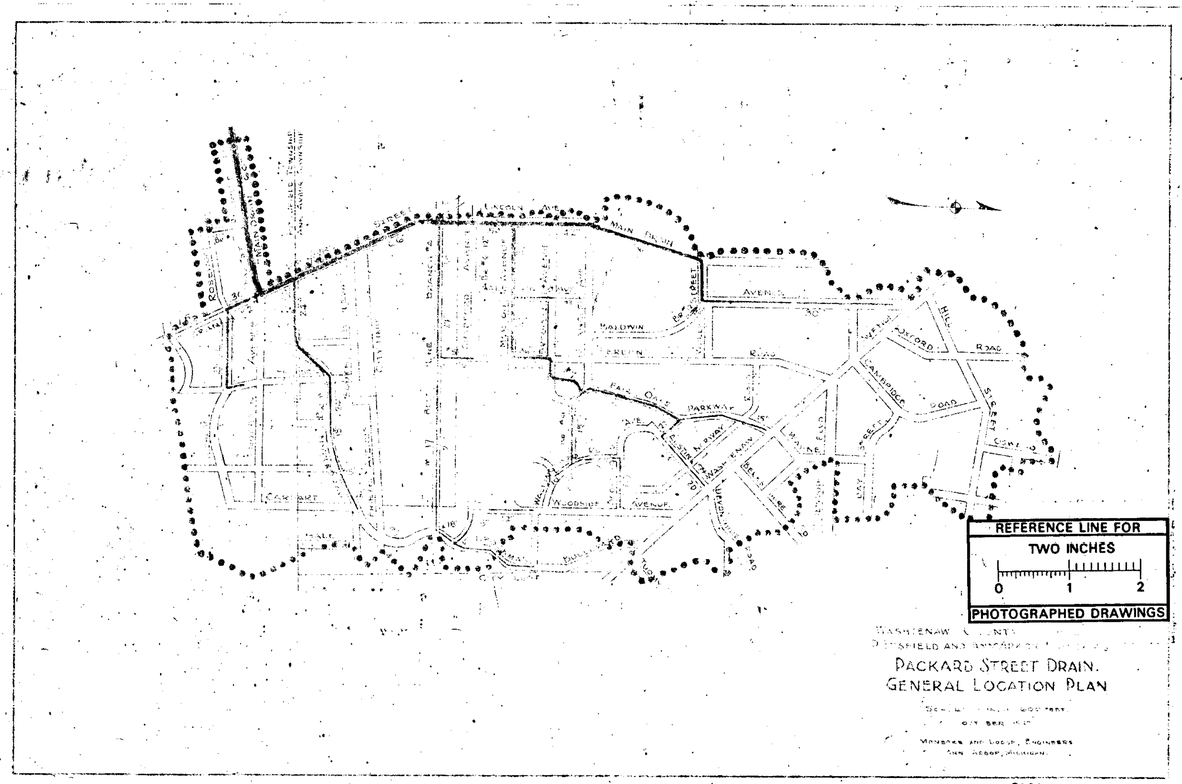
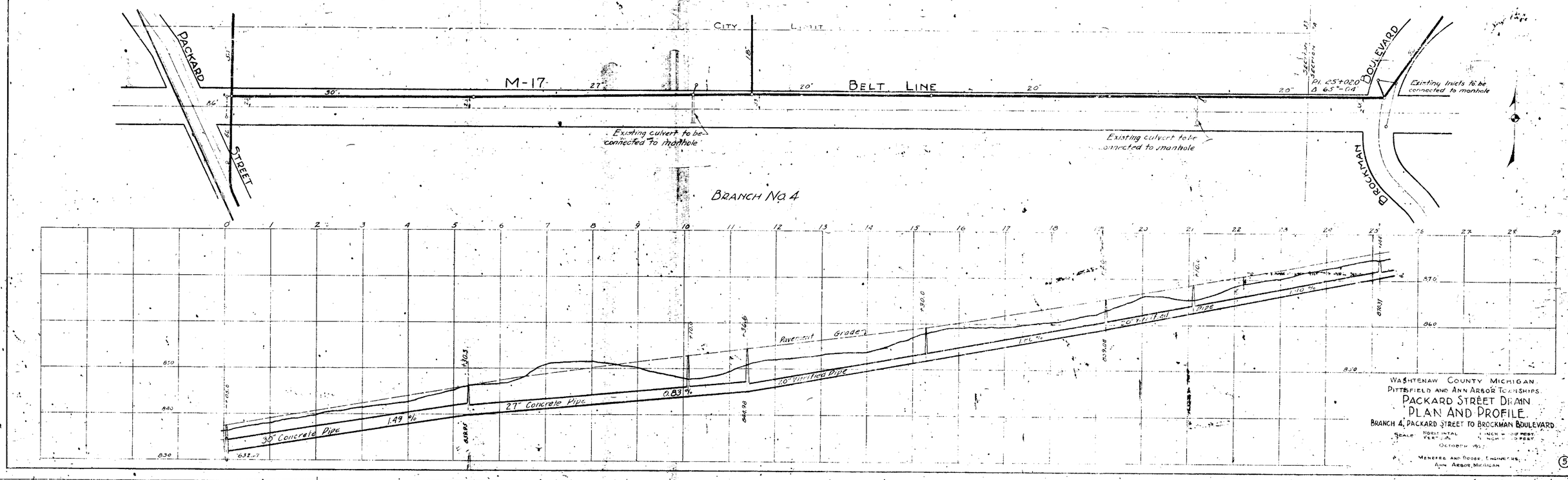
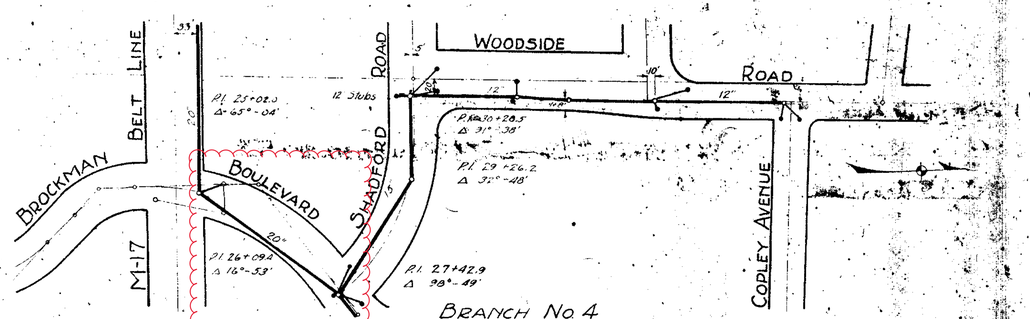
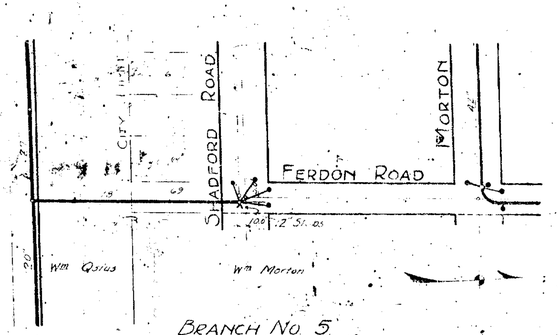
By: LB

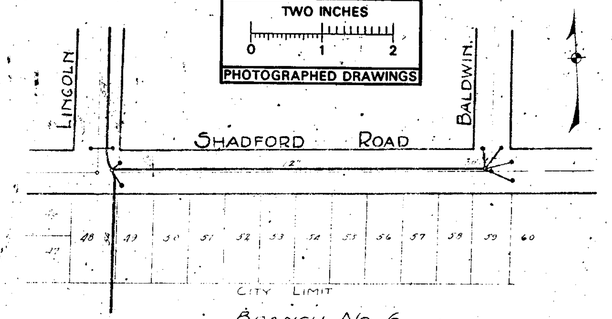


7029





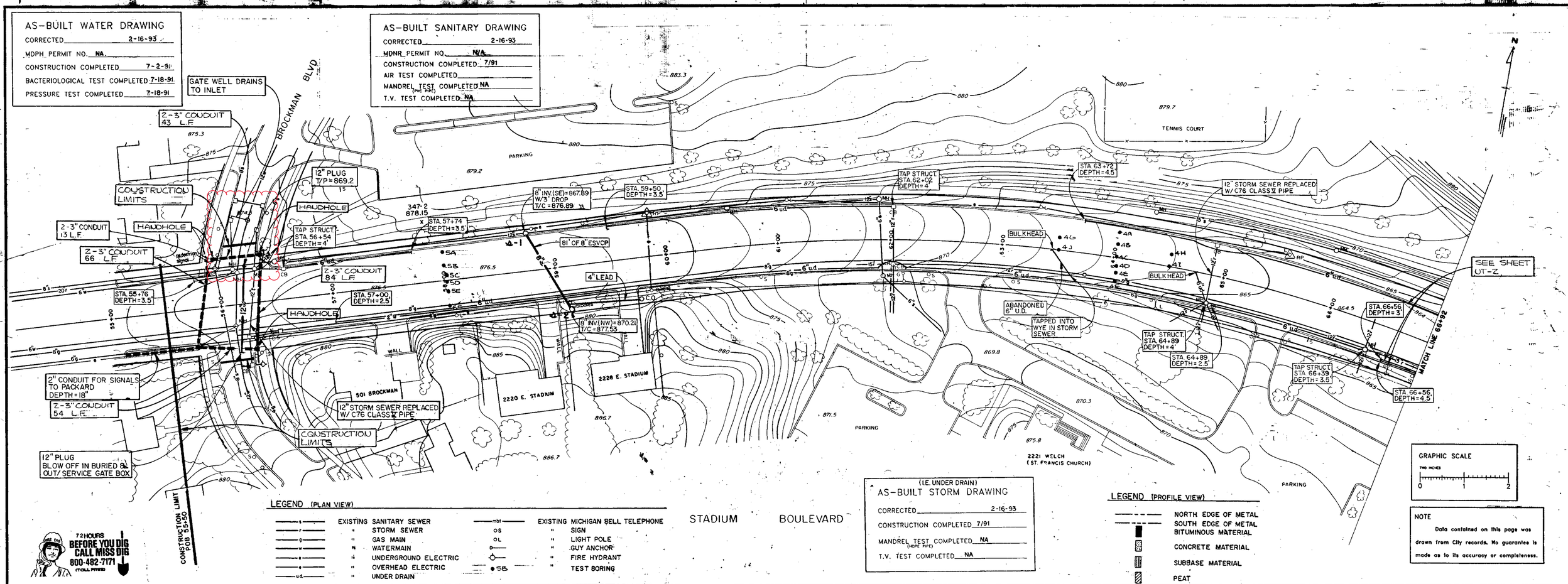


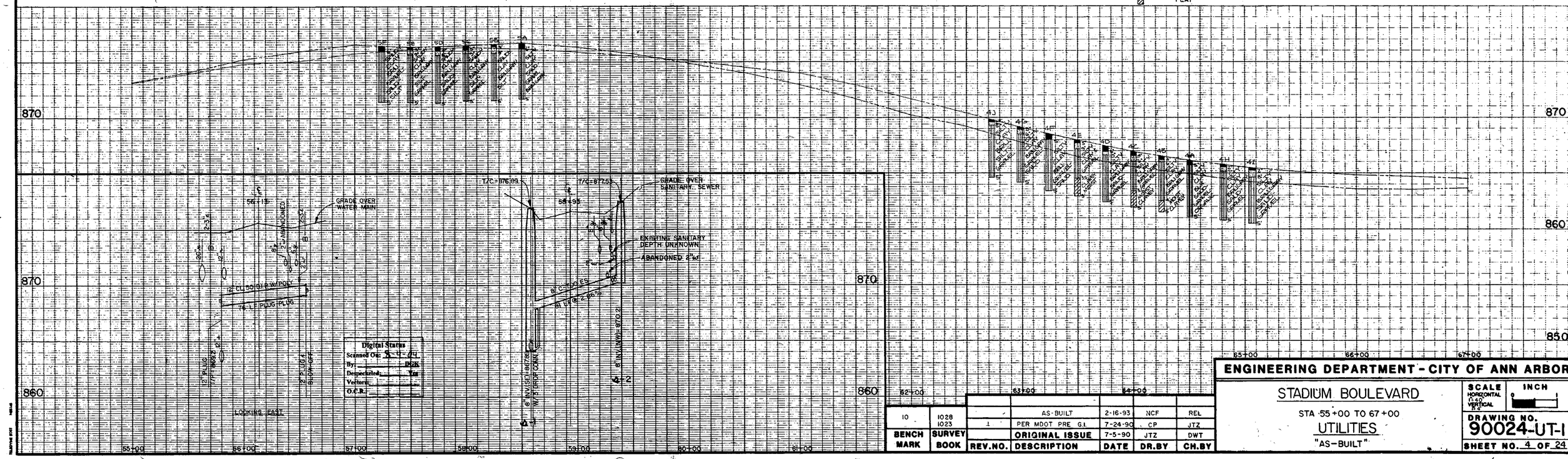


Digital Status
Scanned On: 6/22/06
By: LES

WASHTENAW COUNTY MICHIGAN.
PITTSFIELD AND ANN ARBOR TOWNSHIPS.
PACKARD STREET DRAIN.
PLAN AND PROFILE.
BRANCHES NO. 4, 5, AND 6.
SCALE: HORIZONTAL 1 INCH = 100 FEET.
VERTICAL 1 INCH = 10 FEET.
OCTOBER 1937.
MENEFEE AND DODGE, ENGINEERS.
ANN ARBOR, MICHIGAN.
6

7032
6-C-4682





BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
10	1028 1023		AS-BUILT	2-16-93	NCF	REL
		1	PER MDOT PRE G.I.	7-24-90	CP	JTZ
			ORIGINAL ISSUE	7-5-90	JTZ	DWT

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

STADIUM BOULEVARD

STA 55+00 TO 67+00

UTILITIES

"AS-BUILT"

SCALE HORIZONTAL 1"=40' VERTICAL 1"=4' INCH

DRAWING NO. 90024-UT-1

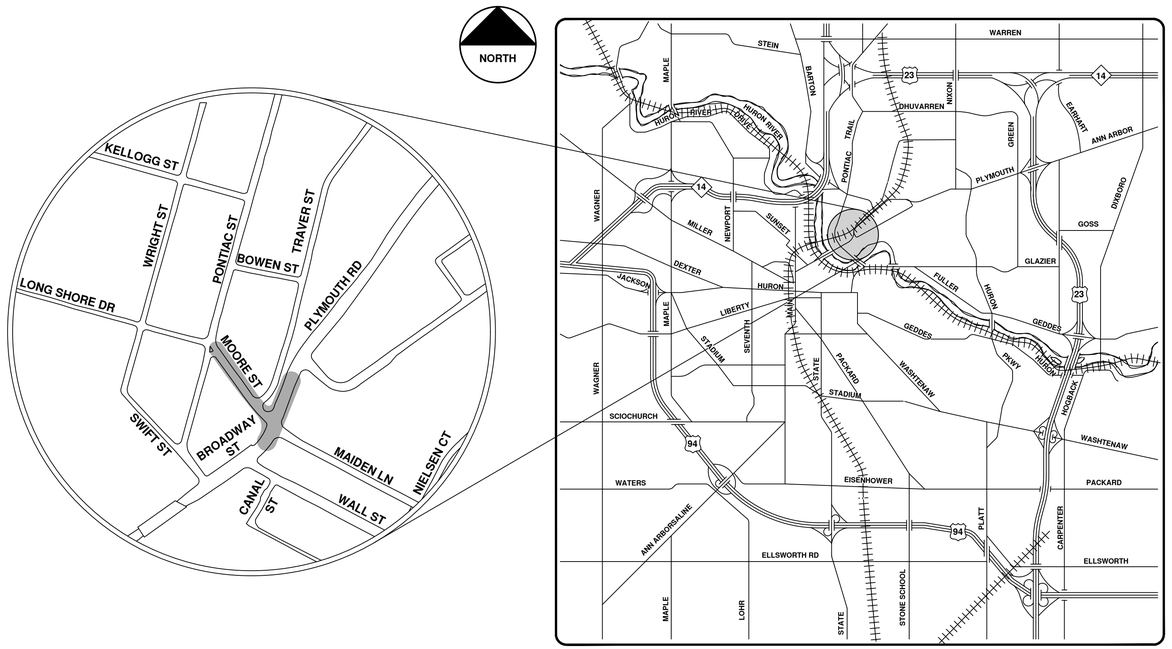
SHEET NO. 4 OF 24

DATE OF PHOTOGRAPHY DECEMBER 1988 DATE OF MAPPING JUNE 1990 SCALE: 1" = 40' 1' CONTOUR INTERVAL

AERIAL SURVEY CORPORATION

2020 SEWER LINING PROJECT

MOORE ST, PLYMOUTH RD BROADWAY ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR PUBLIC SERVICES
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P.O. BOX 8647
ANN ARBOR, MI 48107-8647
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-138

SHEET No. 138 OF 362

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:50:34 PM

Moore St., Plymouth Rd. & Broadway St.

92-61912
7.08
92-61913
6.67
92-61914
7.37
92-61915
5.19
92-61916
4.89
92-61917
6.06
92-61918
4.69
92-61920
5.38
Pontiac St
Long Shore Dr
Moore St
Traver St
Plymouth Rd
Maiden Ln
Broadway St
Wall St
12" 5C421-C/G,R
12" 6C56-S
12" none
15" 6C56-S
15" 81016-U1, 81016-UP
12" 81016-U1, 81016-UP
18" 81016-U1, 81016-UP
20" 81016-U1
12" none
City of Ann Arbor

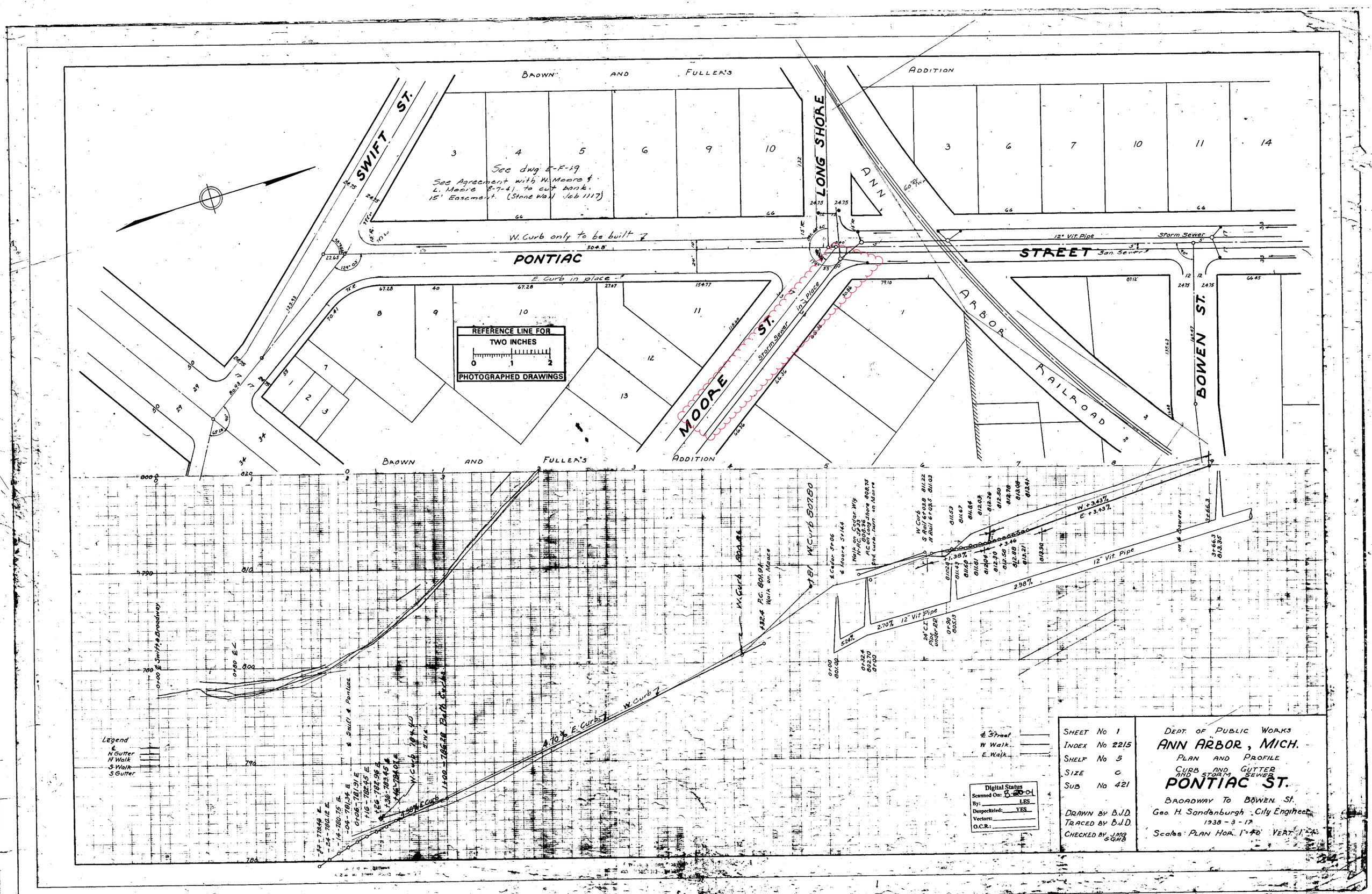
Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

92-XXXXX (Manhole ID)
1.00 (Manhole Depth)

N

0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms

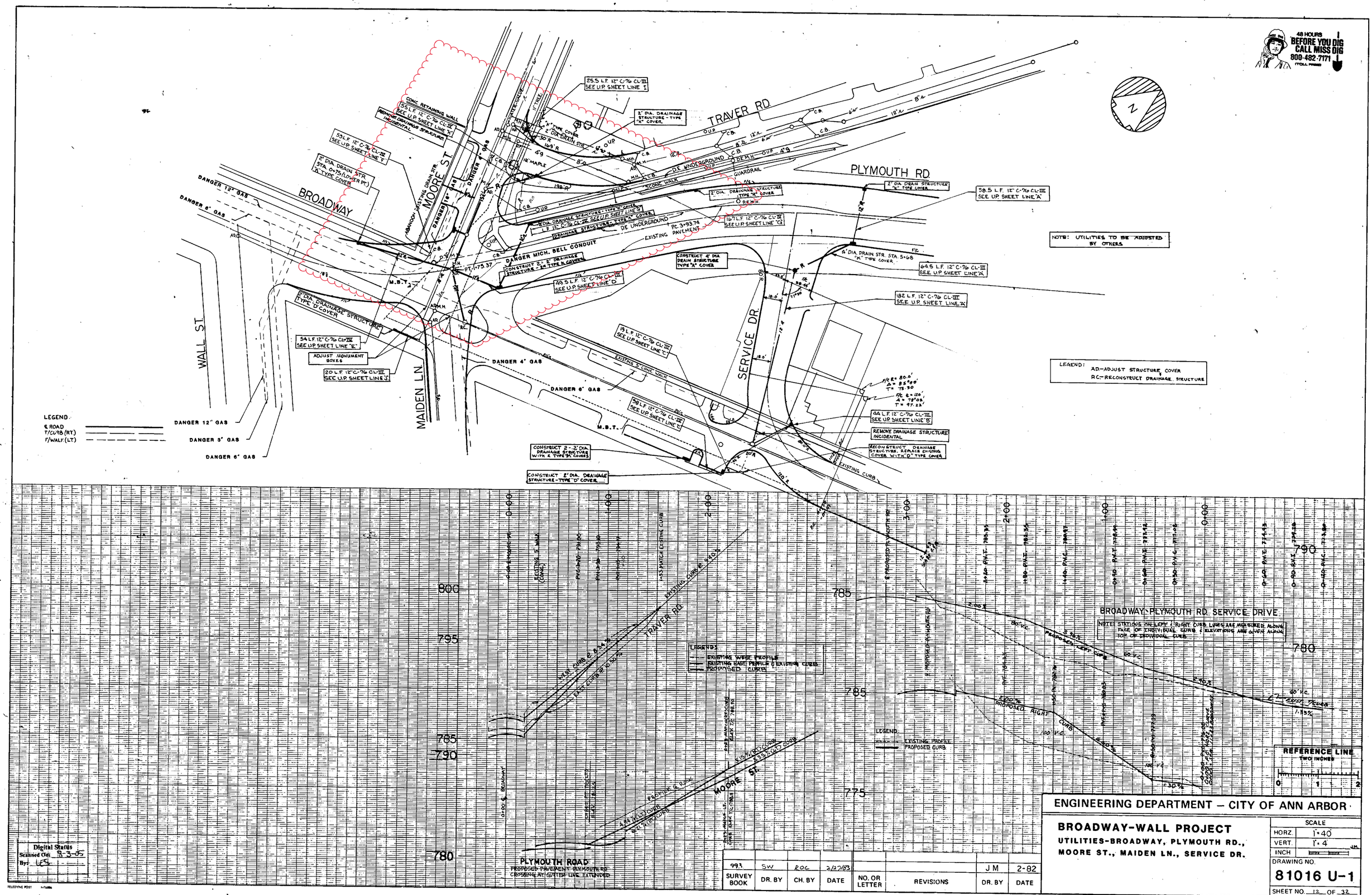


BROWN AND FULLER'S ADDITION
SWIFT ST.
LONG SHORE
ANN
See dwg E-F-19
See Agreement with W. Moore & L. Moore 8-7-41 to cut bank. 15' Easement. (Stone Wall Job 1117)
W. Curb only to be built
PONTIAC
STREET
12" Vit. Pipe
Storm Sewer
San. Sewer
E. Curb in place
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
MOORE ST.
Storm Sewer in Place
ARBOR RAILROAD
BOWEN ST.
BROWN AND FULLER'S ADDITION
W. Curb 807.80
W. Curb
4.70% E. Curb
12" Vit. Pipe
2.98%
2.70%
W +3.43%
E +3.43%
Legend
N Gutter
N Walk
S Walk
S Gutter
℄ Street
W Walk
E Walk
Digital Status
Scanned On: 8-20-01
By: LES
Despeckeled: YES
Vectors:
O.C.R.:
SHEET No 1
INDEX No 2215
SHELF No 5
SIZE C
SUB No 421
DRAWN BY B.J.D.
TRACED BY B.J.D.
CHECKED BY JMG & GMB
DEPT. OF PUBLIC WORKS
ANN ARBOR, MICH.
PLAN AND PROFILE
CURB AND GUTTER AND STORM SEWER
PONTIAC ST.
BROADWAY TO BOWEN ST.
Geo. H. Sandenburgh City Engineer
1938 - 3 - 17
Scales: PLAN HOR. 1"=40' VERT. 1"=4'

BROWN
FULLER'S
BLOCK 6
AND
ADDITION
BLOCK 7
PONTIAC ST.
CEDAR ST.
TRAVER RD.
MOORE ST.
BROADWAY
Block 3
Block 10
Block 9
Block 4
Block 1
Block 2
Block 3
Block 4
Block 7
Block 9

B.M. Hy. at corner of Broadway Ave. and Moore St. Ele. 783.3' (U.S.G.S.)

12" V.it. Pipe 4.61% Grade
12" V.it. Pipe 5.39% Grade Built in 1924
15" V.it. Pipe 3.26% Grade
5.17%
0+44.5 M.H. Ele. 777.50
Ele. 777.00
0+00.0 M.H. Ele. 775.20
5+31 M.H. Ele. 774.80
5+78.4 M.H. Ele. 773.00
5+78.50 Ele. 772.69
2+02 M.H. Ele. 782.40
Ele. 782.60
+06 E. Traver Rd. M.H.
+40 E. Cedar St.
Ele. 783.8 Proposed Lighthole
Ele. 783.8 Existing Lighthole
Ele. 781.80
Ele. 781.80
Ele. 778.83
Ele. 778.83
Ele. 778.83



SURVEY BOOK	DR. BY	CH. BY	DATE	NO. OR LETTER	REVISIONS	DR. BY	DATE
993	SW	ROC	2/27/83			JM	2-82

ENGINEERING DEPARTMENT – CITY OF ANN ARBOR

BROADWAY-WALL PROJECT

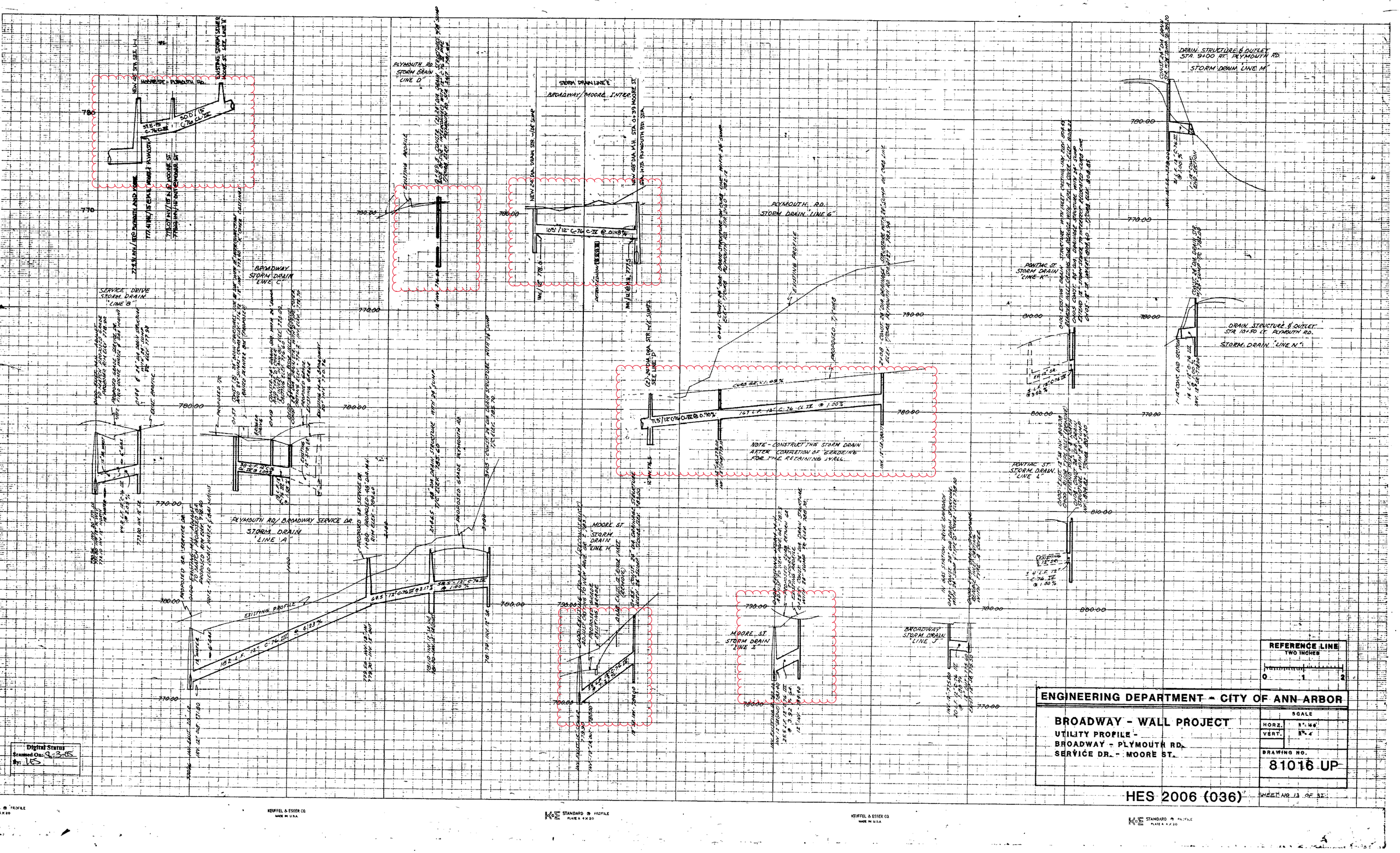
UTILITIES-BROADWAY, PLYMOUTH RD., MOORE ST., MAIDEN LN., SERVICE DR.

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

DRAWING NO. 81016 U-1

SHEET NO. 12 OF 32

HES 2006 (036)



ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

BROADWAY - WALL PROJECT
UTILITY PROFILE -
BROADWAY - PLYMOUTH RD.
SERVICE DR. - MOORE ST.

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

DRAWING NO.
81016 UP

HES 2006 (036)

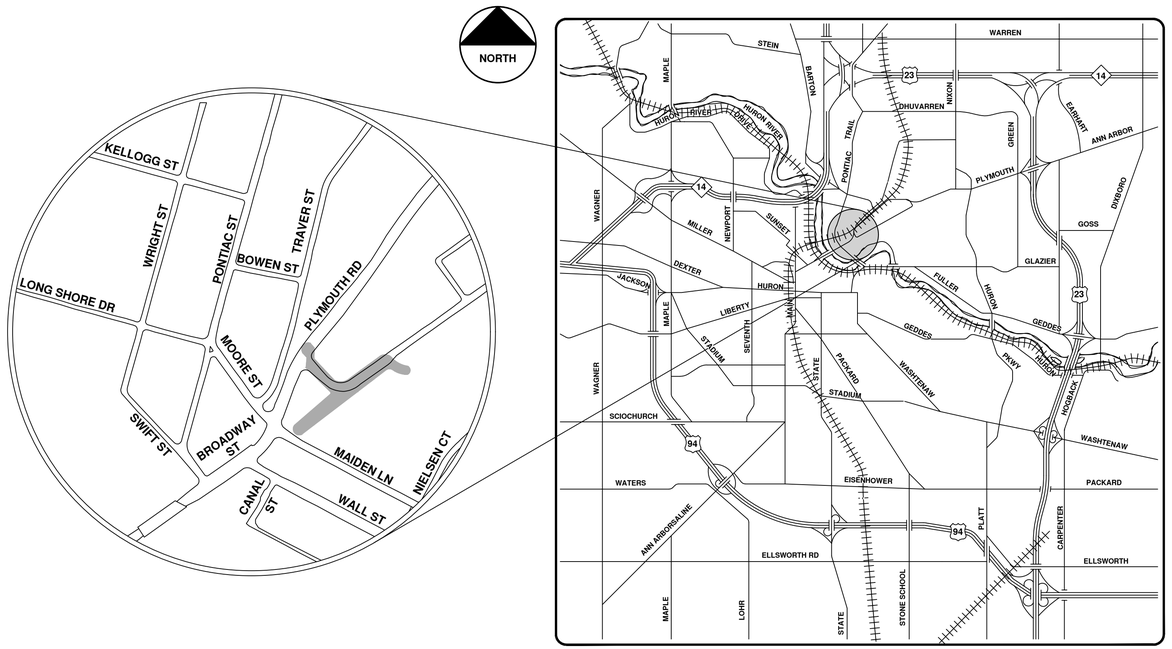
SHEET NO. 13 OF 37

Digital Status
Scanned On: 9-3-05
By: LES

KEUFFEL & ESSER CO. MADE IN U.S.A.
K&E STANDARD PROFILE PLATE A 4 X 20

2020 SEWER LINING PROJECT

BROADWAY ST PLYMOUTH RD



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO.	REV.	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
				9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-144

SHEET No. 144 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:39 PM

Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Broadway St. & Plymouth Rd.

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms

48 HOURS BEFORE YOU DIG CALL MISS DIG 800-482-7171 (TOLL FREE)

N

TRAVER RD

PLYMOUTH RD

BROADWAY

WALL ST

MAIDEN LN

MOORE ST

SERVICE DR

25.5 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE 1

CONC. RETAINING WALL

55 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "A"

REMOVE DRAINAGE STRUCTURE INCIDENTAL

55 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE 1

2' DIA. DRAIN STR. STA. 0+75 (LOWER PT.) "K" TYPE COVER

2' DIA. DRAINAGE STRUCTURE "K" COVER

2' DIA. DRAIN STR. "K" TYPE COVER

50.5 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "A"

NOTE: UTILITIES TO BE ADJUSTED BY OTHERS.

6' DIA. DRAIN STR. STA. 5+68 "K" TYPE COVER

64.5 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "A"

182 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "A"

167 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "A"

2 DIA. DRAINAGE STRUCTURE TYPE "K" COVER

2 DIA. DRAINAGE STRUCTURE TYPE "A" COVER

1 F. 12" C-76 CL-III SEE U.P. SHEET LINE "B"

DRAINAGE STRUCTURE TYPE "A" COVER

DANGER MICH. BELL CONDUIT

CONSTRUCT 2 - 2' DIA. DRAINAGE STRUCTURE - TYPE "A" COVERS

CONSTRUCT 4' DIA DRAIN STRUCTURE TYPE "A" COVER

49.5 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "D"

8' DIA. DRAINAGE STRUCTURE TYPE "D" COVER

54 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "E"

ADJUST MONUMENT BOXES

20 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "J"

191 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "C"

EXISTING 5' CONC. WALK

198 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "C"

CONSTRUCT 2 - 2' DIA. DRAINAGE STRUCTURE WITH "A" TYPE COVERS

CONSTRUCT 2' DIA. DRAINAGE STRUCTURE - TYPE "D" COVER

44 L.F. 12" C-76 CL-III SEE U.P. SHEET LINE "B"

REMOVE DRAINAGE STRUCTURE INCIDENTAL

RECONSTRUCT DRAINAGE STRUCTURE, REPLACE EXISTING COVER WITH "D" TYPE COVER

EXISTING CURB

DANGER 12" GAS

DANGER 6" GAS

DANGER 4" GAS

DANGER 3" GAS

M.B.T.

P.T. 1+75.37

P.C. 3+93.74

EXISTING PAVEMENT

LEGEND:
AD—ADJUST STRUCTURE COVER
RC—RECONSTRUCT DRAINAGE STRUCTURE

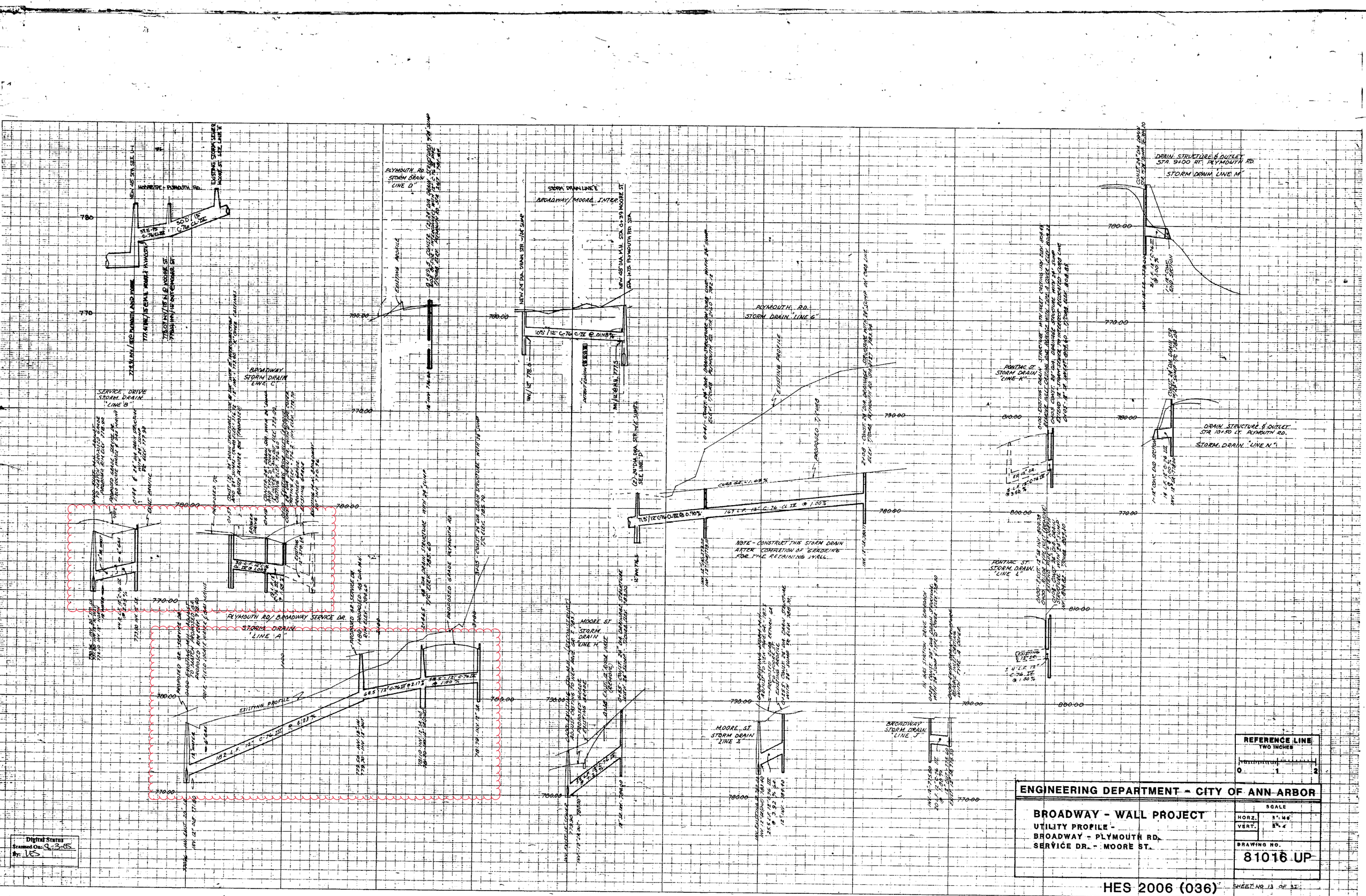
LEGEND:
℄ ROAD
T/CURB (RT.)
F/WALL (LT.)
DANGER 12" GAS
DANGER 3" GAS
DANGER 6" GAS

PLYMOUTH ROAD

PROPOSED PAVEMENT PLYMOUTH RD. CROSSING AT GUTTER LINE EXTENDED

LEGEND:
EXISTING WEST PROFILE
EXISTING EAST PROFILE & EXISTING CURB
PROPOSED CURB

WEST CURB @ 834.15
EAST CURB @ 836.72
EXISTING CURB @ 835.10
PROPOSED CURB @ 835.10



Digital Status
Scanned On: 9-3-05
By: JES

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

BROADWAY - WALL PROJECT
UTILITY PROFILE -
BROADWAY - PLYMOUTH RD.
SERVICE DR. - MOORE ST.

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

DRAWING NO.
81016 UP

HES 2006 (036)

SHEET NO. 13 OF 37

KEUFFEL & ESSER CO. MADE IN U.S.A.
K&E STANDARD PROFILE PLATE 4 X 20

SWIFT ST.

ASSESSOR'S 8

PLAT No 33

MOORE ST.

Traver Rd.

Plymouth Rd

Brown & Fuller's Add.

Block 6

BROADWAY

STREET

CANAL ST.

WALL ST.

MAIDEN LANE

Curve Data
Δ = 29°05'
R = 881.35'
T = 228.78
L = 447.44'

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

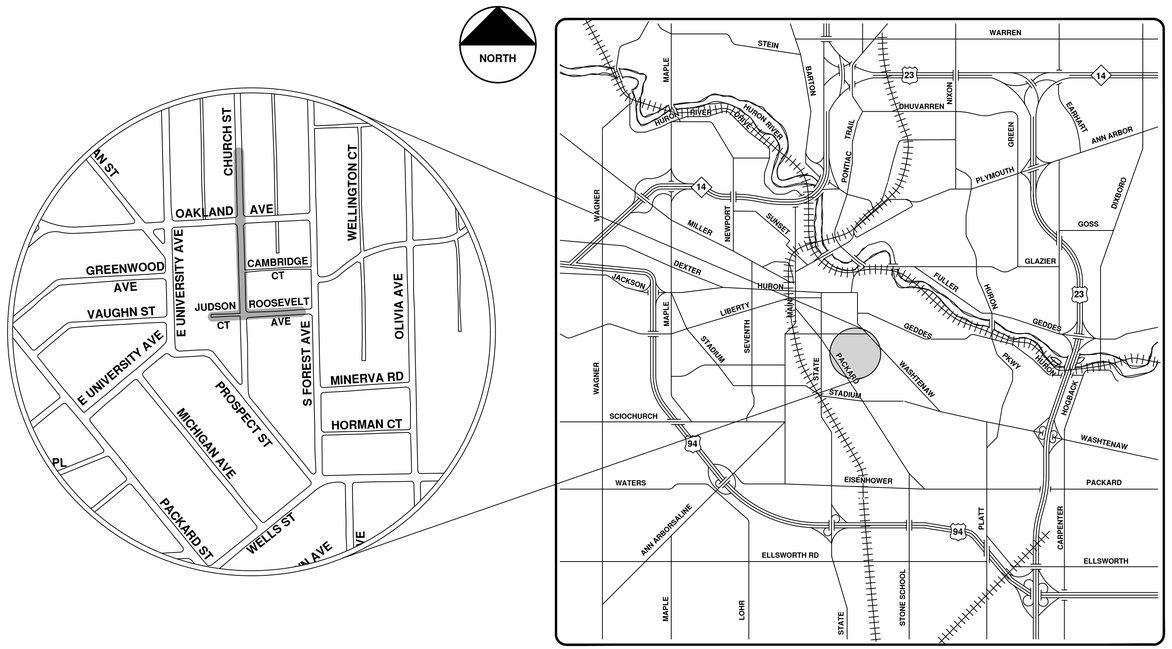
Digital Status
Scanned On: 8-13-84
By: LES
Despeckeled: YES
Vectors:
O.C.R.:

INDEX No.	1340
SHELF	5
SIZE	G
SUB No.	149
DRAWN BY	
TRACED BY	
CHECKED BY	

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
CURB AND GUTTER
AND
STORM SEWER
BROADWAY ST.
SWIFT TO TRAVER CREEK.
Geo. H. Sandenburgh, City Engineer.
1923-1-30
Scales. Hor. 1"=40' Vert. 1"=4'

2020 SEWER LINING PROJECT

ROOSEVELT AVE CHURCH ST



VICINITY MAP

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

Know what's **below.** **Call before you dig.**

CITY OF ANN ARBOR
PUBLIC SERVICES
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734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-149

SHEET No. 149 OF 362

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
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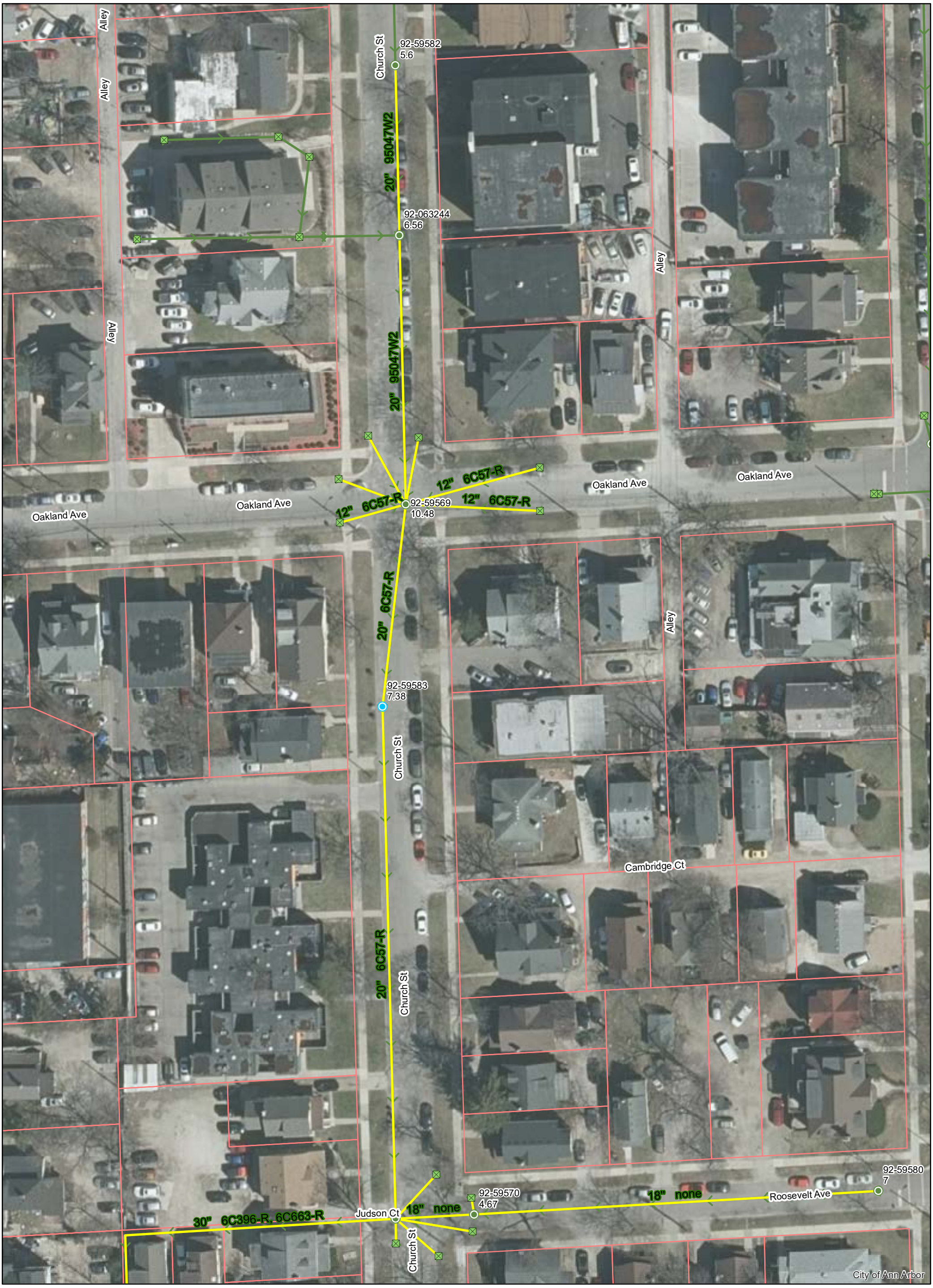
Roosevelt Ave. & Church St.



Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

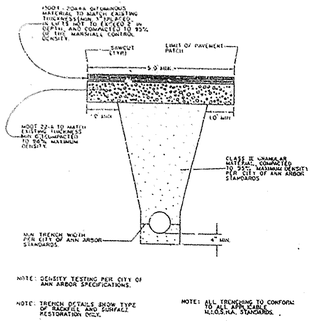
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

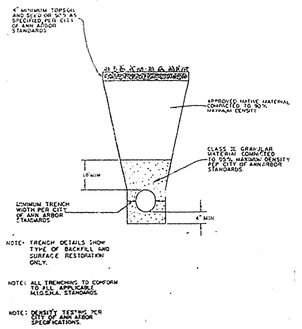
N

0 25 50 100 150 200 Feet

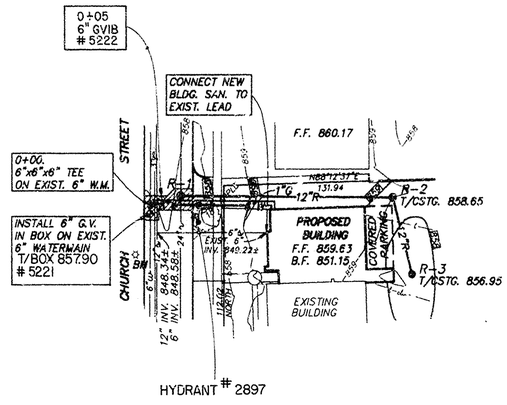
For terms and conditions please visit www.a2gov.org/terms



UTILITY TRENCH - TYPE I
(UNDER BITUMINOUS SURFACE)



UTILITY TRENCH - TYPE V
(IN GREENBELT AREA OUTSIDE PAVEMENT INFLUENCE)



GRAPHIC SCALE
TWO INCHES
0 1 2

NOTE
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

CONSTRUCTION NOTES - WATERMAIN & STORM SEWER

1) ALL WATERMAON CONSTRUCTION AND MATERIALS SHALL CONFORM TO CURRENT CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

2) ALL WATERMAIN PIPE SHALL BE CLASS 52 POLYWRAPPED DUCTILE DUCTILE IRON PIPE CONFORMING TO CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

3) ALL STORM SEWER PIPE SHALL BE SMOOTH LINED CORRUGATED PLASTIC PIPE CONFORMING TO CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

4) ALL WATERMAIN AND STORM SEWER SHALL BE INSTALLED ON CLASS II BEDDING ACCORDING TO THE APPROPRIATE DETAIL INCLUDED IN THESE PLANS.

5) ALL TRENCHES UNDER OR WITHIN 1:1 INFLUENCE OF PIPE AND 5 FEET OF THE EXISTING AND/OR PROPOSED PAVEMENT SHALL BE BACKFILLED TO GRADE WITH THOROUGHLY COMPACTED, APPROVED SAND. THE BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

6) ALL CASTING ELEVATIONS SHALL BE VERIFIED PRIOR TO FINAL GRADING OR PAVING. CASTINGS SHALL BE ADJUSTED A MAXIMUM OF 0.5 FT. PRIOR TO FINAL GRADING OR PAVING. ADJUSTMENTS SHALL BE INCLUDED IN THE PRICE OF WATERMAIN & STORM SEWER CONSTRUCTION.

7) ALL DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE INCLUDED IN THE PRICE FOR SEWER CONSTRUCTION.

8) PAVEMENT RESTORATION & REPLACEMENT OF EXISTING BITUMINOUS CURB SHALL MATCH EXISTING AND SHALL BE INCLUDED IN THE PRICE FOR SEWER CONSTRUCTION.

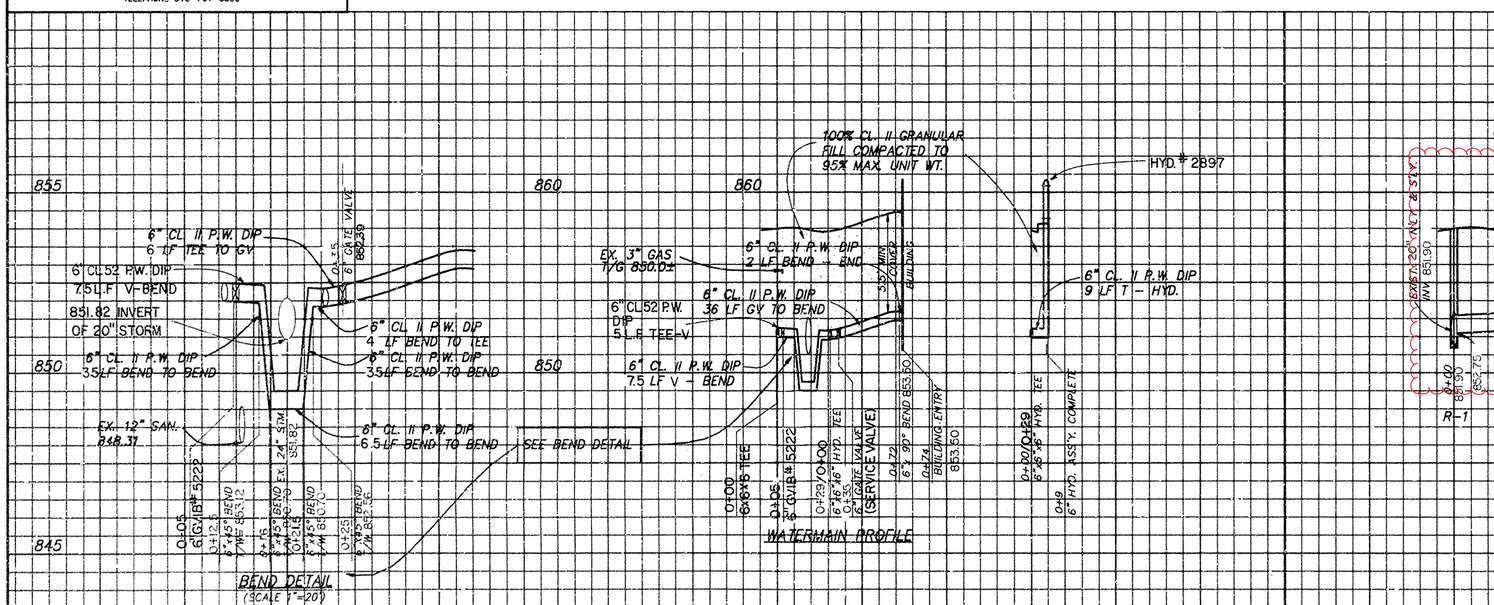
9) CITY OF ANN ARBOR ENGINEERING DIVISION IS TO BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO DELIVERY OF PIPE AND FITTINGS. THE ENGINEERING DIVISION IS TO WITNESS SUCH DELIVERIES.

CASTING SCHEDULE

STRUCTURE	TYPE / DIA.	E. JORDAN FOUNDARY CASTING	CASTING ELEVATION	INVERT	DEPTH
R-1	1 / 4 FT.	1040(TYPE A COVER)	857.90	851.39	6.51
R-2	INLET / 3 FT.	1040(TYPE M1 GRATE)	858.80	852.82	5.98
R-3	INLET / 2 FT.	1040(TYPE M1 GRATE)	857.70	853.15	4.55

VASHTENAW ENGINEERING
CIVIL ENGINEERS PLANNERS
SURVEYORS
P.O. BOX 1204 3250 WEST LIBERTY RD ANN ARBOR MICHIGAN 48106
TELEPHONE 313-761-8800

72 HOURS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)



WECO JOB No. 25492
WECO FILE No. 6451

LEGEND
EXISTING PAVEMENT
PROPOSED PAVEMENT
PROPOSED SIDEWALK
EXISTING UTILITY POLE
960 EXISTING CONTOUR
960 PROPOSED CONTOUR
EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
EXISTING CATCH BASIN
PROPOSED CATCH BASIN
EXISTING STORM
PROPOSED STORM
EXISTING SANITARY
PROPOSED SANITARY
EXISTING WATER
PROPOSED WATER
EXISTING TELEPHONE
EXISTING ELECTRIC
EXISTING GAS

BENCHMARK NAIL IN EAST SIDE OF LIGHT E ON WEST SIDE OF CHURCH ST ACROSS FROM HSE. #917. ELEV. 859.31

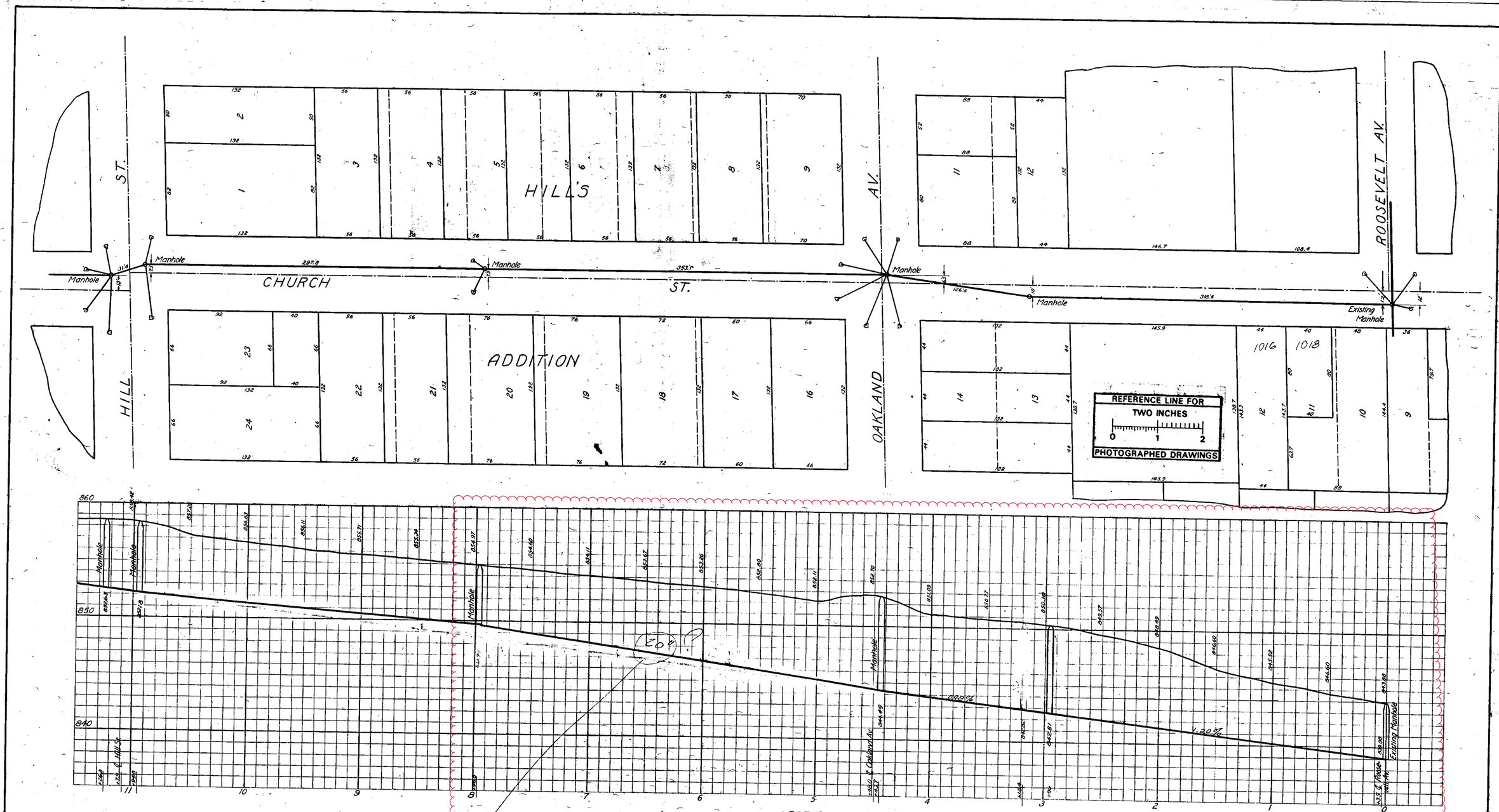
PREPARED BY WALTER F. LEWIS P.E., MICH. NO. 14316

BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
		2	ASBUILT	9-27-95	KRS	DPF
		1		7-19-95	SNV	WFL
			ORIGINAL ISSUE	4-12-95	SJB	WFL

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

ECUMENICAL CENTER
STORM SEWER
WATERMAIN

SCALE HORIZ 40' VERT 4'
INCH 0 4"
DRAWING NO. 95047-W2
SHEET NO. 2 OF 2



BILL OF MATERIAL
1936' - 20" sewer tile
720' - 12" sewer tile
220'4 - 15" sewer tile
8 - Manholes complete
22 - Inlets
On Willard St.
144' - 15" sewer tile
28' - 12" sewer tile
1 - Manhole
2 - Inlets

Digital Status
Scanned On: 8-25-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Corrected to Final Measurements 1915-1-16 by Sidman.

INDEX No. 499
SHELF No. 6
SIZE C
SUB No. 57

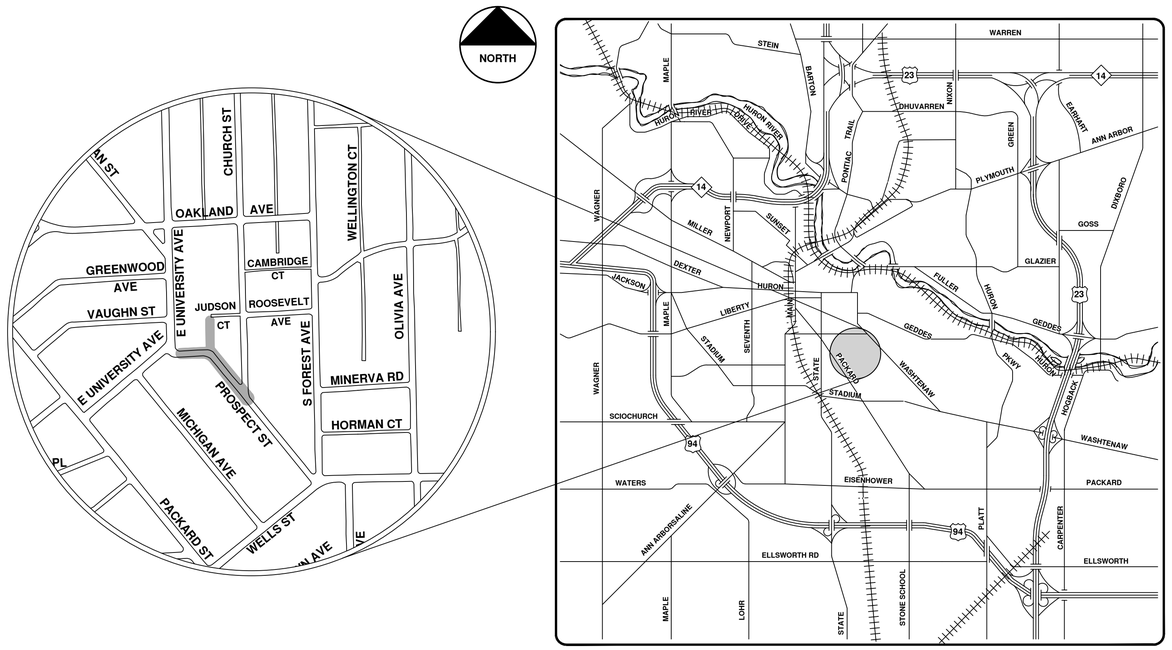
Checked by MQ

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
ON
CHURCH STREET
FROM ROOSEVELT AVENUE TO HILL STREET
Manley Osgood, City Engineer
1912-12-31
SCALES: Plan-1"=40'; Profile; Hor.-1"=40', Vert.-1"=4'
Two Sheets
Sheet No. 1

REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
CHURCH ST.
ROOSEVELT AVE.
FOREST AVE.
OLIVIA AVE.
1
2
3
4
5
7
8
9
10
11
12
49
50
57
NOTE Not a vertical projection.
.35 % Grade
24" Vit. Pipe
.66 % Grade
842.49
36" Concrete Pipe
1.64 % Grade
M.H. +82 Elev. 845.01 Forest Ave.
M.H. +59 Elev. 845.28 Cambridge Rd.
INDEX No. 1026
SHEET No. 6
SIZE C
SUB No. 396
Drawn by Feiner
Traced by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
JUDSON PROPERTY.
E. UNIVERSITY AVE. TO CAMBRIDGE RD.
Geo. H. Sandenburgh, City Engineer.
1918
Scales. Plan, 1"=40'. Profile, Hor. 1"=40' Vert. 1"=4'.
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: yd
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

PROSPECT ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-154

SHEET No. 154 OF 362

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Prospect St.

CITY OF ANN ARBOR MICHIGAN

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

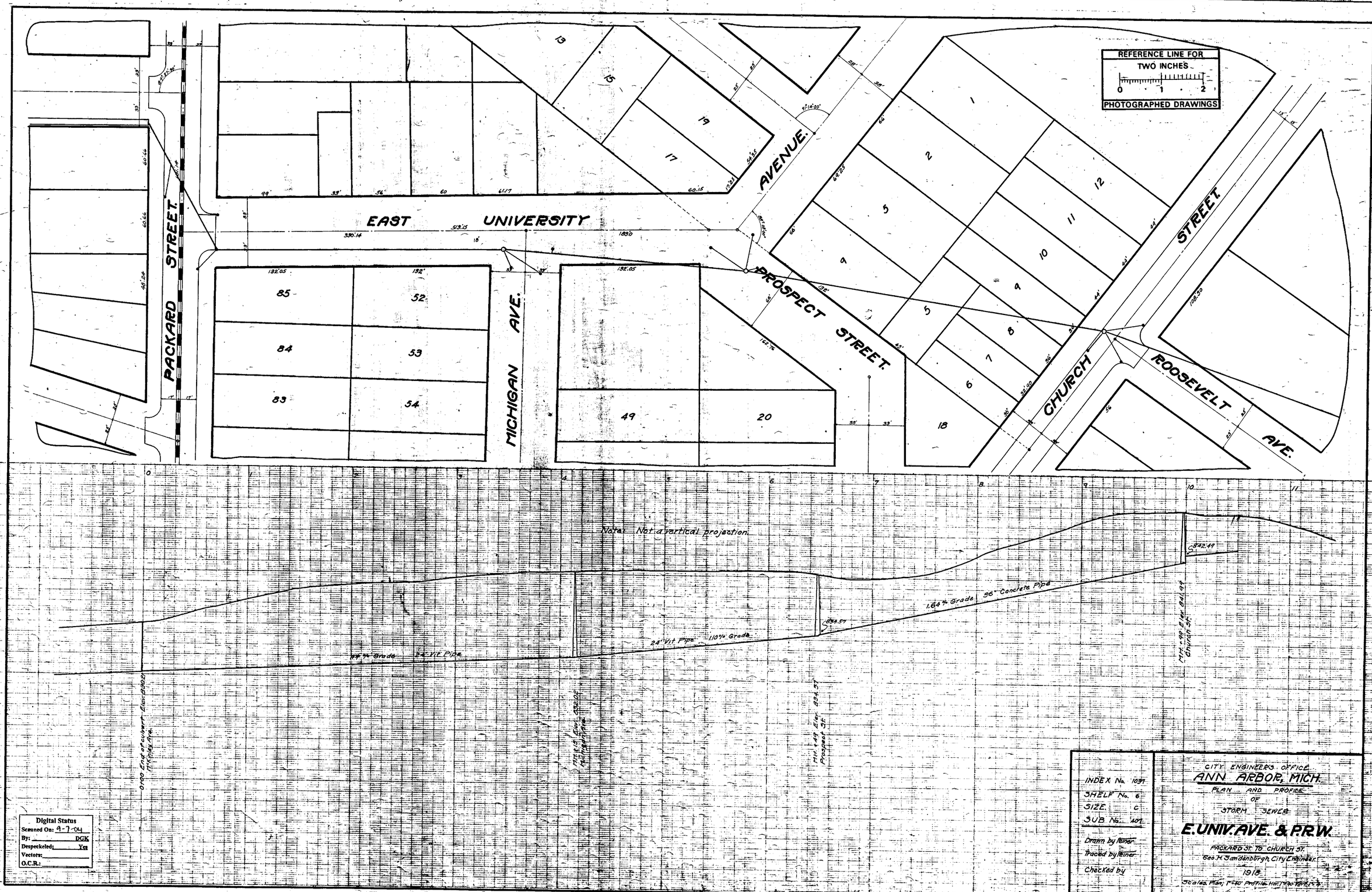
Manhole	Storm Main
Not found Manhole	AA Proposed Lining
Catchbasin	

N

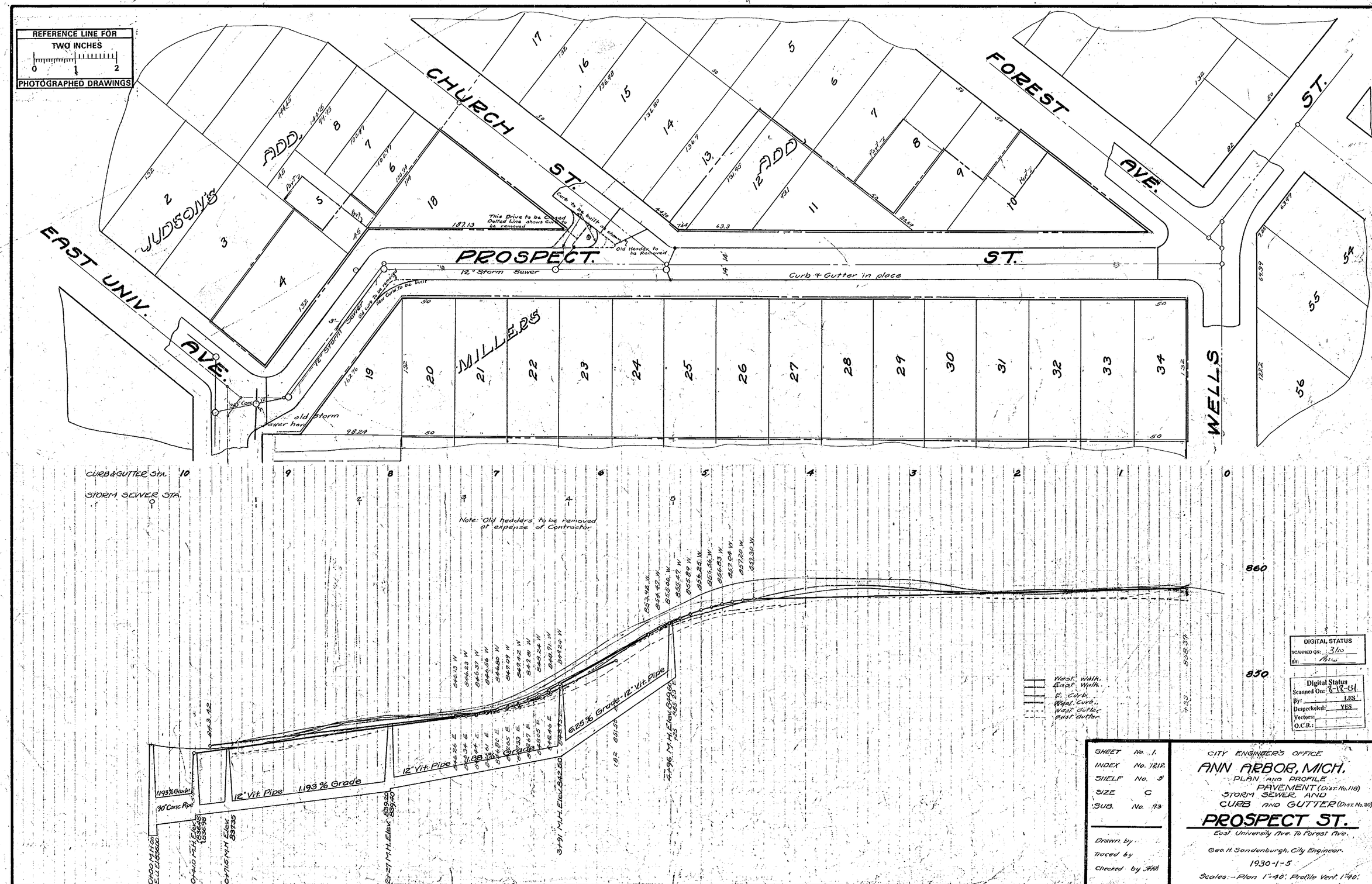
0 15 30 60 90 120 Feet

For terms and conditions please visit www.a2gov.org/terms

REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
CHURCH ST.
ROOSEVELT AVE.
FOREST AVE.
OLIVIA AVE.
1
2
3
4
5
7
8
9
10
11
12
49
50
57
NOTE Not a vertical projection.
1.64 % Grade
36" Concrete Pipe
.66 % Grade
24" Vit. Pipe
.35 % Grade
M.H. +82 Elev. 845.01 Forest Ave.
M.H. +59 Elev. 845.28 Cambridge Rd.
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: yd
Vectors:
O.C.R.:
INDEX No. 1026
SHEET No. 6
SIZE C
SUB No. 396
Drawn by Feiner
Traced by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
JUDSON PROPERTY.
E. UNIVERSITY AVE. TO CAMBRIDGE RD.
Geo. H. Sandenburgh, City Engineer.
1918
Scales. Plan, 1"=40'. Profile, Hor. 1"=40' Vert. 1"=4'.



REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
EAST UNIVERSITY
PACKARD STREET
MICHIGAN AVE.
PROSPECT STREET
AVENUE
CHURCH STREET
ROOSEVELT AVE.
Note: Not a vertical projection.
1.64% Grade 56" Concrete Pipe
24" Vit Pipe 110% Grade
24" Vit Pipe
INDEX No. 1037
SHELF No. 6
SIZE C
SUB No. 407
Drawn by Feiner
Traced by Feiner
Checked by
CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
E. UNIV. AVE. & P.R.W.
PACKARD ST. TO CHURCH ST.
Geo. H. Sandenburgh, City Engineer
1918
Scales Plan, 1"=40' Profile Hor. 1"=40' Vert. 1"=4'
Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:


REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
CHURCH ST.
FOREST AVE.
ST.
EAST UNIV. AVE.
JUDSON'S ADD.
ADD.
PROSPECT. ST.
MILLERS
WELLS
12" Storm Sewer
Curb & Gutter in place
This Drive to be Closed Dotted Line shows Curb to be removed
Curb to be built as shown
Old Header to be Removed
12" Storm Sewer
old Storm Sewer here
CURB & GUTTER STA.
STORM SEWER STA.
Note: Old headers to be removed at expense of Contractor
12" Vit. Pipe
1.193 % Grade
6.25 % Grade - 12" Vit. Pipe
30" Conc. Pipe
West Walk.
East Walk.
E. Curb.
West Curb.
West Gutter
East Gutter
860
850
DIGITAL STATUS
SCANNED ON: 3/10
BY:
Digital Status
Scanned On: 8-18-01
By: LES
Despeckeled: YES
Vectors:
O.C.R.:
SHEET No. 1.
INDEX No. 1212
SHELF No. 5
SIZE C
SUB. No. 93
Drawn by
Traced by
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
PAVEMENT (DIST. No. 118)
STORM SEWER AND
CURB AND GUTTER (DIST. No. 20)
PROSPECT ST.
East University Ave. To Forest Ave.
Geo. H. Sandenburgh, City Engineer.
1930-1-5
Scales:- Plan 1"=40'. Profile Vert. 1"=40'.

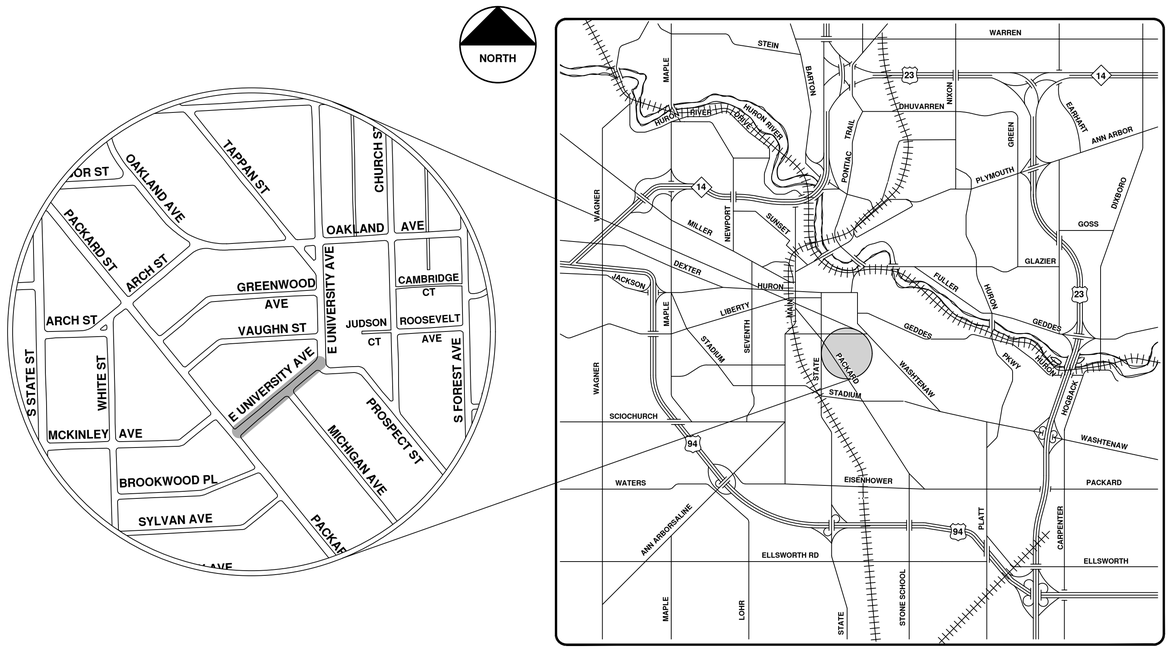
Sheet No.	
Index No.	1763
Shelf No.	6
Size	C.
Sub. No.	663
Drawn by	
Traced by	
Checked by	

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF STORM SEWER
E. UNIVERSITY AVE.
Packard St. to Vaughn St.
Geo. H. Sandenburgh, City Engineer
1928 - 4 - 20
Scales:- Plan 1"=40', Profile, Vert. 1"=4'

Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

E UNIVERSITY AVE



VICINITY MAP

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-160

SHEET No. 160 OF 362

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

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PUBLIC SERVICES
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Know what's below. Call before you dig. 811

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R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:50:54 PM

E. University Ave.

Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

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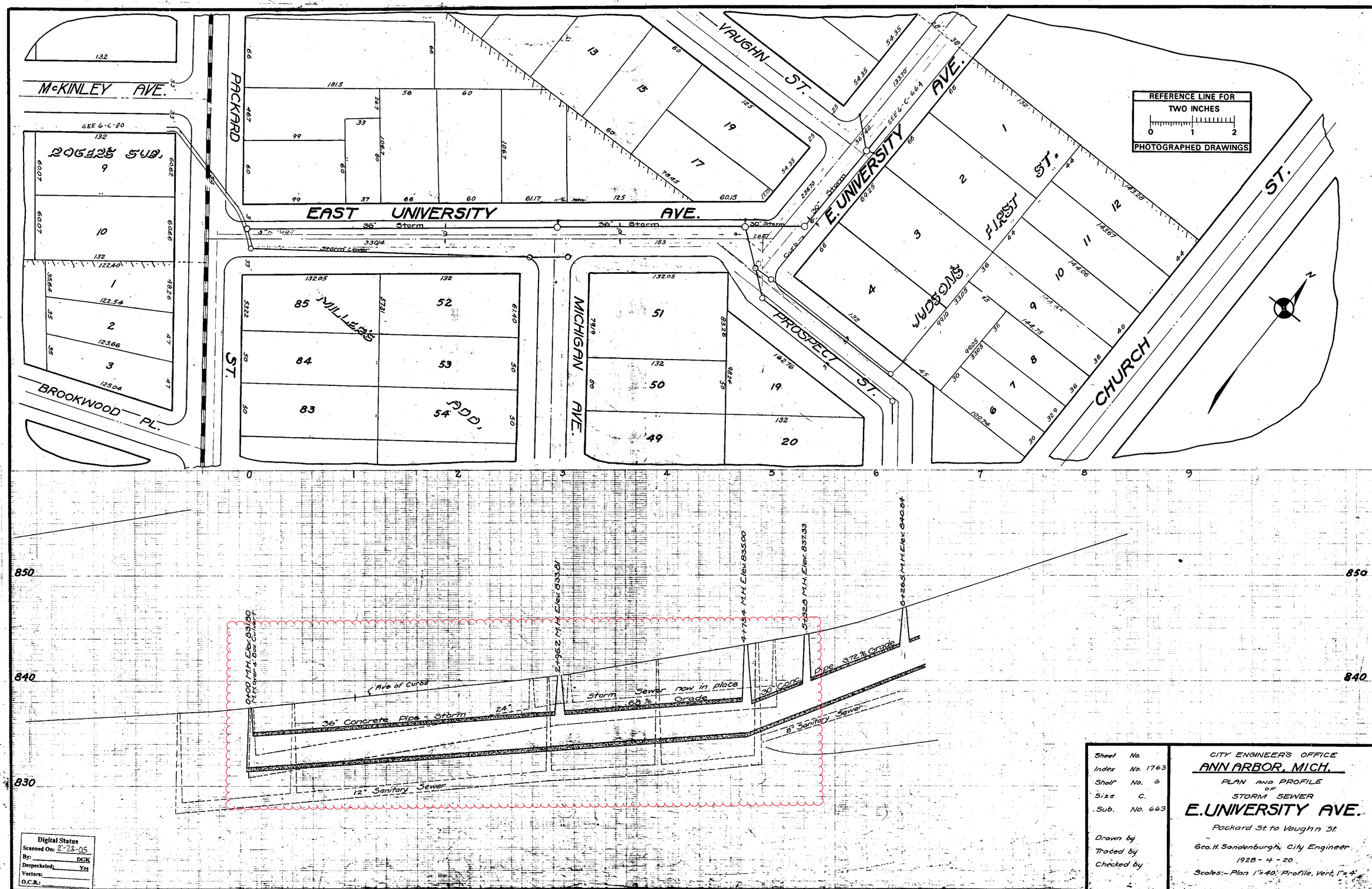

Sheet No.	
Index No.	1763
Shelf No.	6
Size	C.
Sub. No.	663
Drawn by	
Traced by	
Checked by	

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH.

PLAN AND PROFILE OF STORM SEWER

E. UNIVERSITY AVE.

Packard St. to Vaughn St.

Geo. H. Sandenburgh, City Engineer

1928 - 4 - 20

Scales:- Plan 1"=40', Profile, Vert. 1"=4'

Digital Status
Scanned On: 2-23-05
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Vectors:
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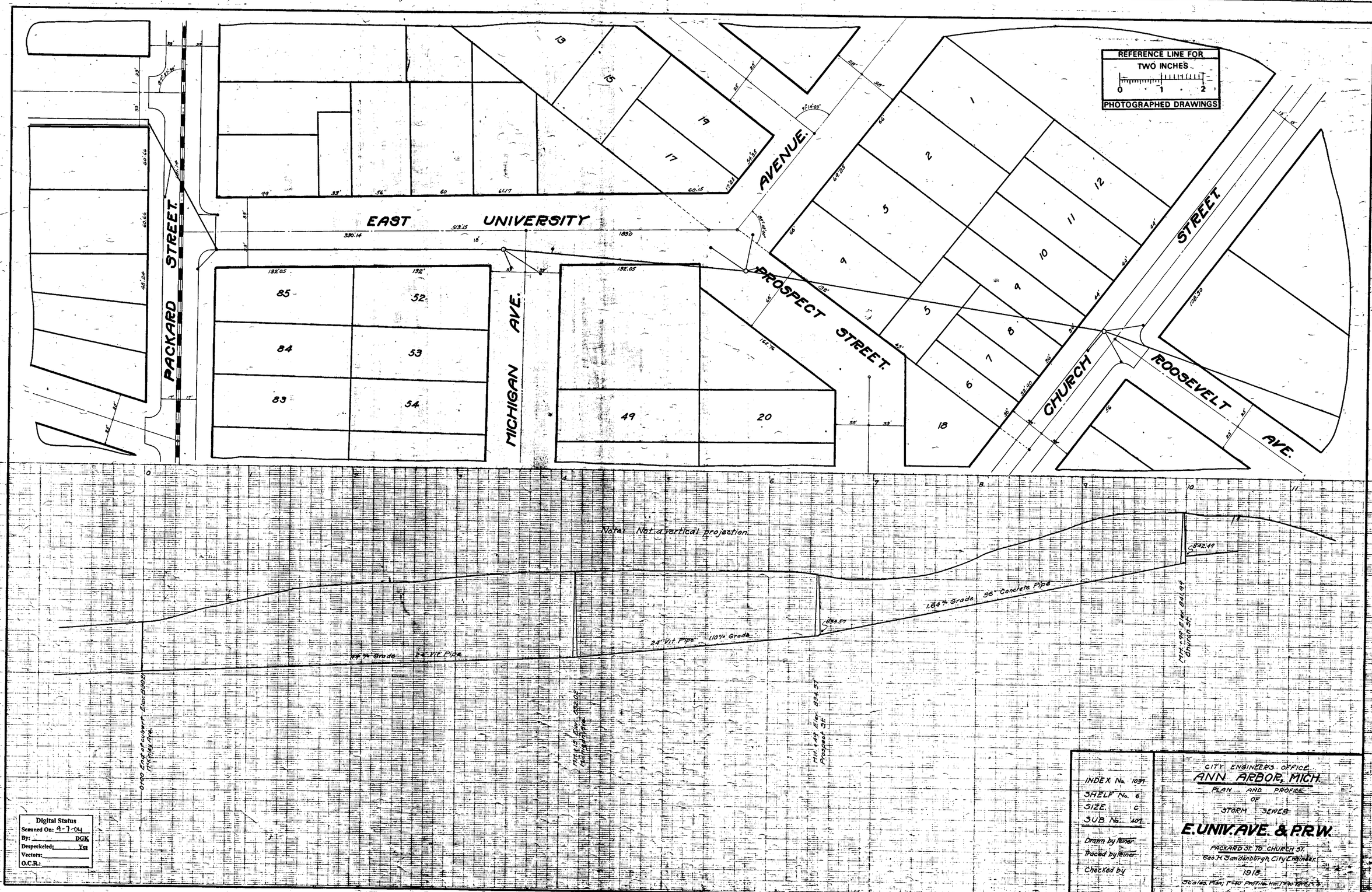
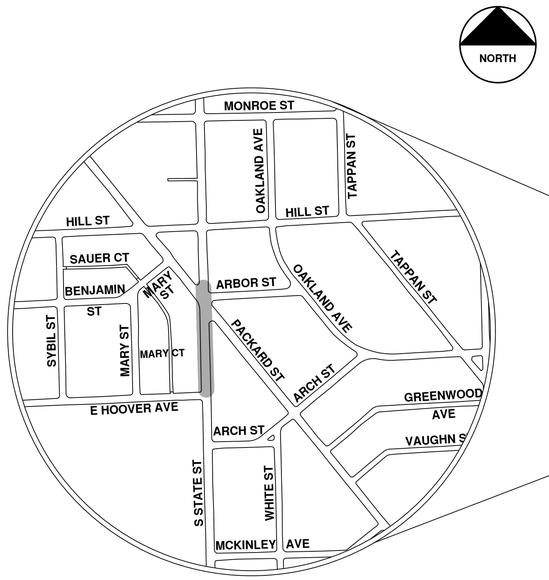
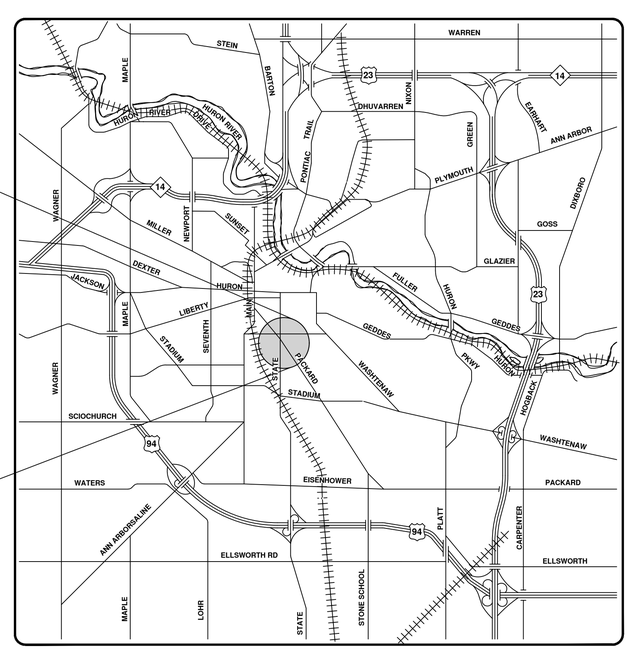


REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
EAST UNIVERSITY
PACKARD STREET
MICHIGAN AVE.
PROSPECT STREET
AVENUE
CHURCH STREET
ROOSEVELT AVE.
Note: Not a vertical projection.
1.64% Grade 56" Concrete Pipe
24" Vit Pipe 110% Grade
24" Vit Pipe
INDEX No. 1037
SHELF No. 6
SIZE C
SUB No. 407
Drawn by Feiner
Traced by Feiner
Checked by
CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
E. UNIV. AVE. & P.R.W.
PACKARD ST. TO CHURCH ST.
Geo. H. Sandenburgh, City Engineer
1918
Scales Plan, 1"=40' Profile Hor. 1"=40' Vert. 1"=4'
Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

2020 SEWER LINING PROJECT

STATE ST PACKARD ST





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-164

SHEET No. 164 OF 362

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State St. & Packard St.

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Manhole

Not found Manhole

Catchbasin

Storm Main

AA Proposed Lining

N

0 15 30 60 90 120 Feet

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ARBOR STREET.

PACKARD STREET.

STATE STREET.

ARBOR STREET.

PACKARD STREET.

STATE STREET.

HOOVER

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

1.5% Grade 15" V.T. Pipe

Catchbasin Inv. STATE = 822.10

Invert 15" East 822.00

830

820

Catchbasin Invert ST. Elev. 828.20

1.58% Grade 20" V.T. Pipe

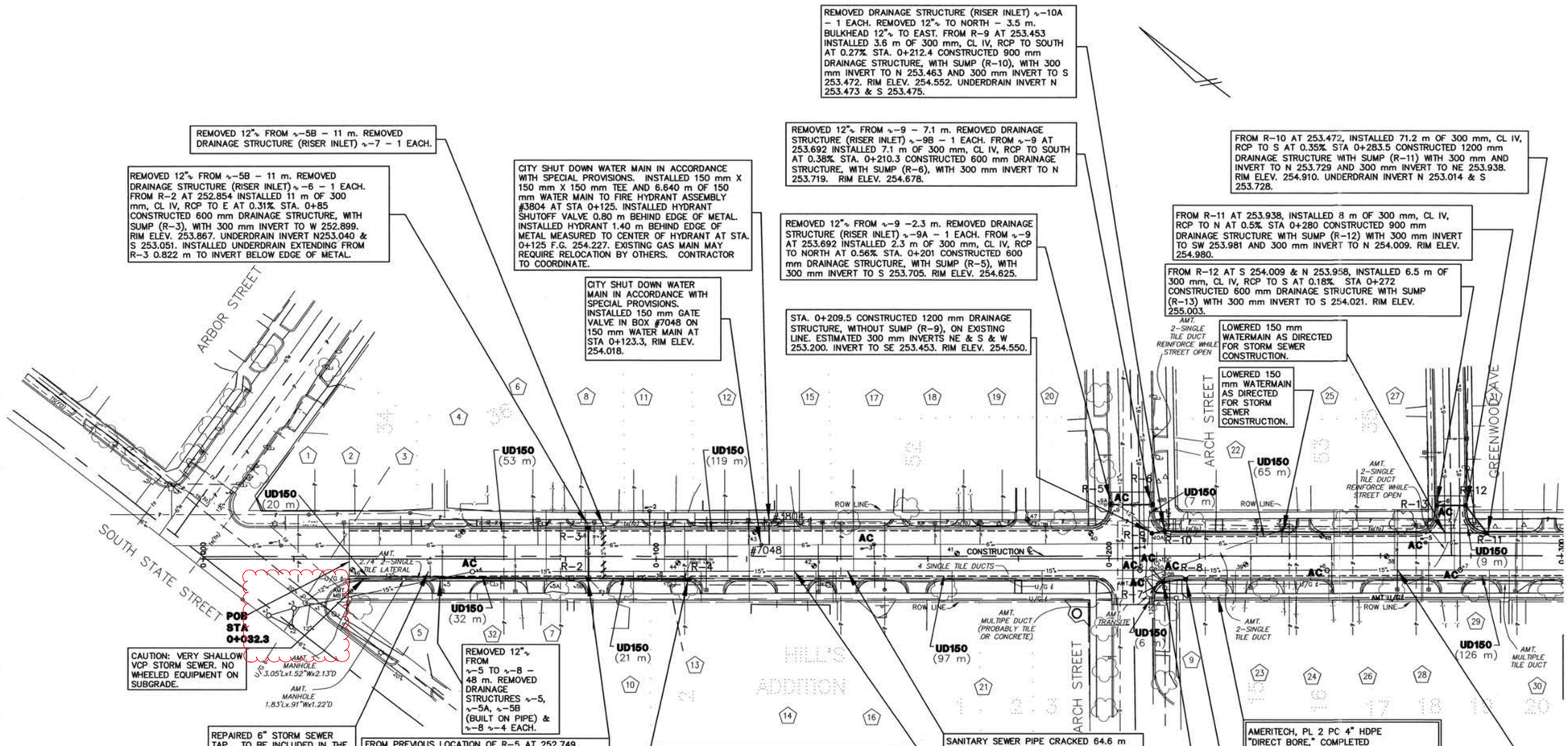
Manhole Invert 20" East 824.60

1.91%

Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

INDEX No. 1033
SHELF No. 6
SIZE C
SUB No. 409
Drawn by Miller
Traced by Miller
Checked by

CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF STORM SEWER
PACKARD STREET.
AT CORNER OF STATE ST.
STATE STREET.
PACKARD ST. TO HOOVER AVE.
Geo. H. Sandenbergh, City Engineer.
1918
Scales. Plan, 1"=40'. Profile, Hor. 1"=40' Ver. 1"=4'



CASTING SCHEDULE
FOR PACKARD STREET
FILE NO. 3005.045

PLEASE NOTE: FOR PURPOSES OF THIS TABLE, PACKARD STREET IS CONSIDERED TO RUN NORTH AND SOUTH.

STRUCTURE/ STATION	TOP OF CASTING ELEVATION	INVERT ELEV.	PIPE SIZE	DIRECTION	DEPTH (METERS)	STRUCTURE SIZE	DETAIL	APPLICATION/ CONSTRUCTION
0+125=017	254.410	—	8"	N & S	—	5' DIA	SD-W-3	GVIW
#1556								OUTSIDE LIMITS
0+201=006.8	254.196	—	3"	E & W	—	—	—	GVIB
								OUTSIDE LIMITS
0+320=148	254.231	252.129 TYP.	3"	W	2.102 TYP.	5' DIA	SD-W-3	GVIW
	254.169		8"	N & S				ADJUSTED TO FINISH GRADE
0+410=208	254.497	252.833 TYP.	8"	E & W	1.664 TYP.	5' DIA	SD-W-3	GVIW
#73	254.476							ADJUSTED TO FINISH GRADE
0+560=270	254.721	252.593 TYP.	8"	N & S	1.828 TYP.	5' DIA	SD-W-3	GVIW
#1540	254.788							ADJUSTED TO FINISH GRADE
0+80=275	255.852	—	6"	E & W	1.433 TYP.	5' DIA.	SD-W-3	GVIW
#831								ADJUSTED TO FINISH GRADE
W–1.10=123	254.887	—	8"	N & S	—	—	—	GATEVALVE IN BOX/NEW
∿–1.10=014	254.030	—	—	—	—	5' DIA	SD-S-1	SAN MH/OUTSIDE LIMITS
∿–2.10=018	253.948	—	—	—	—	5' DIA	SD-S-1	SAN MH/OUTSIDE LIMITS
∿–3.10=020	254.066	250.456	15"	N	3.570	5' DIA	SD-S-1	SAN MH/OUTSIDE LIMITS
		250.356	15"	S	3.680			
		250.306	15"	W	3.760			
∿–4.10=059	254.036	250.546	15"	E	3.490	4' DIA	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
	254.827	250.466	15"	N	3.570			
∿–5.10=207	254.417	251.157	15"	N	3.260	4' DIA	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
	254.276	251.177	15"	E	3.245			
		251.557	8"	E	2.860			
∿–6.10=248	254.867	251.347	15"	N	3.340	4' DIA	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
	254.488	251.347	15"	S	3.248			
∿–7.10=276	254.686	251.426	15"	N	3.390	4' DIA	SD-S-1	SAN MH/ADJUSTED TO FINISH GRADE
	254.669	251.426	15"	S	3.260			
		251.696	8"	E	3.030			
∿–9A=022	—	—	20"	NE	—	5' DIA	SD-S-1	BURIED/OUTSIDE OF LIMITS
		—	20"	SW	—			
		—	12"	SE	—			
		—	12"	S	—			
∿–1.10=027 RI	253.799	253.069	12"	N	0.730	RISER	—	RISER INLET/OUTSIDE LIMITS
∿–2.10=012 LI	254.812	253.612	12"	NW	1.000	4' DIA.	SD-S-1	STORM MH/OUTSIDE LIMITS
∿–3A=066 LI	254.723	253.523	12"	W	0.900	RISER	—	RISER INLET/OUTSIDE LIMITS
∿–4.10=307 LI	254.509	253.606	12"	NW	0.900	3' DIA.	SD-S-1	STORM INLET/OUTSIDE LIMITS
∿–5.10=053 RI	253.909	252.749	12"	W	1.160	1' SQUARE	—	1' SQUARE STRUCTURE BUILT OVER PIPE/REMOVED
		252.749	12"	S	1.160			
		252.749	12"	N	1.160			
∿–5A=080 RI	253.880	252.910	12"	N & S	0.980	4' DIA.	SD-S-1	STRUCTURE BUILT OVER PIPE/REMOVED
∿–6B=065 RI	253.900	252.890	10"	N	1.040	4' DIA.	SD-S-1	STORM MH/REMOVED
		253.260	4"	SW	0.640			
		252.858	10"	E	1.042			
		252.858	12"	S	1.059			
∿–6B=065 LI	253.746	253.146	12"	W	0.600	RISER		RISER INLET/REMOVED
∿–7.10=066 LI	253.734	252.984	12"	W	0.800	RISER		RISER INLET/REMOVED
∿–8A=101 RI	253.907	253.007	12"	N	0.900	RISER		RISER INLET/REMOVED
∿–9A=203 LI	254.722	253.712	12"	N	1.010	4' DIA.	SD-S-1	STORM MH/
	254.661	253.712	12"	S	1.010			ADJUSTED TO FINISH GRADE
		253.562	12"	SW	1.020			
		253.782	12"	E	0.980			
∿–9A=201 LI	254.567	253.647	12"	S	0.720	RISER	-	RISER INLET/REMOVED
∿–9B=210.3 LI	254.554	253.965	12"	N	0.700	RISER	-	RISER INLET/REMOVED
∿–10A=208 RI	254.426	252.886	12"	E	1.540	4' DIA.	SD-S-1	STORM MH/
	254.311	252.886	12"	S	1.540			ADJUSTED TO FINISH GRADE
∿–10A=213 LI	254.367	253.457	12"	N	0.950	RISER	-	RISER INLET/REMOVED
∿–10B=211.7 RI	254.184	253.184	12"	NE	0.880	RISER	-	RISER INLET/REMOVED
∿–10C=210.5 RI	254.464	—	—	E & N	—	—	—	STORM MH/
	254.357							ADJUSTED TO FINISH GRADE
0+320=885 RI	253.855	252.854	300 mm	N	1.051	1200mm	SD-S-3M	DRAINAGE STRUCTURE WITH SUMP/NEW
		253.860	4"	SW	-0.005			
		252.898	300 mm	E	0.999			
		252.854	300 mm	S	1.051			
0+320=885 LI	253.867	252.898	300 mm	W	0.958	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/NEW
0+410=157.3 RI	253.765	252.821	300 mm	N	0.844	DOUBLE INLET	SD-S-11M	DRAINAGE STRUCTURE WITH SUMP/NEW
0+560=291 LI	254.625	253.795	300 mm	S	0.930	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/NEW
0+80=210 LI	254.678	253.718	300 mm	W	0.959	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/NEW
0+70=212 RI	254.269	253.189	300 mm	NE	1.080	900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/NEW
		253.191	300 mm	E	1.078			
0+80=217 RI	254.293	253.215	300 mm	N	1.078	600mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/NEW
0+80=209.5 LI	254.559	253.350	300 mm	NE	1.300	1200mm	SD-S-1M	DRAINAGE STRUCTURE/NEW
		253.450	300 mm	S	1.097			
		253.200	300 mm	W	1.350			
0+10=212.4 LI	254.552	253.463	300 mm	N	1.089	900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/NEW
		253.472	300 mm	E	1.080			
0+11=283.5 LI	254.916	253.726	300 mm	N	1.181	1200mm	SD-S-3M	DRAINAGE STRUCTURE WITH SUMP/NEW
		253.826	300 mm	NE	0.972			
0+12=280 LI	254.988	253.981	300 mm	SW	0.998	900mm	SD-S-9M	DRAINAGE STRUCTURE WITH SUMP/NEW
		254.009	300 mm	N	0.871			
0+13=277 LI	255.003	254.021	300 mm	S	0.882	900mm	SD-S-10M	DRAINAGE STRUCTURE WITH SUMP/NEW

PROPOSED GRADES / WORK IN BOLD TEXT

Note: For Specific Casting Model See Standard Casting Schedule, Detail SD-GU-5

INDEX NO	Parcel Number	Prop Address	Owner Name	Owner Address	
1	09–09–33–207–001	701 PACKARD ST	WARREN JILL	2150 AMELIA PL	MI 48104
2	09–09–33–207–002	707 PACKARD ST	LAGOS BASIL J	1581 KNIGHT RD	MI 48103
3	09–09–33–207–003	709 PACKARD ST	LAGOS BASIL J	1581 KNIGHT RD	MI 48103
4	09–09–33–207–004	713 PACKARD ST	LAGOS BASIL J	1581 KNIGHT RD	MI 48103
5	09–09–33–208–009	716 PACKARD ST	BELL CHRISTOS B & A	1135 E GRAND RIVER AVE	MI 48823
6	09–09–33–207–005	719 PACKARD ST	GOFFAS PETER & ANASTASIA	2390 FOXWAY DR	MI 48105
7	09–09–33–208–007	722 PACKARD ST	MATUSZAK GERARD J	4820 VORHIES RD	MI 48105
8	09–09–33–207–006	723 PACKARD ST	LATENDRESSE NANCY TRUST	1415 PACKARD ST	MI 48104
9	09–09–33–218–001	724 ARCH ST	COPI DAVID	1801 CAMBRIDGE RD	MI 48104 3520
10	09–09–33–208–006	726 PACKARD ST	SPALY GROUP	726 PACKARD ST	MI 48104
11	09–09–33–207–007	727 PACKARD ST	WICKERSHAM HERBERT	325 E EISENHOWER PKY 3	MI 48108
12	09–09–33–207–008	731 PACKARD ST	MADISON MANAGEMENT COMPANY	121 W DE LA GUERRA ST	CA 93101
13	09–09–33–208–005	732 PACKARD ST	MADISON MANAGEMENT COMPANY	121 W DE LA GUERRA ST	CA 93101
14	09–09–33–208–004	736 PACKARD ST	MADISON MANAGEMENT COMPANY	121 W DE LA GUERRA ST	CA 93101
15	09–09–33–207–009	737 PACKARD ST	HASHIMOTO KEN & N	1009 PACKARD ST	MI 48104
16	09–09–33–208–003	740 PACKARD ST	TRAVIS PROPERTIES OF ANN	740 PACKARD ST	MI 48104
17	09–09–33–207–010	741 PACKARD ST	HASHIMOTO KEN & N	1009 PACKARD ST	MI 48104
18	09–09–33–207–011	743 PACKARD ST	HASHIMOTO KEN MD	1009 PACKARD ST	MI 48104
19	09–09–33–207–012	745 PACKARD ST	WESENBERG INA	1107 W LIBERTY ST	MI 48103
20	09–09–33–207–013	747 PACKARD ST	DICKINSON MARY	747 PACKARD ST	MI 48104
21	09–09–33–208–025	752 PACKARD ST	CITY OF ANN ARBOR	* PO BOX 8647	MI 48107
22	09–09–33–219–031	802 ARCH ST	TRI–ARCH INVESTMENTS	608 PACKARD ST	MI 48104 3364
23	09–09–33–218–028	806 PACKARD ST	PAMPREEN DANIEL P	803 S FIRST ST	MI 48103
24	09–09–33–218–027	808 PACKARD ST	PAMPREEN DANIEL P	803 S FIRST ST	MI 48103
25	09–09–33–219–001	811 PACKARD ST	TRI–ARCH INVESTMENTS	608 PACKARD ST	MI 48104
26	09–09–33–218–026	812 PACKARD ST	ALAWI ZAKI & CATHERINE	1024 LINCOLN AV	MI 48104
27	09–09–33–219–002	815 PACKARD ST	PAMPREEN DANIEL	803 S FIRST ST	MI 48103
28	09–09–33–218–025	816 PACKARD ST	ALPERN BERNARD	1315 E LAKE DR	MI 48377
29	09–09–33–218–024	818 PACKARD ST	BELANGER JANE	2112 VINEWOOD BLVD	MI 48104
30	09–09–33–218–023	820 PACKARD ST	GWI CO–PARTNERSHIP	608 PACKARD ST	MI 48104
31	09–09–33–220–001	821 PACKARD ST	VALBUENA FELIX & AMPARO	620 CHURCH ST	MI 48104
32	09–09–33–208–008	917 S. STATE ST	MATUSZAK GERARD & ROSE	4820 VORHIES RD	MI 48105

BENCH MARKS:

BM #1 SE CORNER OF CONCRETE BASE OF TRAFFIC SIGNAL AT THE SW CORNER OF PACKARD AND STATE STREETS. ELEVATION IN METERS = 254.158

BM#2 BOLT ON COLLAR OF FIRE HYDRANT 10' NORTH OF DRIVE TO 811 PACKARD ST, EAST SIDE OF PACKARD STREET ELEVATION IN METERS = 255.289

BM#3 BOLT ON COLLAR OF FIRE HYDRANT AT STREET ADDRESS 1003 PACKARD, EAST SIDE OF PACKARD STREET ELEVATION IN METERS = 255.950

BM#4 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD AND WELLS STREETS ELEVATION IN METERS = 256.042

BM#5 BOLT ON COLLAR OF FIRE HYDRANT SW CORNER OF PACKARD STREET AND WOODLAWN AVENUE. ELEVATION IN METERS = 255.707

BM#6 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND GRANGER AVENUE ELEVATION IN METERS = 256.383

BM#7 BOLT ON COLLAR OF FIRE HYDRANT SE CORNER OF PACKARD STREET AND BROOKLYN AVENUE ELEVATION IN METERS = 256.149

BM#8 BOLT ON COLLAR OF FIRE HYDRANT NE CORNER OF PACKARD STREET AND MORTON AVENUE ELEVATION IN METERS = 256.368

BM#9 US COAST AND GEODETIC SURVEY DISC SET IN CONCRETE, STAMPED: "11 1" NE CORNER OF PACKARD ROAD AND STADIUM BLVD, 2.3' NORTH OF SIDEWALK. ELEVATION IN METERS = 255.370

CONSTRUCTION KEY

ABO	ADJUST BY OTHERS.
AC	ADJUST CASTING (INCLUDES GATE WELL, MONUMENT BOX, & VALVE BOX)
UD150	PLACE UNDERDRAIN, 150 mm

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

AS–BUILT WATER DRAWING
CORRECTED 10/2001
MDEQ PERMIT No. N/A (HYD. ONLY)
IN SERVICE DATE (MO/YR) 8/2001
CONTRACTOR FONSON CONST.

AS–BUILT STORM DRAWING
CORRECTED 1/2002
IN SERVICE DATE (Mo/Yr) 9/2001
CONTRACTOR FONSON CONST.

72 HOURS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

795.7 EXISTING SPOT ELEV.
795 EXISTING CONTOUR
x EXISTING FENCE
EXISTING UTILITY POLE
EXISTING GUY WIRE
EXISTING LIGHT POLE
EXISTING GUARD RAIL
8"g EXISTING GAS MAIN
O/He EXISTING OVERHEAD ELECTRIC
O/Ht EXISTING OVERHEAD TELEPHONE
U/Ge EXISTING UNDERGROUND ELECTRIC
U/Gt EXISTING UNDERGROUND TELEPHONE
EXISTING WATER SHUTOFF
12"R EXISTING STORM SEWER
8"S EXISTING SANITARY SEWER
EX SANITARY SEWER LEAD
8"w EXISTING WATER MAIN
EXISTING FIRE HYDRANT
EXISTING GATE VALVE
795 EXISTING CONTOUR
NEW FENCE
SB #20 SOIL BORING
AMT U/G t NEW CURB & GUTTER AMERITECH NEW UNDERGRND TELEPHONE
NEW STOPBAR
NEW WALK CROSSING
NEW PAVEMENT
NEW SIDEWALKS & DRIVE APPROACHES
NEW STORM SEWER
NEW SANITARY SEWER
NEW WATER MAIN
NEW FIRE HYDRANT
NEW GATE VALVE
795 NEW CONTOUR

BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	9–02	MLL	PWJ
			REVISIONS	02–12–01	KLW	ROC
			CITY/MDOT REWIEW	01–19–01	KLW	REL
			ORIGINAL ISSUE	11–28–00	KLW	REL

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

PACKARD STREET RECONSTRUCTION, PHASE I

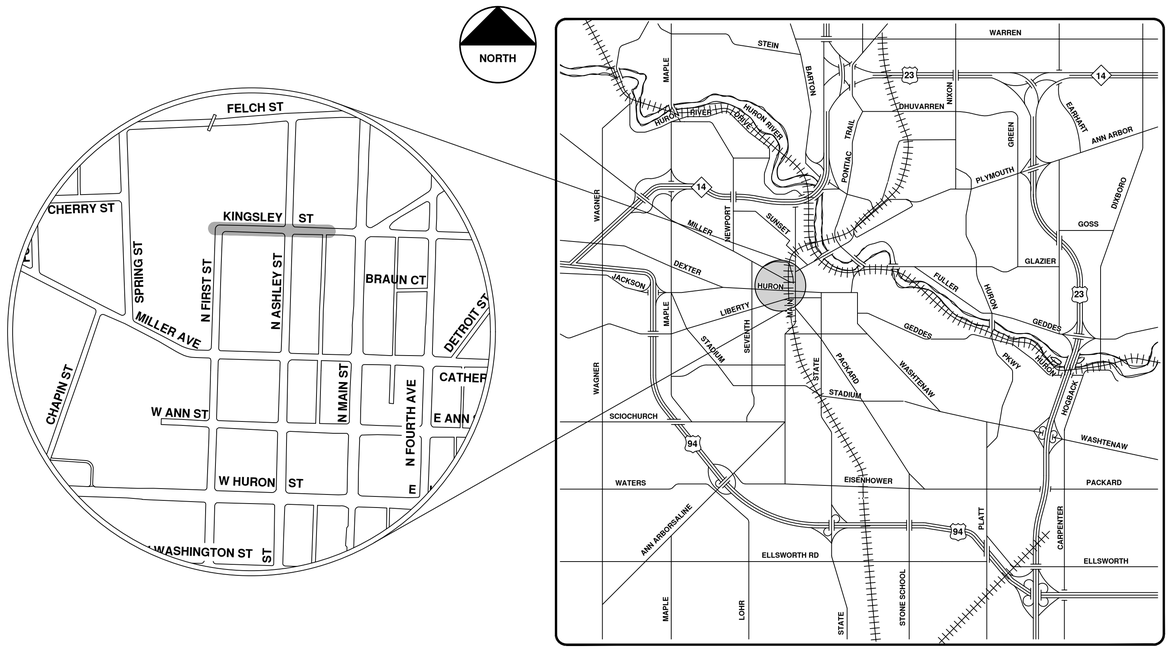
sheet UTILITIES
title: (STA. 0+032.3 TO STA. 0+300)

consultants:
WASHTENAW ENGINEERING CO. ROBERT E. LINDSTROM, P.E., MI No. 36093

SCALE HORIZONTAL 1:500 VERTICAL 1:50 — mm 0 5 10 15
DRAWING NO. 2000 045 R1,S1
SHEET NO. 6 OF 51

2020 SEWER LINING PROJECT

W KINGSLEY AVE



VICINITY MAP

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301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-168

SHEET No. 168 OF 362

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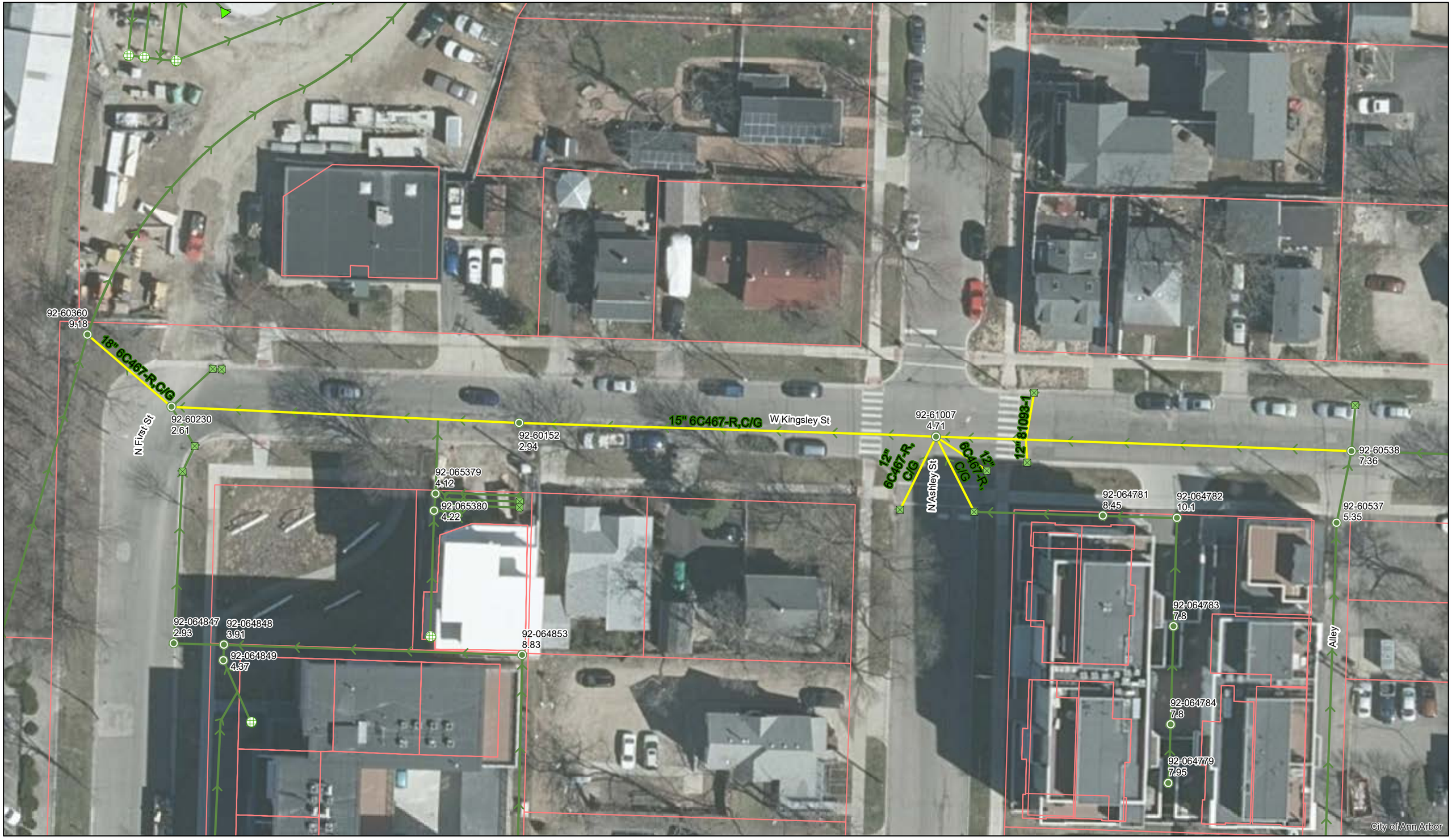


W. Kingsley Ave.

Manhole
Catchbasin
Storm Main
AA Proposed Lining

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

For terms and conditions please visit www.a2gov.org/terms

SHEET	No. 1
INDEX	No. 1181
SHELF	No. 6
SIZE	C
SUB	No. 467

Drawn by V.W.M.
Traced by V.W.M.
Checked by

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH.

PLAN AND PROFILE

OF

STORM and SEWER
CURB and GUTTER

KINGSLEY ST.

ALLENS CREEK TO FOURTH AVE.

Geo. H. Sandenburgh, Engineer.

1921-1-7.

Scales:- Plan 1" = 40', Profile Vert. 1" = 4'.

Digital Status
Scanned On: 9-17-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

AS BUILT DRAWING

CORRECTED 10-10-83

MICH. DEPT. OF HEALTH PERMIT No. W 830052

CONSTRUCTION COMPLETED 9-15-83

BACTERIOLOGICAL TEST T-12, 8-3; 8-8, 8-31-83

PRESSURE TEST T-8, 8-5, 8-29-83

12" G.V. #4341 IN BOX 20'N. OF SPL. OR KINGSLEY ST. 1'W. OF WPL. OF N. MAIN ST.

BLOCK 4 NORTH
RANGE 2 EAST

BLOCK 4 NORTH, RANGE 3 EAST

66 ft. wd.

82.5 ft. wd.

ASSESSOR'S PLAT NO. 29

BEAKES ST. 66 ft. wd.

WATER SERVICE OFF ASHLEY #122

WATER SERVICE OFF ASHLEY #118

#114

#111

#120

#53

#623

HYD. #316

#1073

#1203

#1075

#1037

#158

1076 @ CROSS ST.

2.5 OF 12" B-B

22' OF 12" CR-B.

6"x12" CROSS PLUGGED @ WEST END

280.3 OF 12" B-G.V.

2-12"-45° B'S FOR VERT. ALIGNMENT

ST. 2' OF 12" G.V.-C2

14"x12" CROSS PLUGGED E.

W. KINGSLEY ST. 66 ft. wd.

E. KINGSLEY ST. 66

ASSESSOR'S PLAT NO. 29

BLOCK 3 NORTH
RANGE 2 EAST

BLOCK 3 NORTH, RANGE 3 EAST

N. ASHLEY ST.

N. MAIN ST.

ALLEY 16ft. wd.

PARKING LOT

HOUSE

1) 12" WATERMAIN IN KINGSLEY TO BE ABANDONED.
2) ALL SERVICES TO BE TRANSFERED TO NEW 12" AFTER 12" IS TESTED AND APPROVED.
3) UTILITIES DEPARTMENT TO PERFORM ANY AND ALL TAPS.
4) ENTIRE SECTION TO BE BUILT, TESTED, AND APPROVED PRIOR TO CUTTING IN AT EITHER END.
5) CONTRACTOR TO PERFORM ALL EXCAVATION AND BACKFILL FOR WATER SERVICE TAPS.
6) CONTRACTOR TO PROVIDE TEMPORARY WATER SERVICE TO HOUSES ON 1½" MAIN WHEN NECESSARY.
7) UTILITY DEPARTMENT RECORDS SHOW ONLY 2 SERVICES ON 1½" WATERMAIN.
8) AFTER ALL SERVICES ARE TRANSFERED, TURN OFF CORPORATION AT 6 IN ASHLEY AND REMOVE THE 5' OF 1½" PIPE BETWEEN THE CORPORATION AND VALVE #1075.

SOIL LEGEND: BITUMINOUS CONCRETE GRAVEL SAND CLAY

SB LOCATION OF SOIL BORINGS

805 800 795 790 785 780

820 815 810 805 800 795

1+00 2+00 3+00 4+00

LOOKING E. WATERMAIN IN ASHLEY FROM STA. 0+00 TO STA. 4+00

APPROXIMATE ELEVATION OF WATER MAIN CROSSING 40"x48" SAN.

12" G.V.

12" WATER

12" STORM

18" STORM

8" SAN.

8" GAS

40"x48" EXIST. SANITARY

18" SAN. TO BE ABANDONED INCIDENTAL TO WATERMAIN

40"x48" EXISTING SANITARY SEWER

MEDIUM BROWN W/SMALL STONES

GRAVEL

STONEY

DRY

12"x12" CROSS PLUGGED @ 4+00

Digital Station Scanned Out By: [illegible] 8-11-05

LEGEND

UNDERGROUND UTILITIES: EXISTING SANITARY; PROPOSED SANITARY; EXISTING STORM; PROPOSED STORM; EXISTING WATER; PROPOSED WATER

PROFILES: EXISTING CENTER LINE; PROPOSED CENTER LINE

BENCH MARK

SURVEY BOOK	DR. BY	CH. BY	DATE
	SKM.	DWT	1-83

NO. OR LETTER	REVISIONS	DR. BY	DATE
	"AS BUILT"	JRM. E.A.	10/83

ENGINEERING DEPARTMENT – CITY OF ANN ARBOR

DOWNTOWN WATERMAINS 1983

KINGSLEY STREET

N. ASHLEY ST. TO N. MAIN ST.

PREPARED BY Donald Dahl

APPROVED BY Leigh A. Chizek

LEIGH A. CHIZEK P.E. CITY ENGINEER #18324

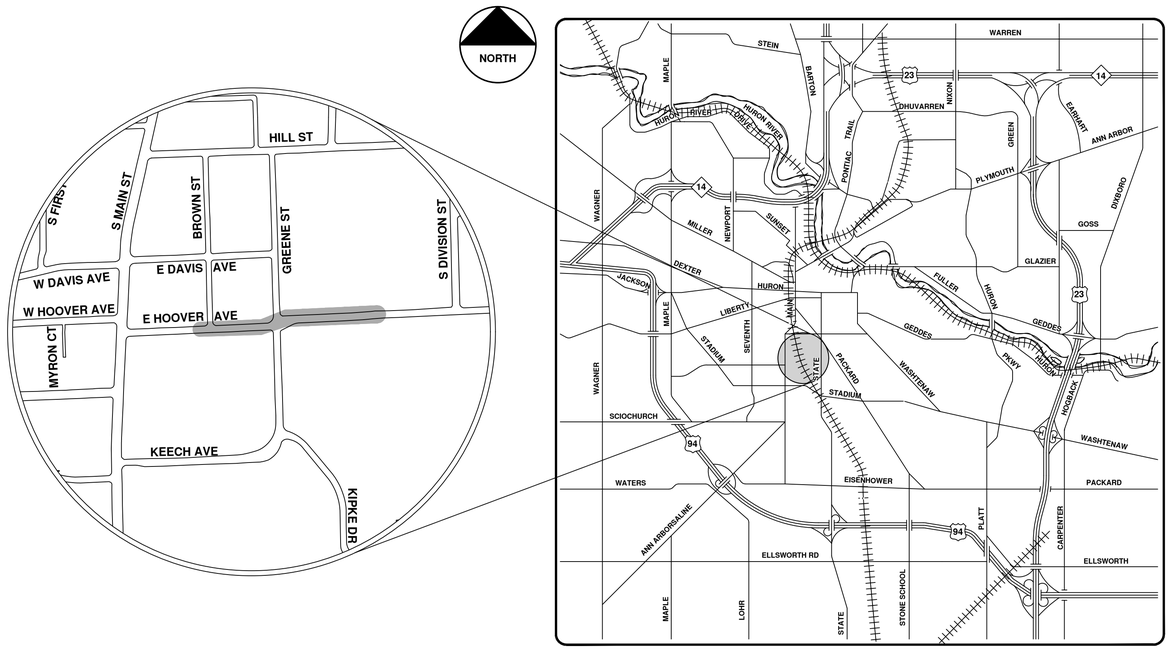
SCALE: HORZ. 1" = 20'; VERT. 1" = 4'; INCH

DRAWING NO. 81093-TW

SHEET NO. 1 OF 13

2020 SEWER LINING PROJECT

E HOOVER AVE STORM



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

NO	REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET		9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2020039-172

SHEET No. 172 OF 362

© 2020 SEWER LINING PROJECT; BID No. ITB 4693; 2020039

R:\2020039 Sewer Lining 2020\Plan Production\2020039Cov.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:51:09 PM

E. Hoover Ave.

Manhole
Not found Manhole
Catchbasin
Storm Main
AA Proposed Lining

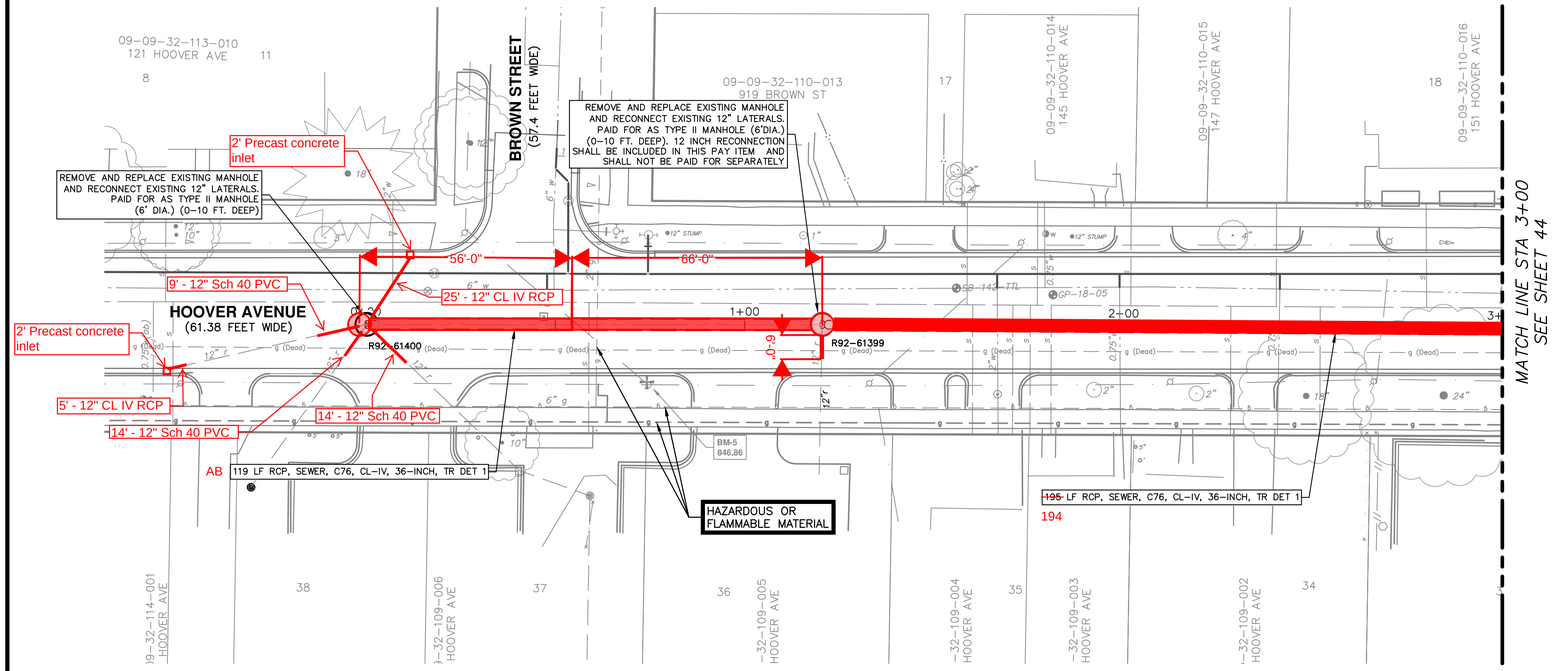
92-XXXXX (Manhole ID)

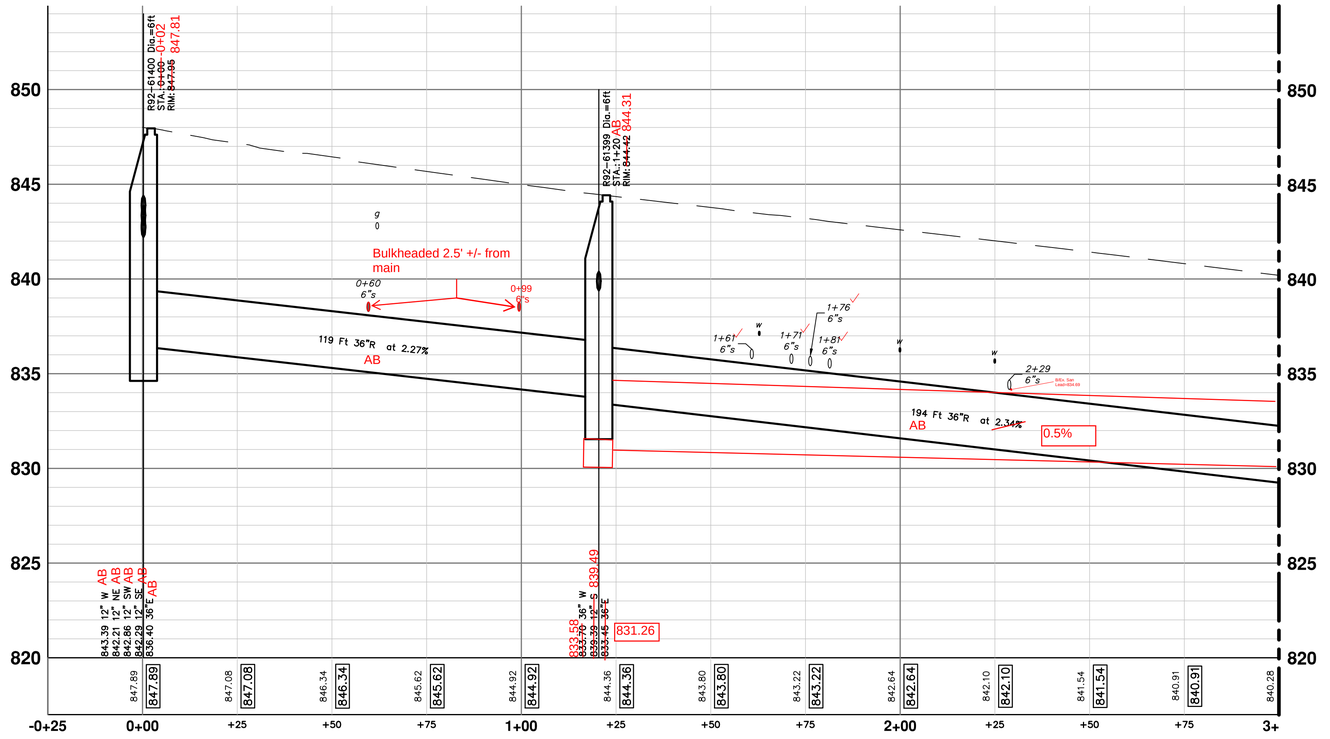
1.00 (Manhole Depth)

0 30 60 120 180 240 Feet

N

For terms and conditions please visit www.a2gov.org/terms





STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/ CONSTRUCTION
R92-61399	1+20 AB	36" W ~~833.70~~ P 833.58 12" S ~~839.39~~ 839.49 36" E ~~833.45~~ P 831.26	~~844.42~~ 844.31	12.21	72" Dia.	TYPE B COVER
R92-61400	~~0+00~~ -0+02	12" W 843.39 AB 12" NE 842.21 AB 12" SW 842.86 AB 12" SE 842.29 AB 36" E 836.40 P AB	~~847.95~~ 847.81	12.67	72" Dia.	TYPE B COVER

Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

HOOVER, GREENE, & HILL
IMPROVEMENT PROJECT

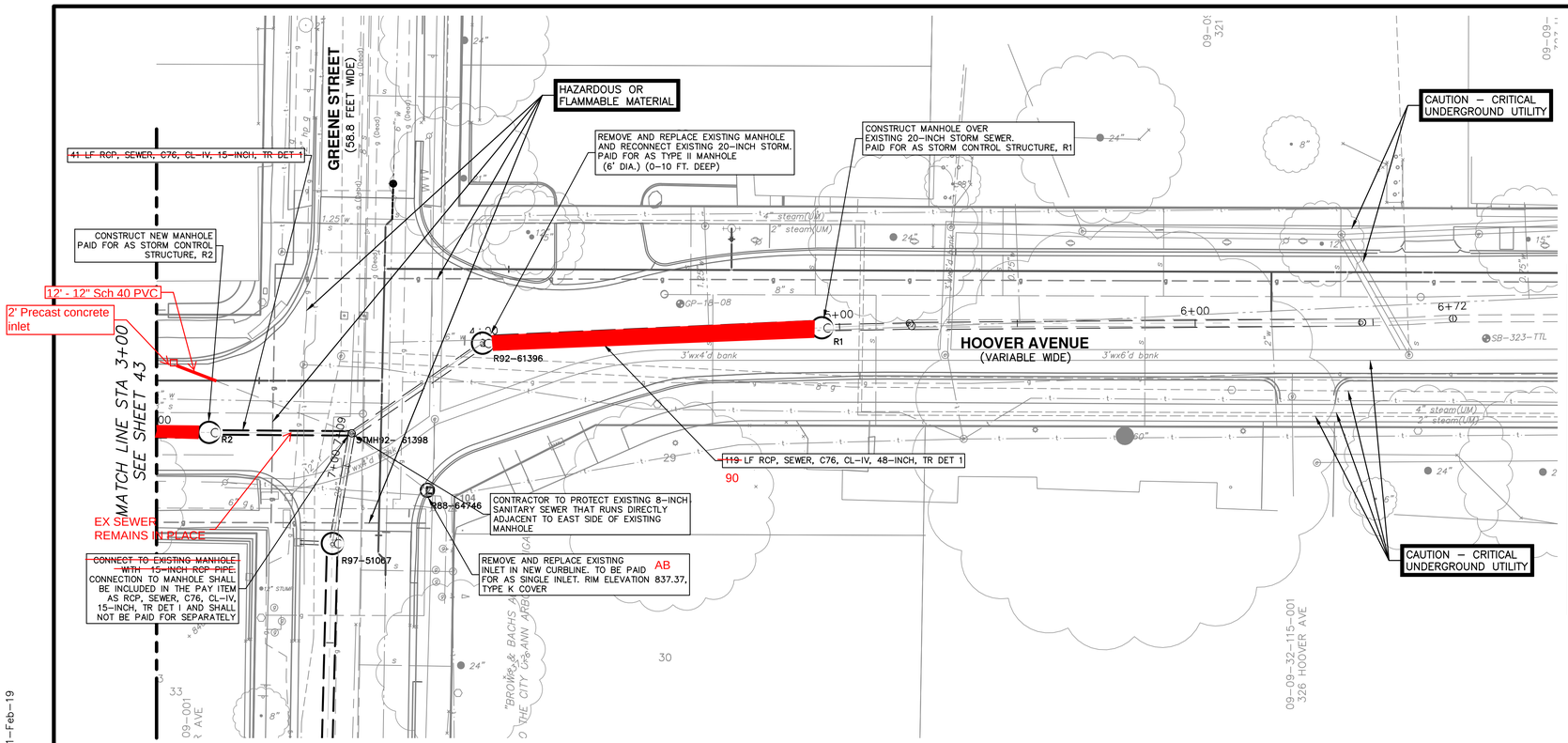
STORM PLAN & PROFILE - HOOVER AVE STA 0+00 TO STA 3+50

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

DRAWING No. 2018-031-43

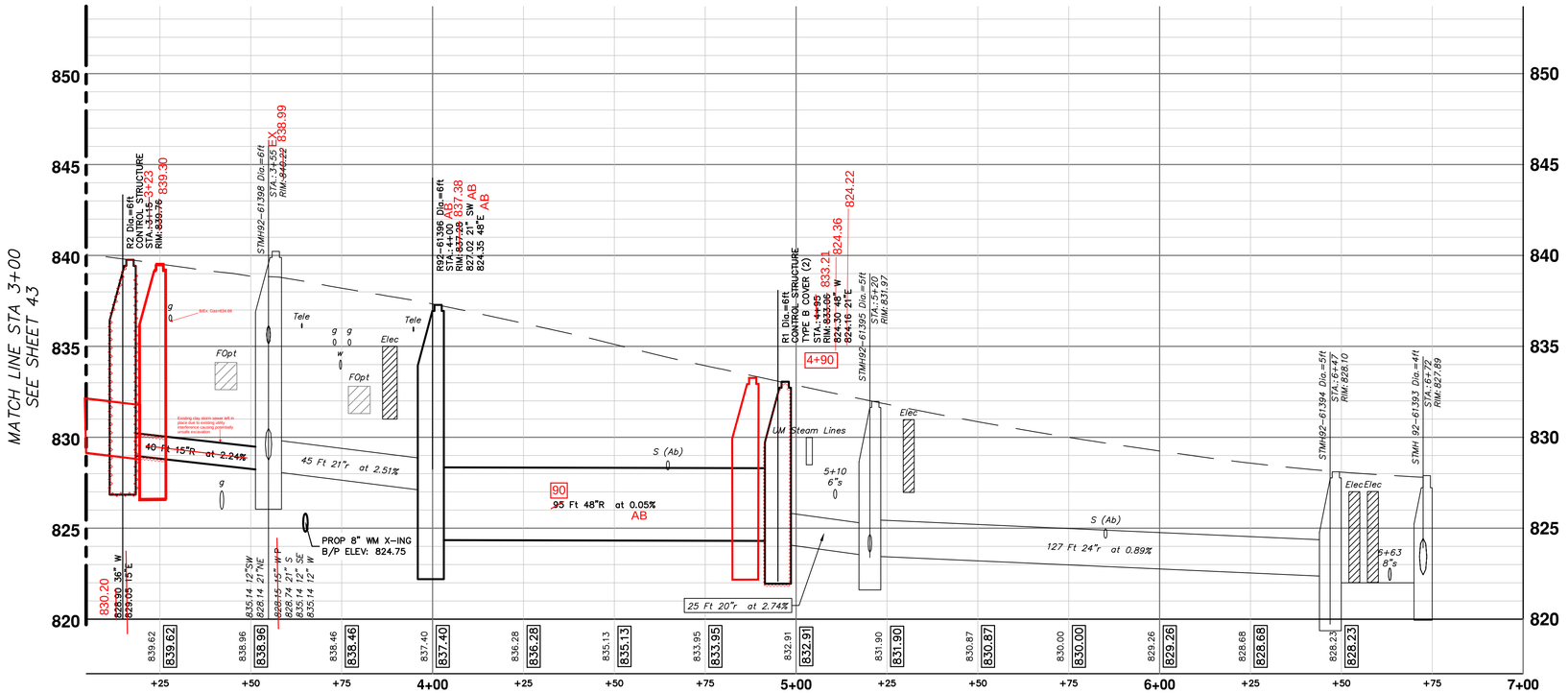
SHEET No. 43 OF 83

c:\pw_work\mflanagan\d0849816\CST-PLTS-Storm-Hoover.dwg Dwg Created: 30-Nov-18 -- _a2 standard bw.stb -- Plot Date: 1-Feb-19



STORM SEWER STRUCTURE TABLE

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION / CONSTRUCTION
R1	~~4+95~~ 4+90	48" W ~~824.30 P~~ 824.36 21" E ~~824.16~~ 824.22	833.21 ~~833.06~~	10.44	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R2	~~3+15~~ 3+23	36" W ~~828.90 P~~ 830.20 15" E 829.05 P AB	839.30 ~~839.76~~	12.25	72" Dia.	CONTROL STRUCTURE TYPE B COVER (2)
R88-64746	3+63 AB	12" NW 835.62 P AB	837.37 AB	3.75	48" Dia.	TYPE K COVER
R92-61396	4+00 AB	21" SW 827.02 48" E 824.35 P AB	837.38 ~~837.28~~	14.42	72" Dia.	TYPE B COVER
STMH92-61398	3+55 AB	15" W 828.15 P AB 21" S 828.74 12" SE 835.14 12" W 835.14 12" SW 835.14 21" NE 828.14	838.99 ~~840.22~~	13.51	72" Dia.	TYPE B COVER



Know what's below. Call before you dig. 811

DESCRIPTION	DATE	DRAWN	CHECKED	REV.

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE PLAN: 1" = 20' PROFILE: 1" = 4'

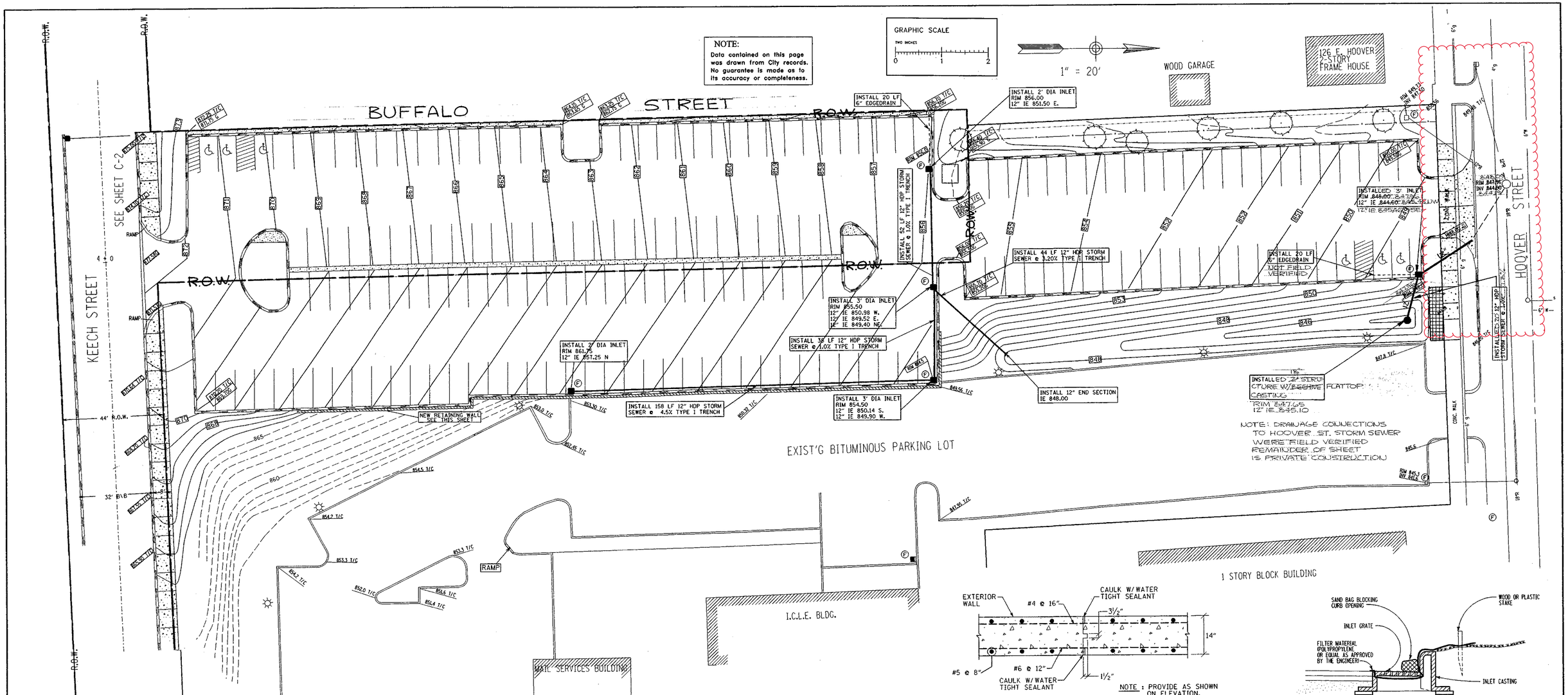
DRAWING No. 2018-031-44

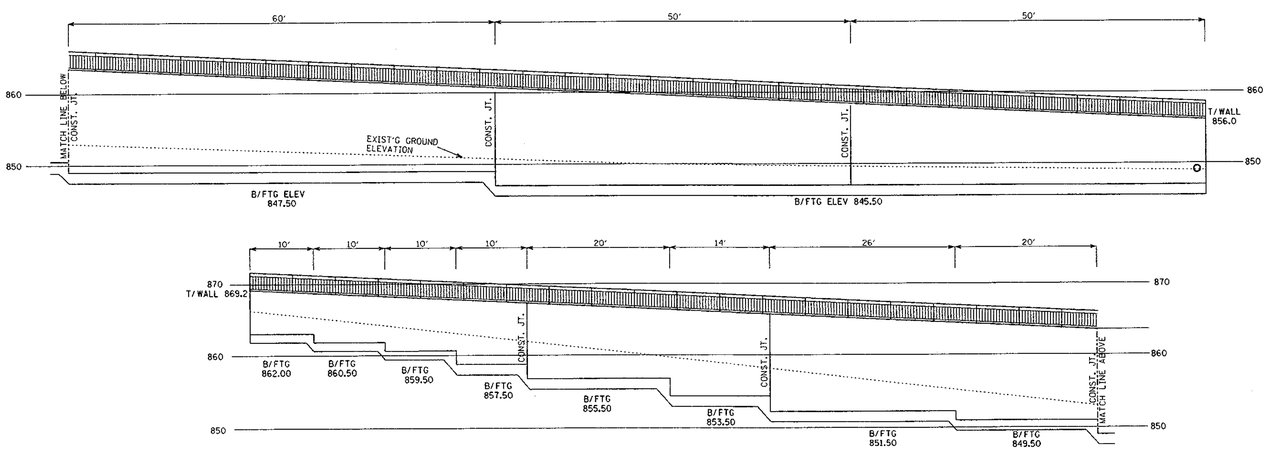
SHEET No. 44 OF 83

HOOVER, GREENE, & HILL IMPROVEMENT PROJECT

STORM PLAN & PROFILE - HOOVER AVE STA 3+50 TO STA 6+72

c:\pw_work\mflanagan\d0849816\CST-PLTS-Storm-Hoover.dwg Dwg Created: 30-Nov-18 - _a2 standard bw.stb - Plot Date: 1-Feb-19



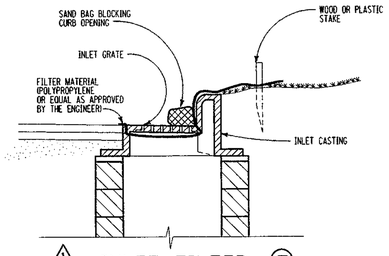


RETAINING WALL ELEVATION-EAST FACE

SCALE : 1" = 10'-0"

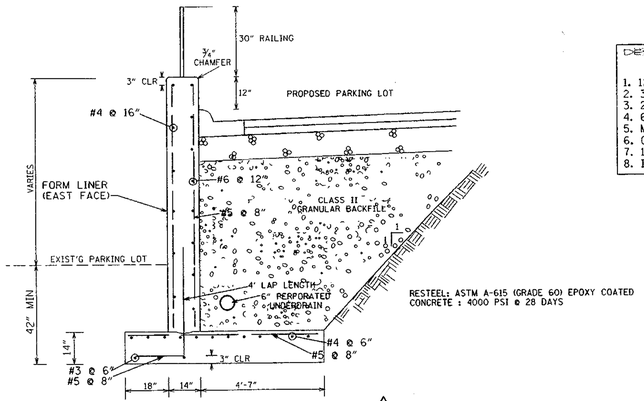
TYPICAL RETAINING WALL CONSTRUCTION JOINT DETAIL

NO SCALE



INLET FILTER (F)

NOT TO SCALE



RESTEEL: ASTM A-615 (GRADE 60) EPOXY COATED
CONCRETE : 4000 PSI @ 28 DAYS

RETAINING WALL SECTION

SCALE : ⅜" = 1'-0"

DESIGN ONLY - NOT AS-BUILT

ESTIMATED QUANTITIES (THIS SHEET)

1. 12" HDP STORM SEWER TYPE I TRENCH	302 LF
2. 3' DIA INLET	2 EA
3. 2' DIA INLET	3 EA
4. 6" EDGEDRAIN	40 LF
5. MANHOLE	1 EA
6. OUTLET FILTER	LS
7. 12" HDP END SECTION	1 EA
8. INLET FILTER	9 EA

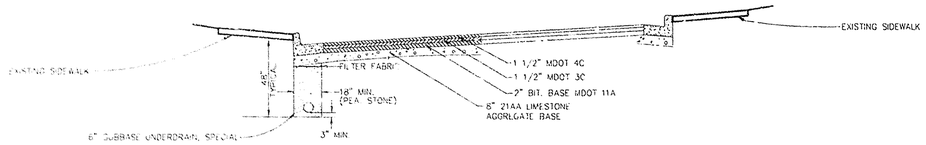
MARK	REVISION DESCRIPTION	RELEASE DATE
	AS-BUILT JTZ	12-01
1	BULLETIN #1 - REVISED LAYOUT	5-11-98

RELEASED FOR BID 3-27-98

UNIVERSITY OF MICHIGAN
FACILITIES PLANNING AND DESIGN

PLOT DATE	BUFFALO ST PARKING LOT	PAGE 7 OF 10
DESIGNED TMK		SHEET NO. C-6
DRAWN TAH	GRADING AND DRAINAGE	1691c6.001
CHECKED TMK	WORK ORDER / INQUIRY NO. 1691 / PROJECT NO. 9965-98-028	DRAWING NO. G-6534

98032-R2



PROPOSED

GREENE ST. - LOOKING SOUTH

P.O.B. TO P.O.E.

N.T.S.

THIS STREET WAS RECONSTRUCTED AS PART OF THE 1996 ANNUAL STREET RESURFACING PROJECT

GRAPHIC SCALE

TWO INCHES

0 1 2

NOTE

Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

BENCH MARKS

Bench Mark #1. Concrete base of light post on North side of Greene, by entrance to parking lot-(STA. 4+50) elev=844.64

Bench Mark #2. Concrete base of light post on West side of Greene. (sta 2+00) elev=843.93

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
! TOLL FREE !

PROPOSED
CASTING SCHEDULE

STRUCTURE/ STATION	TOP-OF-CASTING ELEVATION	INVERT ELEV. SIZE DIRECTION	DEPTH (FEET)	SIZE	DETAIL	APPLICATION/ CONSTRUCTION
R - 1 /0+17	838.23±	836.2 12" W 836.3 6" S	2.0'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 2 /0+19	839.20	836.7 12" NE	2.5'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 3 /0+34	839.32	836.9 12" E	2.4'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 8 /3+23	842.60	839.7 12" NE	2.9'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 6 /3+33	841.93	839.7 12" NW 839.9 6" S	2.1'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 9 /4+78	845.80	841.7 12" NW	4.1'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW
R - 10 /4+98	844.21	841.17 12" SW 841.3 6" S	3.04'	2'DIA.	SD-S-10	INLET W/ 2' SUMP NEW

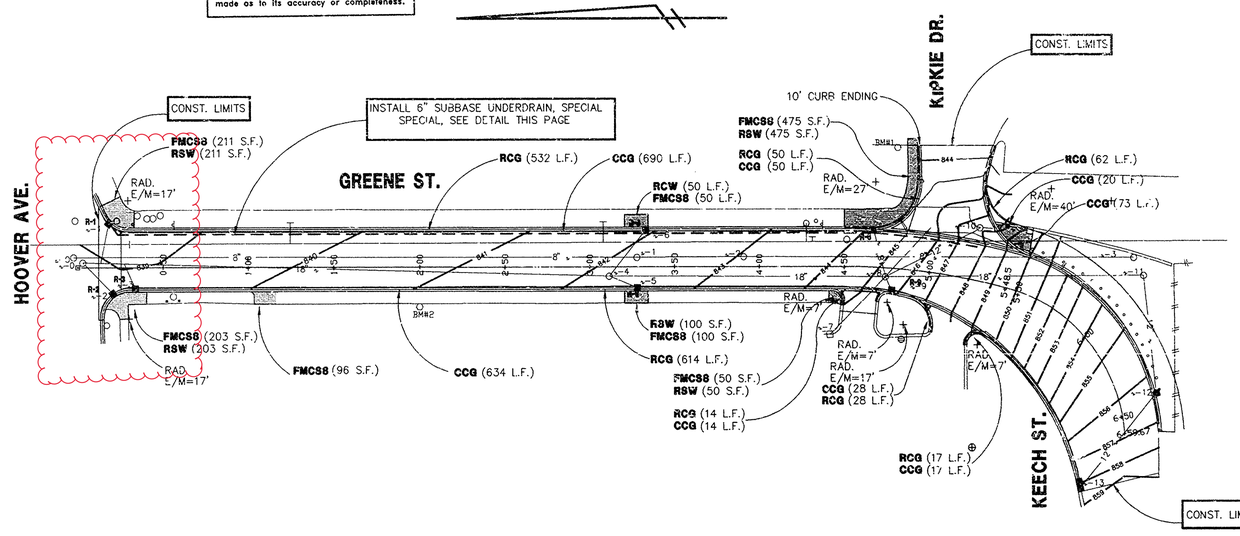
EXISTING
CASTING SCHEDULE

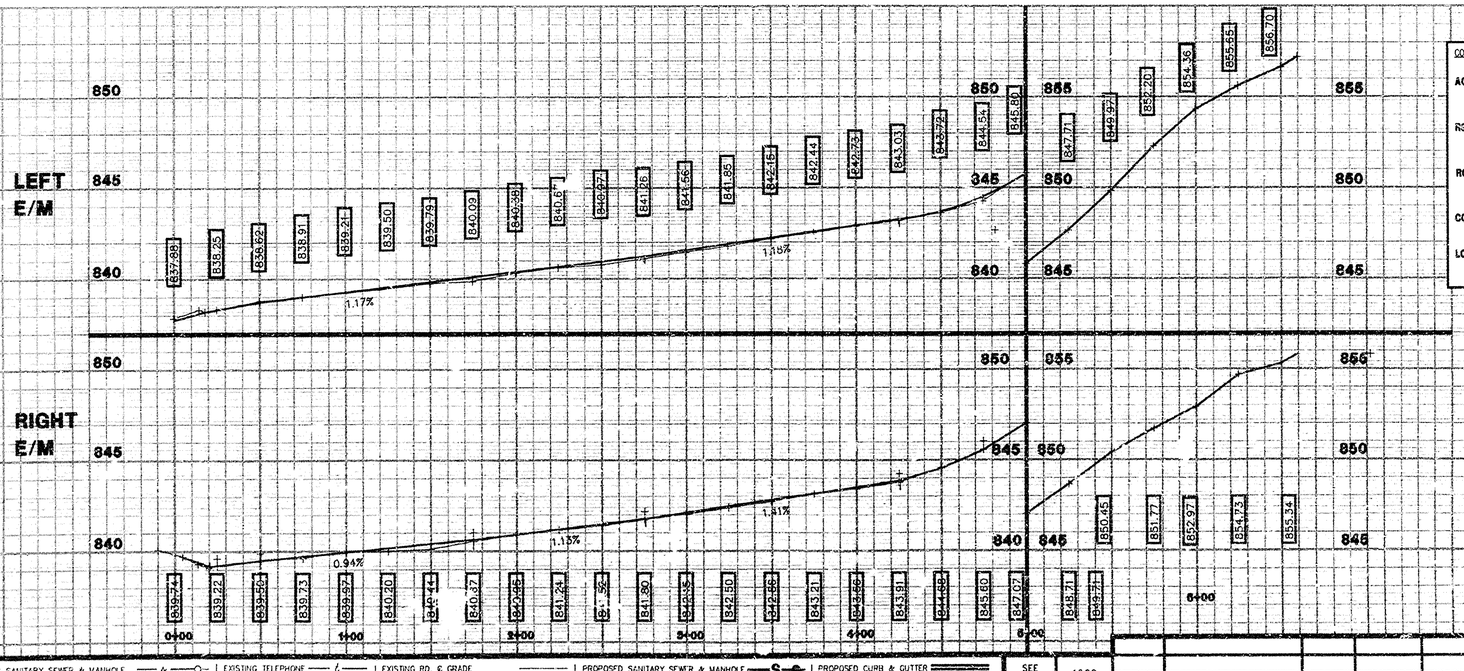
STRUCTURE/ STATION	TOP-OF CASTING ELEVATION	INVERT ELEV. SIZE DIRECTION	DEPTH (FEET)	SIZE	DETAIL	APPLICATION/ CONSTRUCTION
↘ -0/0+02	839.30	834.8 12" SW 828.8 18" E	9.5	4'DIA.	EXISTING	NONE
↘ -1/0+17	838.23	836.2 12" W	2.1	RISER	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -2/0+19	839.14	836.7 12" NE	2.5	RISER	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -3/0+34	839.43	836.9 12" E	2.5	RISER	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -4/3+12	842.67	833.2 18" N 835.6 18" S 837.8 12" SE 837.8 12" SW	9.5	4'DIA	EXISTING	REMOVE AND REPLACE CASTING, ADJUST TO FINISH GRADE
↘ -5/3+28	842.44	839.7 12" NE	2.7	RISER	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -6/3+33	841.90	839.7 12" NW	2.2	RISER	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -7/4+42	845.88	842.4 12" SE	3.5	2'DIA	EXISTING	BARRIER CURB INLET
↘ -8/4+75	845.87	841.0 12" NW 840.9 12" SW 837.9 18" N&S 845.9 12" S	8.0	4'DIA.	ING	REMOVE AND REPLACE CASTING, ADJUST TO FINISH GRADE
↘ -9/4+78	845.75	841.7 12" NE	4.0	2'DIA.	EXISTING	REMOVE EXISTING RISER INLET, NEW INLET W/ 2' SUMP
↘ -10/4+98	845.41	843.4 12" NW	2.0	DRAIN	EXISTING	REMOVE DRAINAGE STRUCTURE AND PIPE TO R-8
↘ -11/6+00	855.17	847.2 18" N 848.1 12" W 851.5 12" W	7.3	4'DIA.	EXISTING	NONE
↘ -12/6+41	856.20	852.7 8" E	3.5	2'DIA	EXISTING	ROTATE EXISTING CASTING ADJUST TO FINISH GRADE
↘ -13/6+84	857.98	857.77		DOUBLE INLET	EXISTING	NONE

↘-1/2+XX			5.5 (TYP)	4'DIA.	EXISTING	REMOVE AND REPLACE CASTING, ADJUST TO FINISH GRADE

↘-0/0-02	839.17	830.9 8" N&S	8.3	4'DIA.	EXISTING	NONE
↘-1/3+28	843.00	834.5 8" N&S	8.5	4'DIA.	EXISTING	REMOVE AND REPLACE CASTING, ADJUST TO FINISH GRADE
↘-2/3+90	843.74	835.1 8" N&S	8.6	4'DIA	EXISTING	REMOVE AND REPLACE CASTING, ADJUST TO FINISH GRADE
↘-3/5+88	854.75	838.1 8" N	16.7	4'DIA.	EXISTING	NONE

NOTE: FOR SPECIFIC CASTING MODEL SEE STANDARD CASTING SCHEDULE, DETAIL SD-CU-5





CONSTRUCTION KEY

AC	ADJUST CASTING (INCLUDES GATE WELL, MONUMENT BOX AND VALVE BOX).	FMCSS	PLACE 8" FIBER MESH REINFORCED CONCRETE SIDEWALK
RSW	REMOVE EXISTING CONCRETE SIDEWALK OR RAMP - ANY THICKNESS	RCG	REMOVE EXISTING CONCRETE CURB AND GUTTER - ANY TYPE
RCA	REMOVE EXISTING CONCRETE DRIVE APPROACH - ANY THICKNESS		
CCG	CITY OF ANN ARBOR STANDARD CURB & GUTTER		
LC	LIMIT OF CONSTRUCTION		

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR 847	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATER MAIN W/F.H. ASSEM.	
WATER MAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR 847	
WATER MAIN & VALVE-IN-BOX	END SECTION			ROAD & GRADE	

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
SEE ABOVE	1062		AS-BUILT	1/98	WAGS	
			OSIGINAL ISSUE	6/96	JPB/DCO	GFD

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

1996 STREET RESURFACING
GREENE STREET RECONSTRUCTION
PAVING AND UTILITY
P.O.B. TO P.O.E.

SCALE HORIZ. 1"=40' VERT. 1"=4' — INCH 0 1

DRAWING NO. 96004-P,UT-1

SHEET NO. 1 OF 2

BROWN ST.
HOOVER
AVE.
GREENE ST.
AARR RIGHT OF WAY
Allen's Creek Drain
9
8
16
17
19
18
27
28
29
30
31
39
38
37
36
35
34
33
8" Sanitary Sewer
SEE 6-C-643
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
0+00 ℄ Greene St.
20" Vit Pipe 2.92 % Grade
24" Vit. Pipe .63 Grade
24" Vit. Pipe 1.95 % Grade
AUX. DETAIL "A"
38.5' OF 12" PIPE @ 4.5%
120.3' OF 15" PIPE @ 2.5% GRDE
12" CONC. INVERT 838.48 (AUX. "A")
15" VIT PIPE 2.29 % Grade
2+79 MH. INVERT 835.58
INLET INV. 838.48
3+99.3 MH. INV. 838.58
2+79 MH. INV. 835.58
Same M.H.
0+05.8 M.H. El. 827.50
1+26.6 M.H. Elev. 824.00
2+54.1 M.H. Elev. 823.20
2+79.0 M.H. Elev. 823.00
3+45.5 M.H. Elev. 822.60
5+07.1 Top into Allen's Creek Elev. 820.45
0+44.8 M.H. Elev. 828.80
830.40
Sewer lowered 2' to pass under Edison Conduit
2+54.10 M.H. 823.20
2+79.0 M.H. 822.60
850
840
830
820
Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No
INDEX No 1631
SHELF No 6
SIZE C
SUB. No 642
DRAWN BY
TRACED BY KWD
CHECKED BY
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF STORM SEWER
HOOVER AVE.
A.A.R.R. TO BROWN ST.
Geo. H. Sandenburgh City Engineer
1926-3-18
Scales: Plan 1"=40' Prof. 1"=4'

CITY OF ANN ARBOR
ENGINEERING

2021 SEWER LINING PROJECT

BID No. ITB 4693, FILE No. 2021006

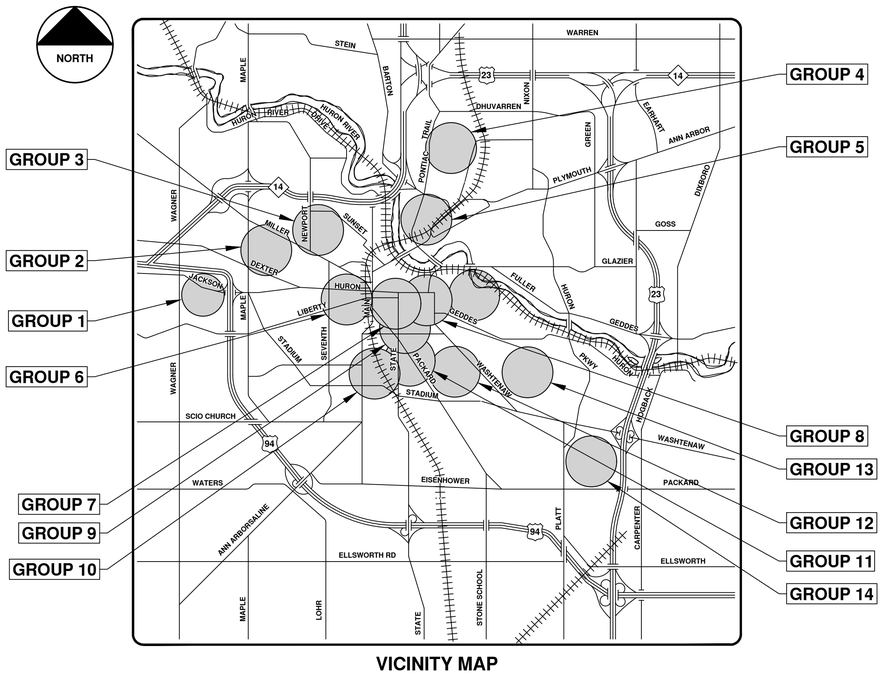
NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, IT'S DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

SHEET NUMBER	SHEET TITLE
1	OVER LL S NIT R COVER SHEET
GROUP 1 - S NIT R	
1 0	GROUP 1 COVER SHEET
1 1 - 1 3	GR L KE VE
1 - 1	H EL OOD VE
1 6 - 1	M SON VE
1 - 1 3	SUNN OOD RD
GROUP 2 - S NIT R	
1	GROUP 2 COVER SHEET
1 - 1 6	C RBECK DR N M PLE RD
1 - 202	DUNC N ST
203 - 20	MILLER VE
GROUP 3 - S NIT R	
20	GROUP 3 COVER SHEET
206 - 20	NE PORT RD
GROUP - S NIT R	
20	GROUP COVER SHEET
210 - 21	CROSSLOT RRO OOD TRL
GROUP - S NIT R	
220	GROUP COVER SHEET
221 - 222	MHERST VE PONTI C ST
223 - 22	CED R BEND DR
22 - 226	CROSSLOT CED R BEND N TURE RE
22 - 22	INDI NOL DR
22 - 231	ISL ND DR
232 - 233	OHN OODS DR
23 - 2 0	TR VER ST
GROUP 6 - S NIT R	
2 1	GROUP 6 COVER SHEET
2 2 - 2 3	HURON ST
2 - 2 6	SHINGTON ST



VICINITY MAP

GROUP - S NIT R	
2	GROUP COVER SHEET
2 - 2	E LIBERT ST
GROUP - S NIT R	
2 0	GROUP COVER SHEET
2 1 - 2 2	E NN OBSERV TOR ST
2 3 - 2	E NN GLEN VE
GROUP - S NIT R	
2	GROUP COVER SHEET
2 6 - 2	P CK RD ST
GROUP 10 - S NIT R	
2	GROUP 10 COVER SHEET
2 - 260	S M IN ST
261 - 262	SN DER VE
GROUP 11 - S NIT R	
263	GROUP 11 COVER SHEET
26 - 266	GREEN OOD VE
26 - 26	MICHIG N VE
GROUP 12 - S NIT R	
26	GROUP 12 COVER SHEET
2 0 - 2 3	ERDON RD
GROUP 13 - S NIT R	
2	GROUP 13 COVER SHEET
2 - 2	CROSSLOT DEVONSHIRE RD
GROUP 1 - S NIT R	
2	GROUP 1 COVER SHEET
2 0 - 2 2	ERN OOD VE
2 3 - 2 6	O K OOD ST

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

PROJECT DESCRIPTION AND LIMITS

SCALE

DRAWING No. 2021006-179

SHEET No. 179 OF 362

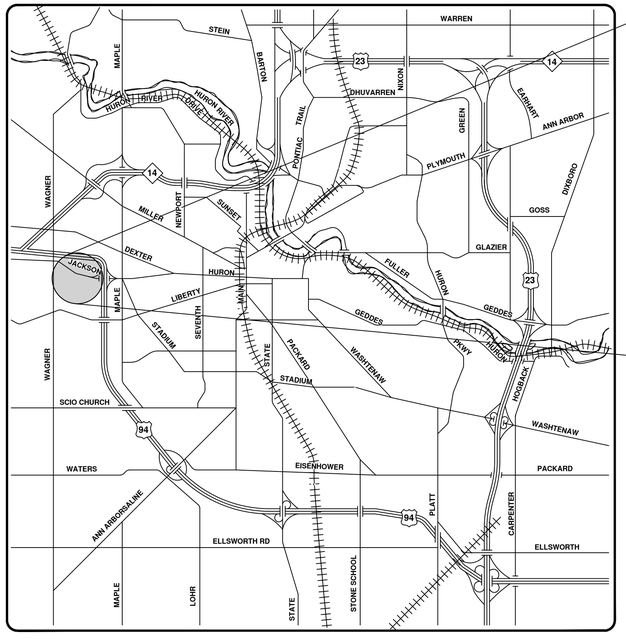
© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

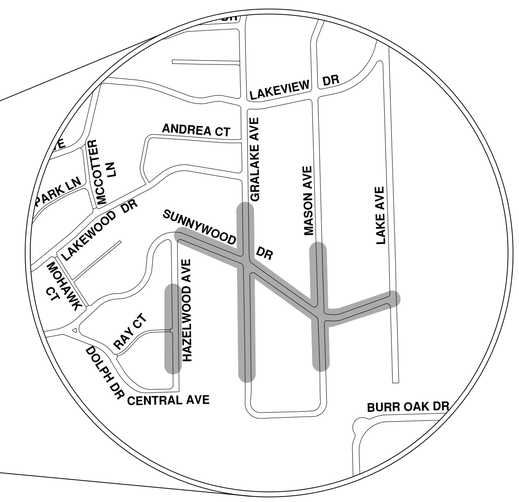
R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:00 PM

2021 SEWER LINING PROJECT

GROUP 1 - SANITARY

GROUP 1 - S NIT R	
SHEET NUMBER	SHEET TITLE
1 0	GROUP 1 COVER SHEET
1 1 - 1 3	GR L KE VE
1 - 1	H EL OOD VE
1 6 - 1	M SON VE
1 - 1 3	SUNN OOD DR





VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-180

SHEET No. 180 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg – _a2 standard bw.stb – Plot Date: 9/16/2021 3:36:04 PM

Gralake Ave.

N

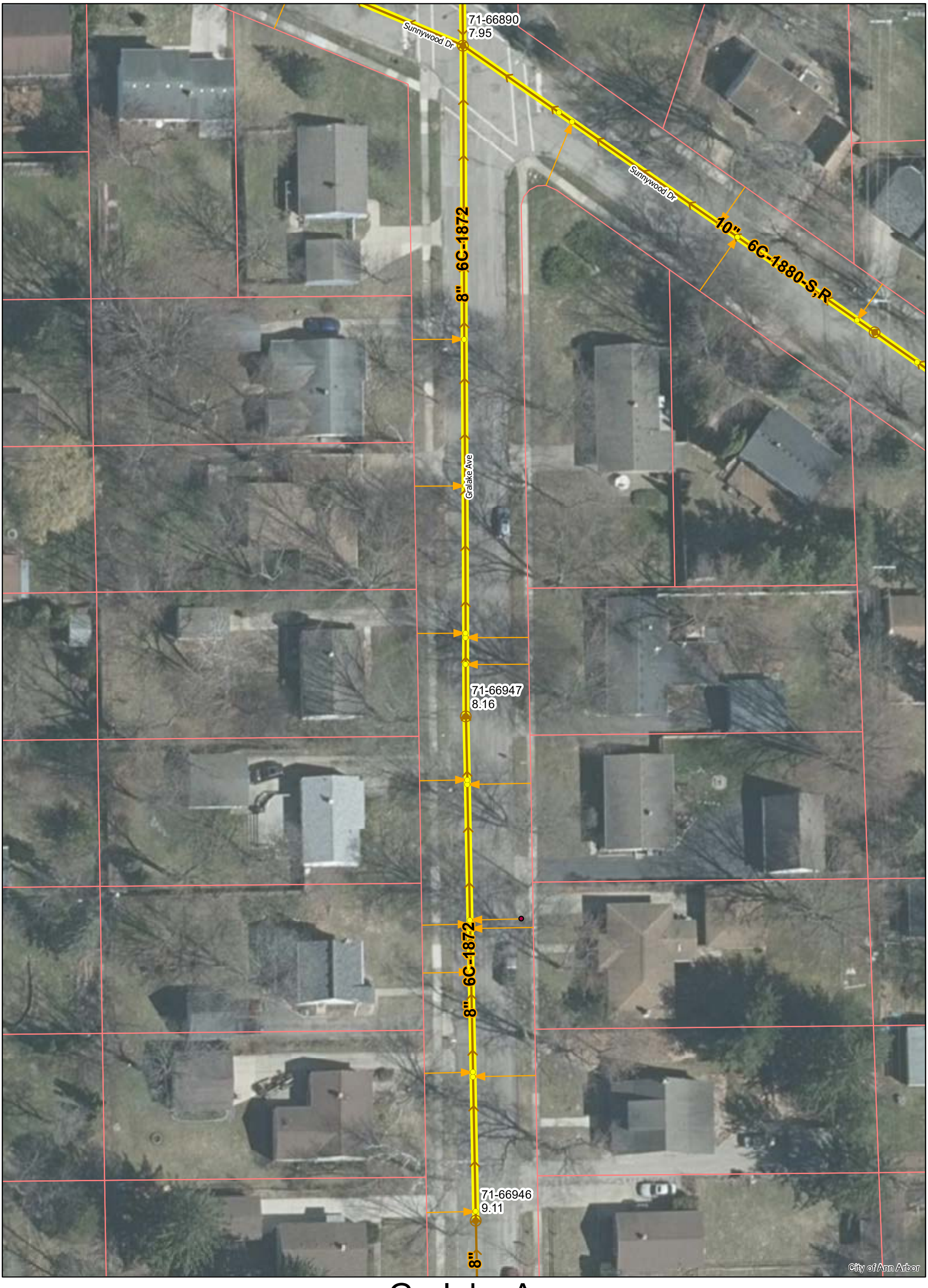
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

For terms and conditions please visit www.a2gov.org/terms



Gralake Ave.

N

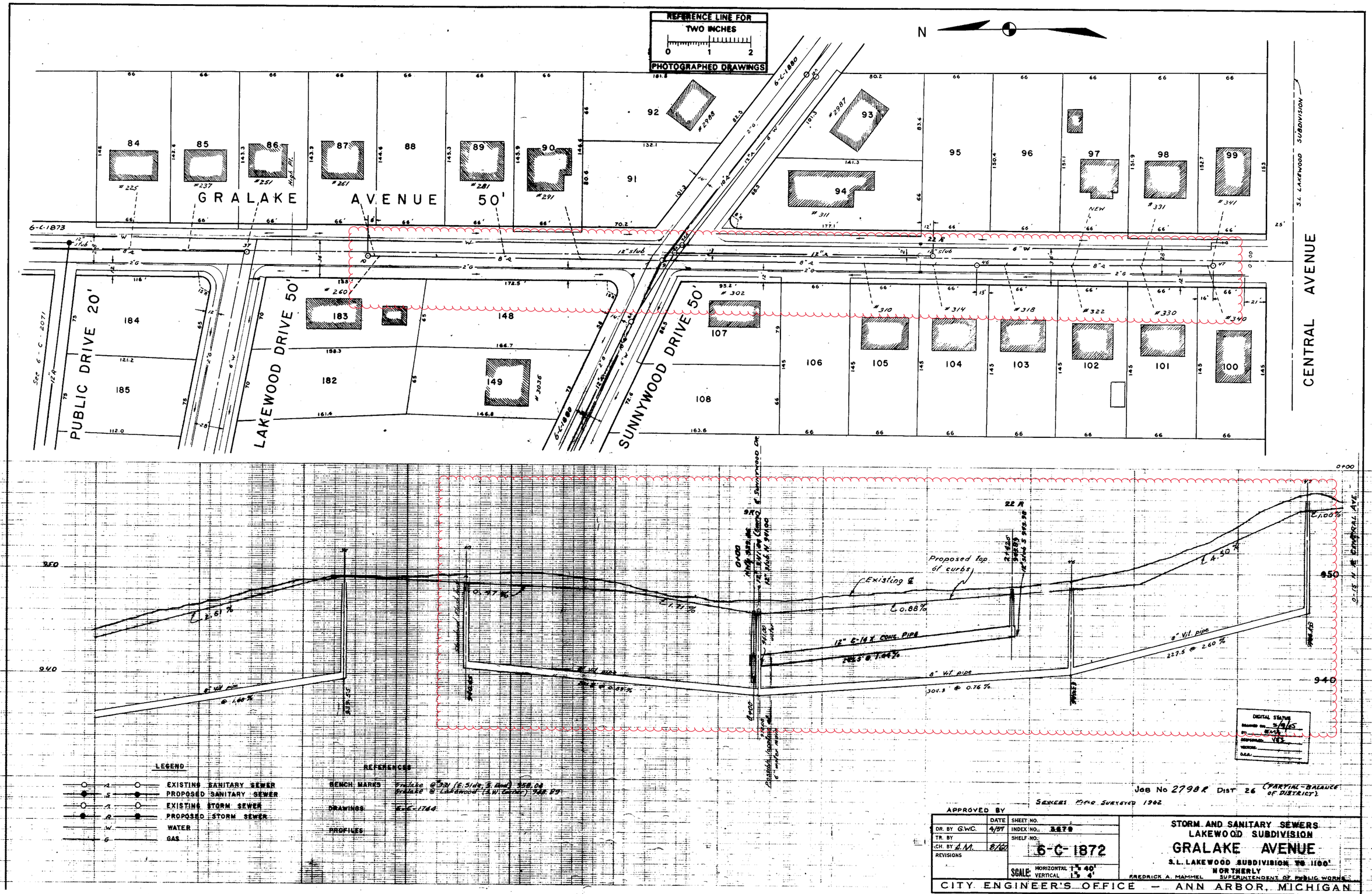
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms



Job No 2798R Dist 26 (PARTIAL-BALANCE OF DISTRICT)

Sewers Field Surveyed 1962

APPROVED BY

	DATE	SHEET NO.	
DR. BY G.W.C.	4/57	INDEX NO.	3879
TR. BY		SHELF NO.	6-C-1872
CH. BY A.M.	8/61		
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'	

STORM AND SANITARY SEWERS
LAKEWOOD SUBDIVISION
GRALAKE AVENUE
S.L. LAKEWOOD SUBDIVISION TO 1100' NORTHERLY

FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

9/16/58 1744

(4)

71-66889
10.09

Sunnywood Dr

71-66887
10.72

71-66951
7.43

Hazelwood Ave

8" 6C-1874-S,R

71-66950
7.25

71-66952
7

Ray Ct

8" 6C-1882

8" 6C-1882

8" 6C-1874

Hazelwood Ave

71-66949
-0.61

City of Ann Arbor

Hazelwood Ave.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

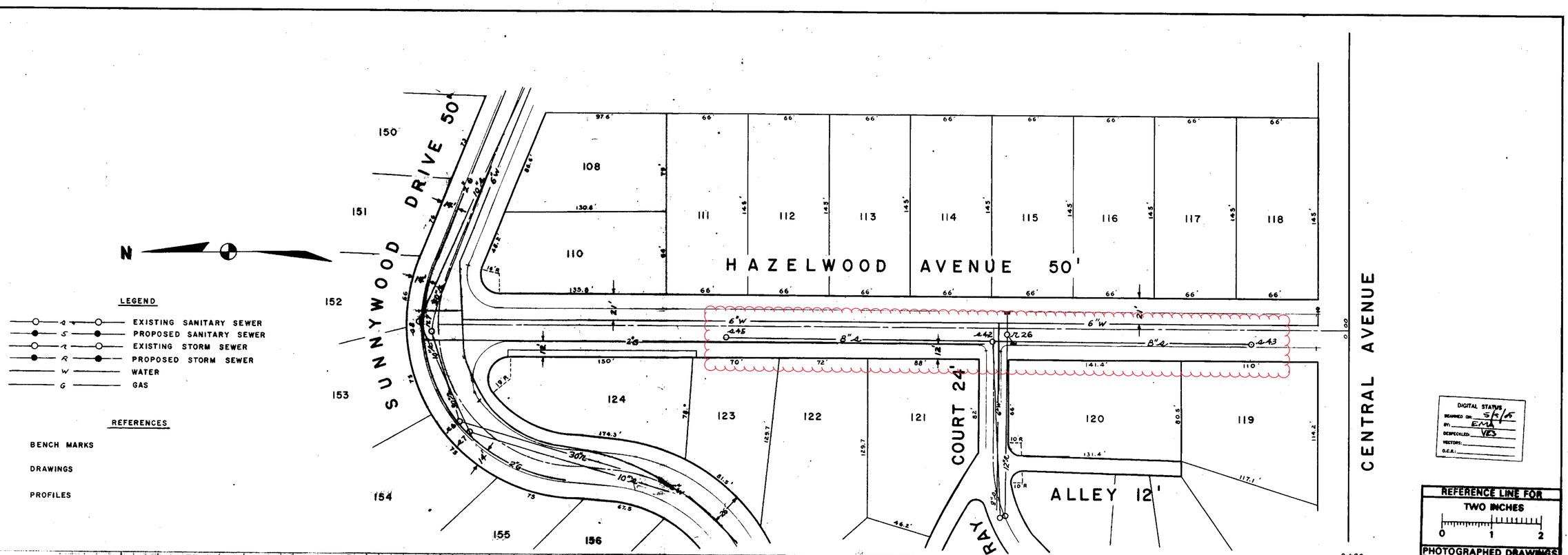
71-XXXXX (Manhole ID)

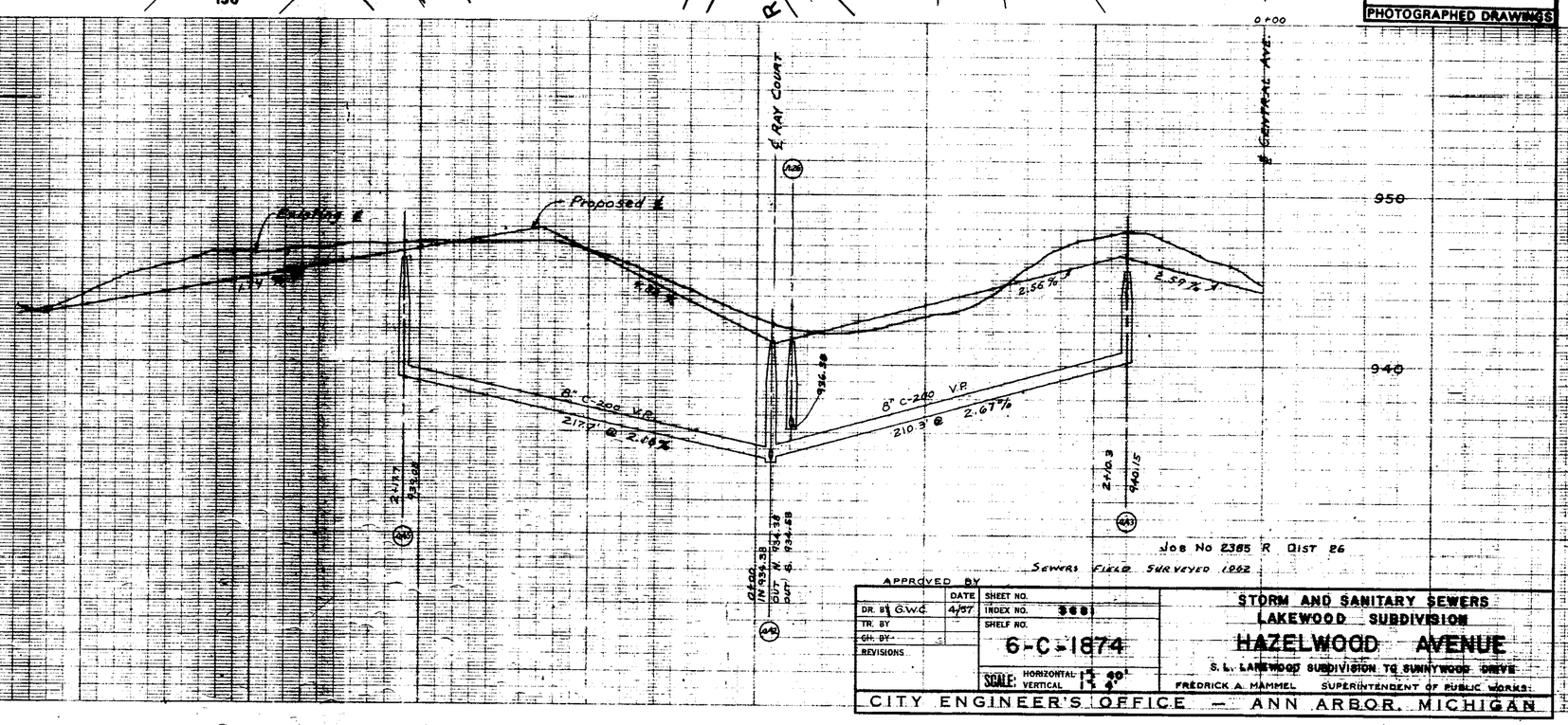
1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 379 200 9-55





Job No 2385 R Dist 26

Sewers Field Surveyed 1962

APPROVED BY

	DATE	
DR. BY G.W.C.	4/57	SHEET NO.
TR. BY		INDEX NO. 3681
CH. BY		SHELF NO.
REVISIONS		6-C-1874
		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'

STORM AND SANITARY SEWERS
LAKEWOOD SUBDIVISION
HAZELWOOD AVENUE
S. L. LAKEWOOD SUBDIVISION TO SUNNYWOOD DRIVE

FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

1746.

Mason Ave.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

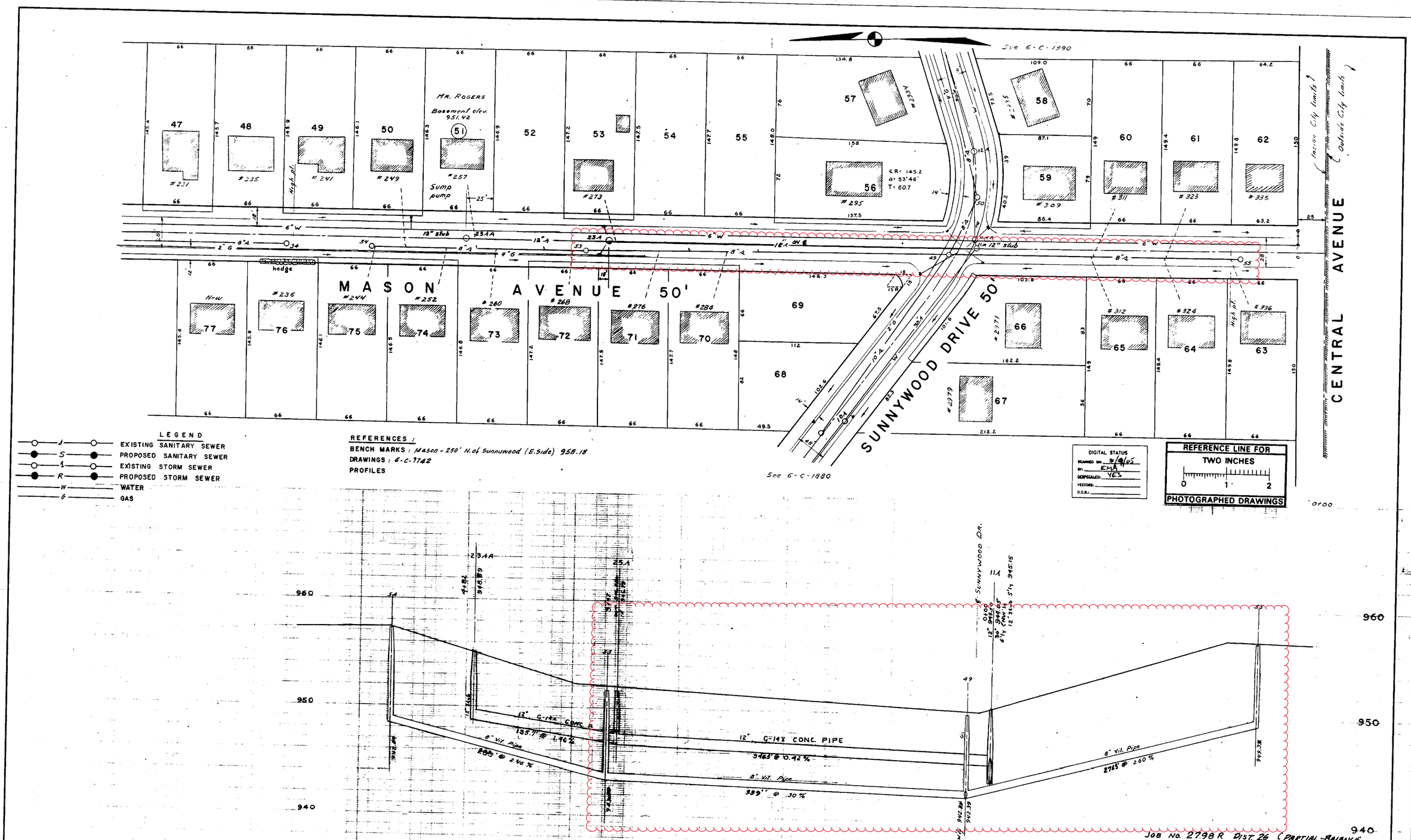
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 570 200 9-55



LEGEND

- A — EXISTING SANITARY SEWER
- S — PROPOSED SANITARY SEWER
- I — EXISTING STORM SEWER
- R — PROPOSED STORM SEWER
- W — WATER
- G — GAS

REFERENCES :
BENCH MARKS : Mason - 250' N. of Sunnywood (E. Side) 958.18
DRAWINGS : 6-C-1742
PROFILES

Sewers Field Surveyed 1962

Job No. 2798 R Dist. 26 (Partial-Balance of District)

APPROVED BY

	DATE	
DR. BY G.W.C.	4/57	SHEET NO.
TR. BY		INDEX NO. 3677
CH. BY A.M.	8/60	SHELF NO.
REVISIONS 10/58 G.W.C		6-C-1870
		SCALE: HORIZONTAL 1"=40' VERTICAL 1"=4'

STORM AND SANITARY SEWERS
LAKEWOOD SUBDIVISION
MASON AVENUE
FROM SOUTH LINE LAKEWOOD SUBDIVISION TO 1100' NORTH'LY
FREDRICK A MAMMEL SUPERINTENDENT OF PUBLIC WORKS.
CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

(5)

Sunnywood Dr.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

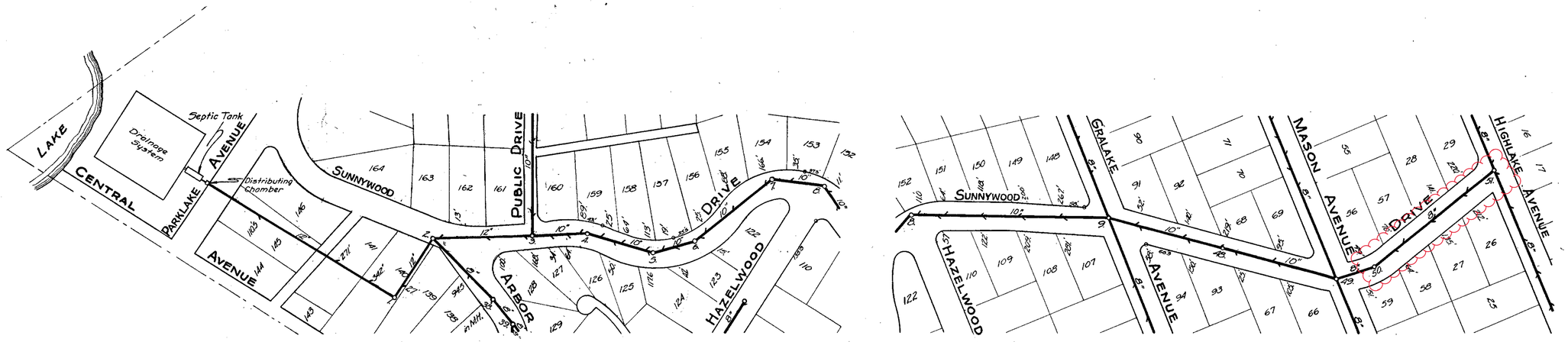
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

For terms and conditions please visit www.a2gov.org/terms



No.1.
5' W of E.P.L. of lot No. 140
1255 N.E'ly to 4 in P.L. lot No. 139
1331 N'ly to M.H. No. 2.

No.2.
190 S.E'ly to 4 in P.L. lot No. 139
413' N'ly to S.W.P.C. lot No. 162.

No.3.
46' S.W'ly to S.W.P.C. lot No. 127.
235 N.W'ly to S.E.P.C. lot No. 161.

No.4.
304' N.W'ly to S.W.P.C. and
292' N.E'ly to mid pt. lot No. 159.

No.5.
38' S.E'ly to S.W.P.C. lot No. 123.
26' N'ly to S.W.P.C. lot No. 157.

No.6.
197' N.W'ly to S.E.P.C. and
355' W'ly to mid pt. lot No. 157.

No.7.
621' N.E'ly to mid pt. lot No. 153.
977' E'ly to M.H. No. 8.

No.8.
61' S.E'ly to pt. on curve, lot No. 110.
17' N'ly to S.W.P.C. lot No. 152.

No.9.
775' S.E'ly to pt. on curve lot No. 94
534' N.W'ly to pt. on curve lot No. 148.

No.48.
346' S'ly to N.E.P.C. lot No. 93.
292' N.W'ly to S.W.P.C. lot No. 68.

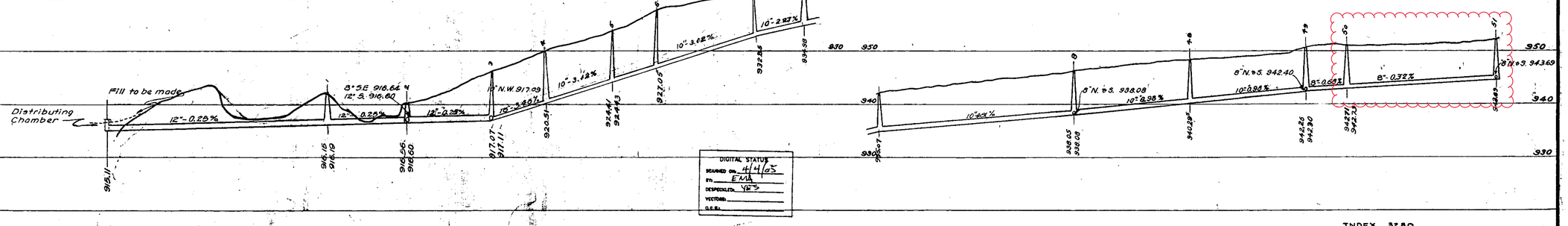
No.49.
315' N.E'ly to S.W.P.C. lot No. 36.
547' N.W'ly to S.E.P.C. lot No. 69.

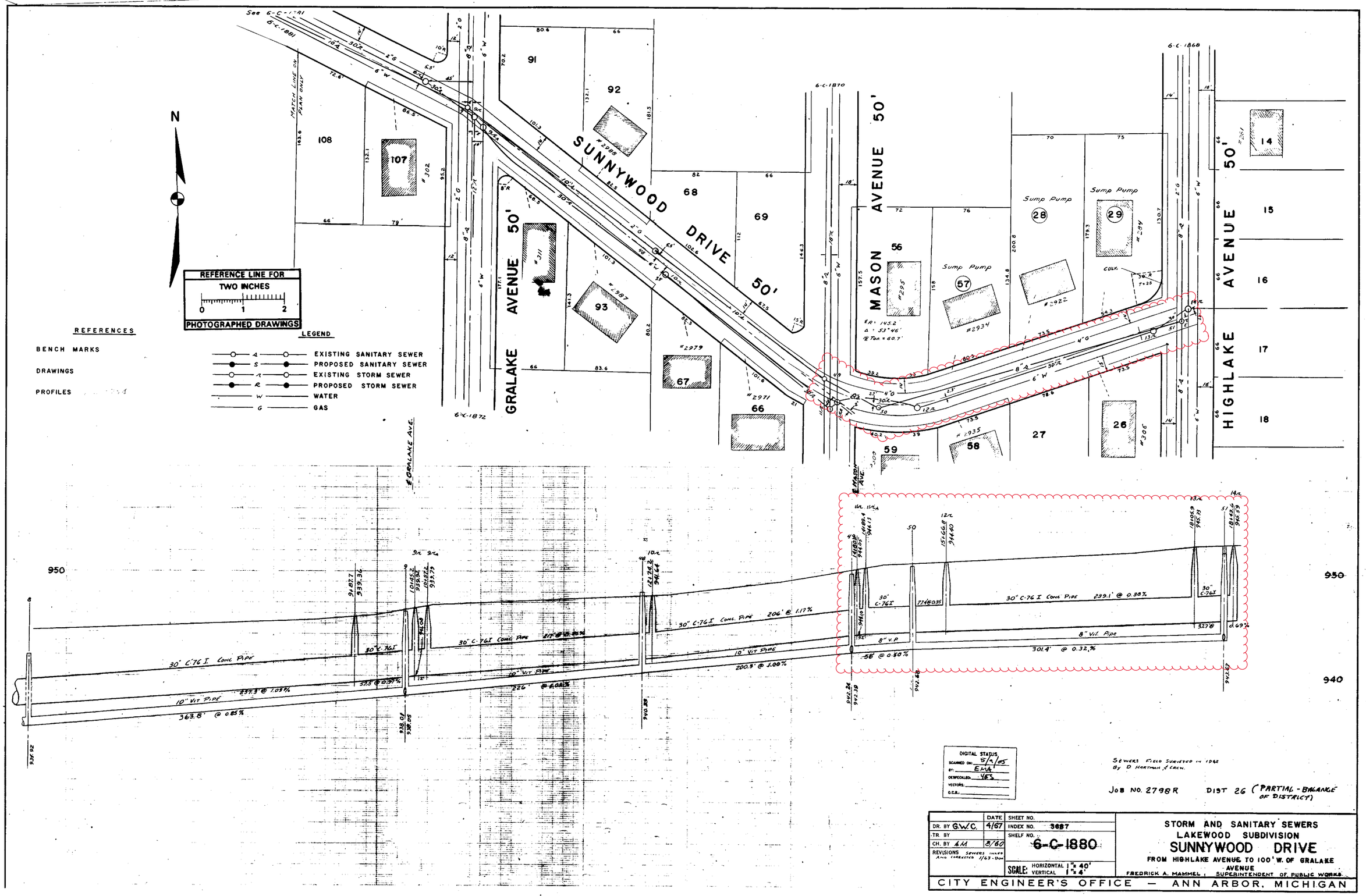
No.50.
402' N.W'ly to S.W.P.C. and
321' N.E'ly to mid pt. lot No. 56.

No.51.
63' S.E'ly to S.W.P.C. lot No. 17.
845' N.E'ly to N.W.P.C. lot No. 16.

REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Note:
The distance in feet from each wye branch to the nearest down grade manhole is indicated on the lot served.


950
940
930
920
910
Distributing Chamber
Fill to be made
12"-0.25%
8"S.E. 916.64
12"S. 916.60
12"-0.20%
12"-0.28%
12"N.W. 917.09
10"-3.40%
10"-3.12%
10"-2.87%
10"-3.12%
8"N.W. 917.09
10"-3.40%
8"N.E. 916.64
12"S. 916.60
8"N.E. 916.64
12"S. 916.60
8"N.W. 917.09
10"-3.40%



DIGITAL STATUS
SCANNED ON: 5/9/05
BY: EMA
DESPECKLED: YES
VECTORS:
O.C.R.:

SEWERS FIELD SURVEYED IN 1962
BY D HARTMAN & CREW.

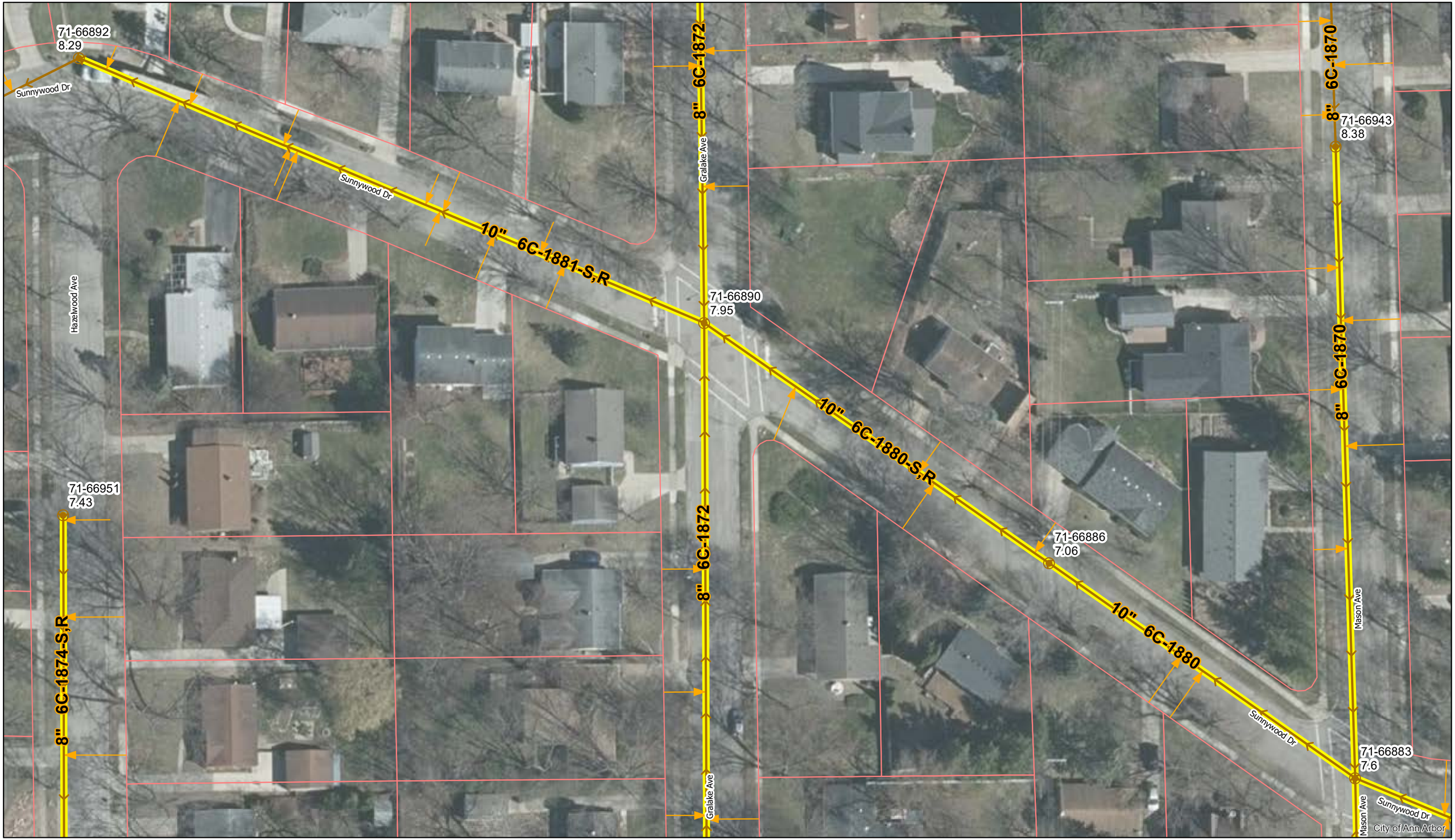
JOB NO. 2798R DIST 26 (PARTIAL - BALANCE OF DISTRICT)

	DATE	SHEET NO.	
DR. BY G.W.C.	4/67	INDEX NO. 3687	STORM AND SANITARY SEWERS LAKEWOOD SUBDIVISION SUNNYWOOD DRIVE FROM HIGHLAKE AVENUE TO 100' W. OF GRALAKE AVENUE
TR. BY		SHELF NO. 6-C-1880	
CH. BY AM	8/60		
REVISIONS SEWERS INKED AND CORRECTED 1/63 - DOM		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'	FREDRICK A. MAMMEL, SUPERINTENDENT OF PUBLIC WORKS

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

9/16/58 1754

3



Sunnywood Dr.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

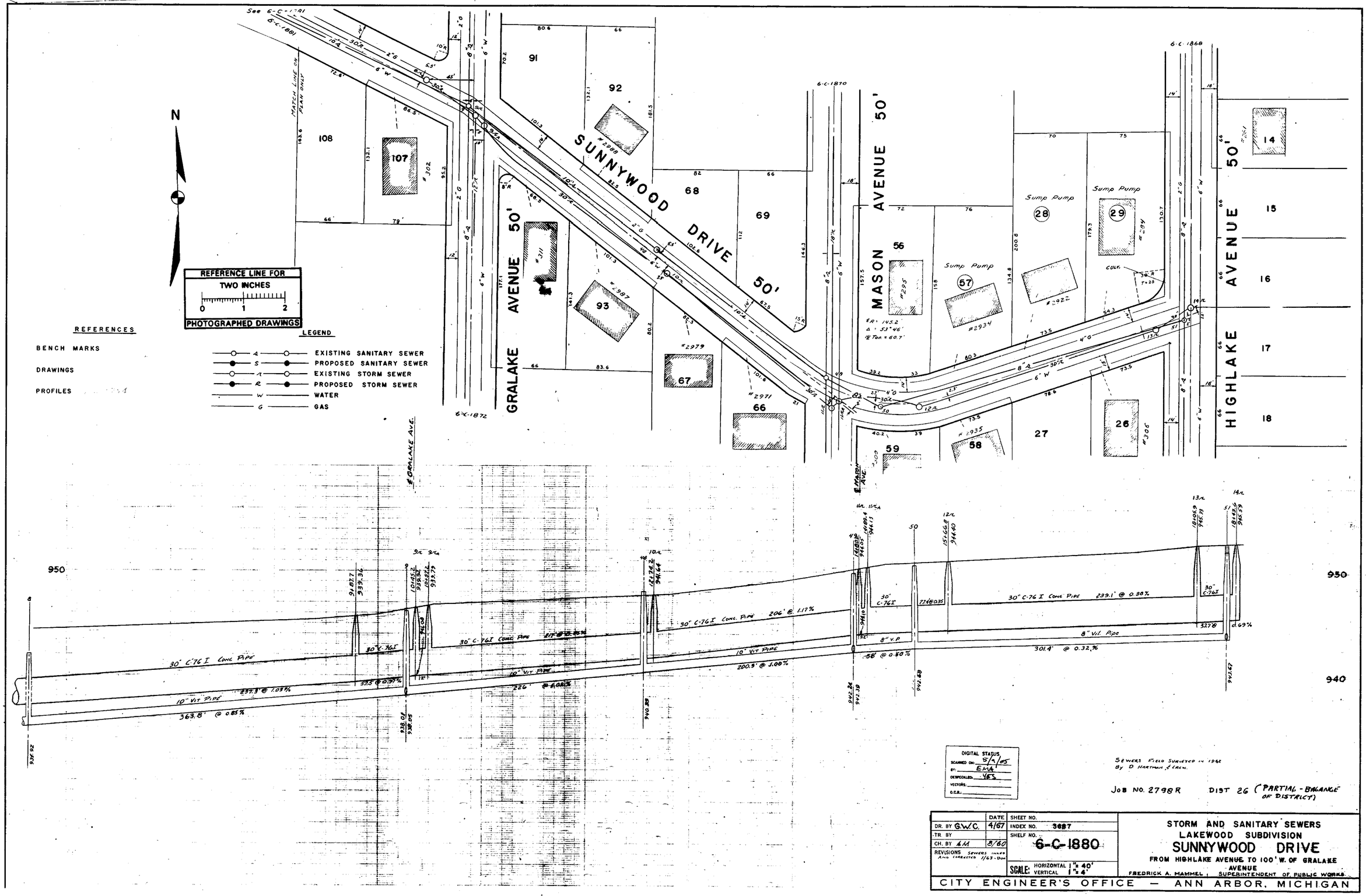
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 20 40 80 120 160

N

For terms and conditions please visit www.a2gov.org/terms



DIGITAL STATUS
SCANNED ON: 5/9/05
BY: EMA
DESPECKLED: YES
VECTORS:
O.C.R.:

SEWERS FIELD SURVEYED IN 1962 BY D HARTMAN & CREW.

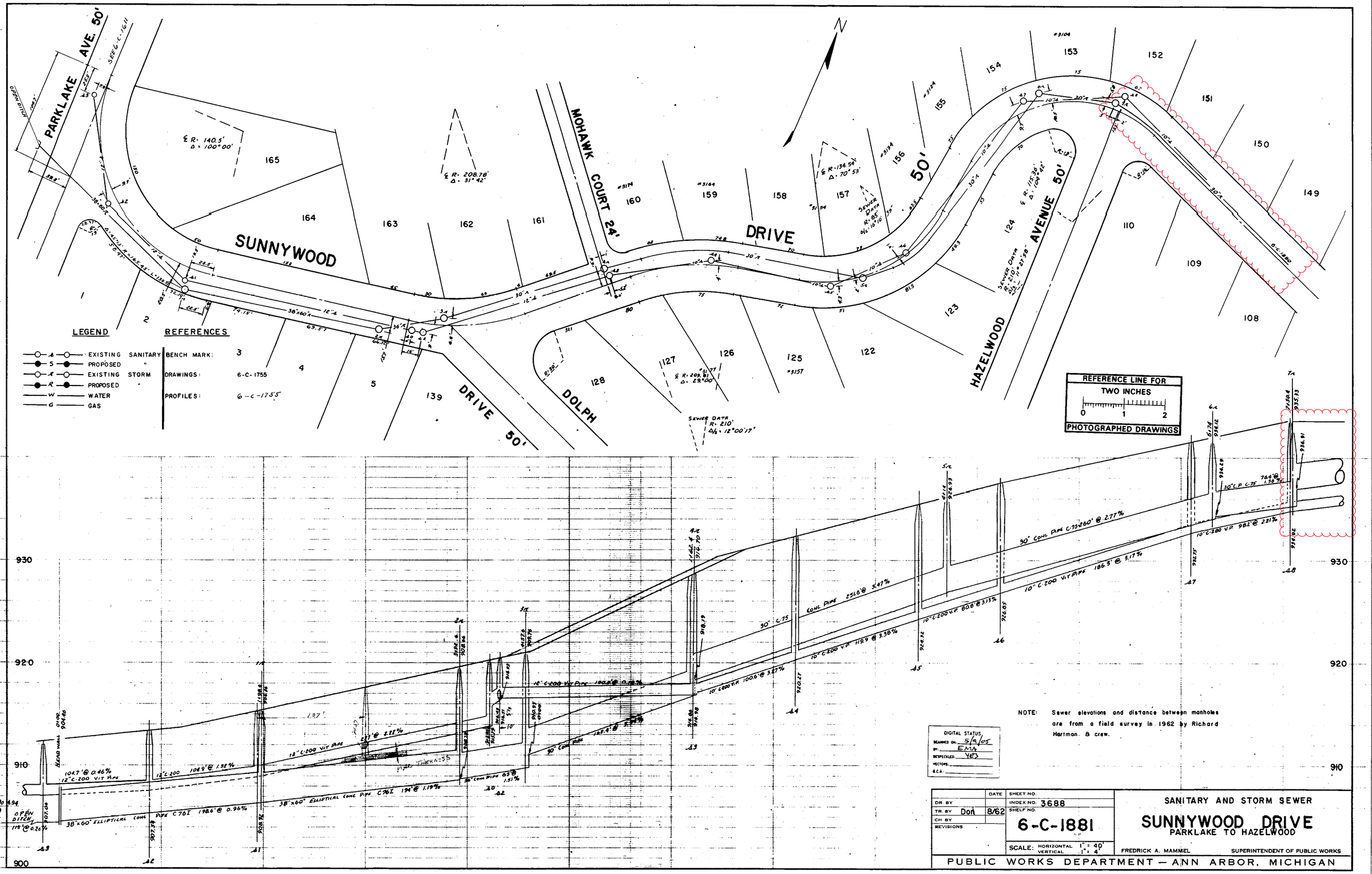
JOB NO. 2798R DIST 26 (PARTIAL - BALANCE OF DISTRICT)

	DATE	SHEET NO.	
DR. BY G.W.C.	4/67	INDEX NO. 3687	STORM AND SANITARY SEWERS LAKEWOOD SUBDIVISION
TR. BY		SHELF NO. 6-C-1880	SUNNYWOOD DRIVE
CH. BY AM	8/60		FROM HIGHLAKE AVENUE TO 100' W. OF GRALAKE AVENUE
REVISIONS SEWERS INKED AND CORRECTED 1/63 - DOM		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'	FREDRICK A. MAMMEL, SUPERINTENDENT OF PUBLIC WORKS

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

9/16/58 1754

(3)



NOTE: Sewer elevations and distance between manholes are from a field survey in 1962 by Richard Hartman & crew.

DIGITAL STATUS
SCANNED ON: 5/9/05
BY: EMA
DESPECKLED: YES
VECTORS:
O.C.R.:

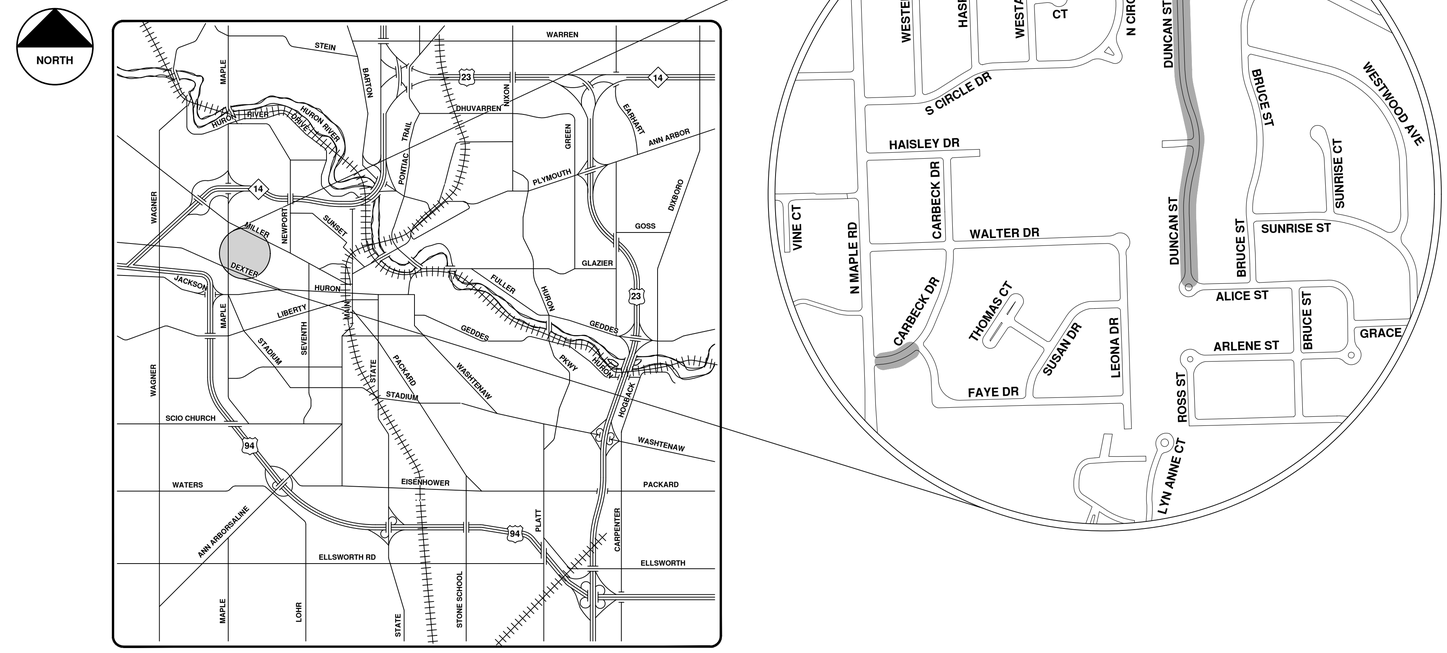
	DATE	SHEET NO.	
DR. BY		INDEX NO. 3688	SANITARY AND STORM SEWER
TR. BY Don	8/62	SHELF NO. 6-C-1881	SUNNYWOOD DRIVE PARKLAKE TO HAZELWOOD
CH. BY			
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'	FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

2021 SEWER LINING PROJECT

GROUP 2 - SANITARY

GROUP 2 - S NIT R	
SHEET NUMBER	SHEET TITLE
1	GROUP 2 COVER SHEET
1 - 1 6	C RBECK DR N M PLE RD
1 - 202	DUNC N ST
203 - 20	MILLER VE



VICINITY MAP

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

NO	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

Know what's below. Call before you dig. 811

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-194

SHEET No. 194 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:09 PM

Manholes
Sanitary Main
Proposed Sanitary
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Carbeck Dr. & N Maple Rd.

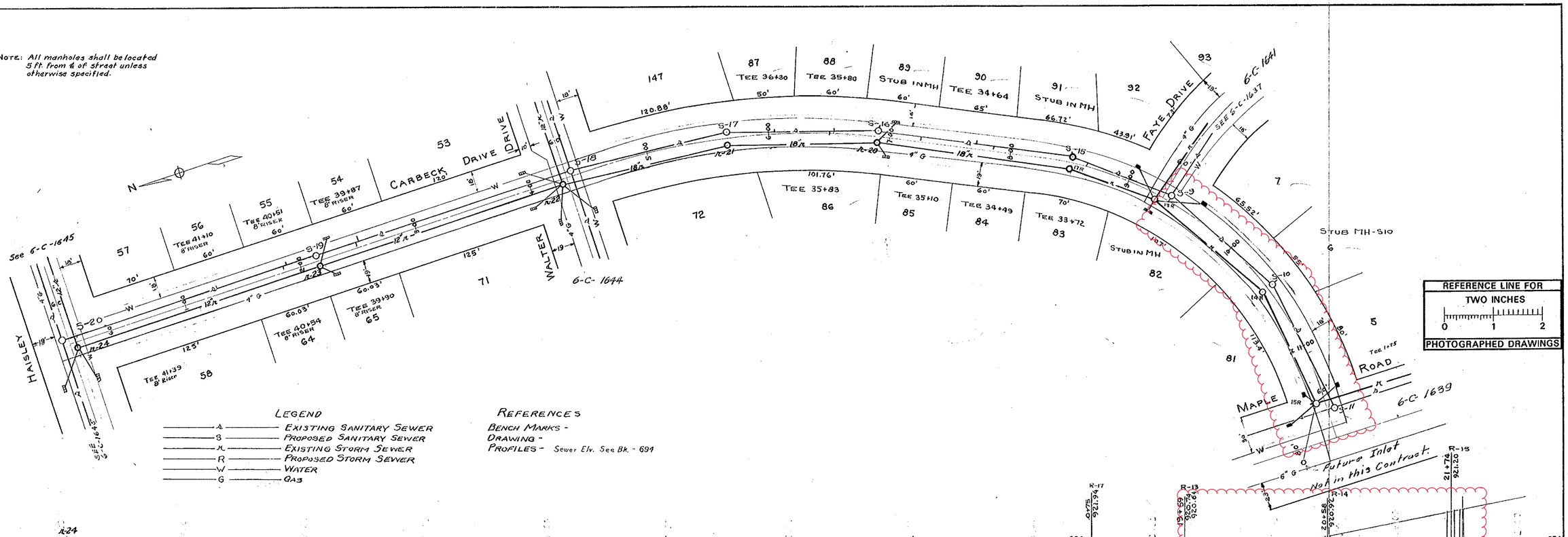
0 5 10 20 30 40 Feet

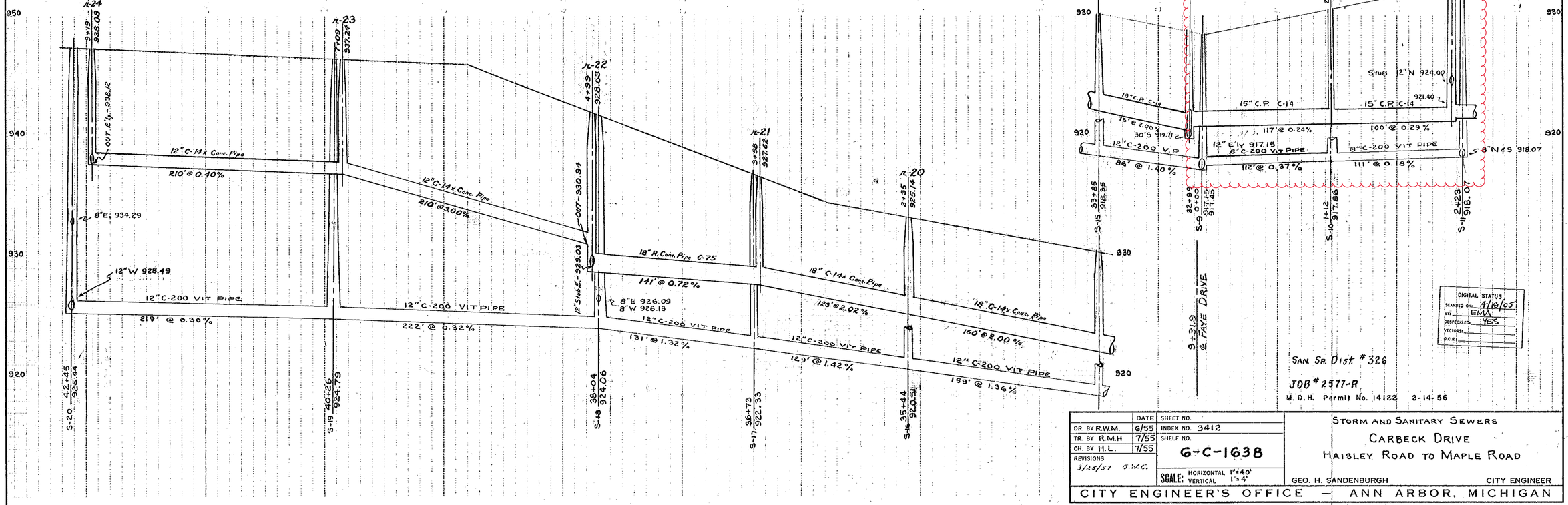
N

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 597 200 2-55

Note: All manholes shall be located 5 ft. from ℄ of street unless otherwise specified.





DIGITAL STATUS
SCANNED ON 11/18/05
BY EMA
DESKEWED YES
VECTORED
O.C.R.

San. Sr. Dist. # 326

JOB # 2577-R

M. D. H. Permit No. 14122 2-14-56

	DATE	SHEET NO.
DR. BY R.W.M.	6/55	INDEX NO. 3412
TR. BY R.M.H	7/55	SHELF NO.
CH. BY H.L.	7/55	G-C-1638
REVISIONS 3/23/51 G.W.G.		SCALE: HORIZONTAL 1"=40' VERTICAL 1"=4'

STORM AND SANITARY SEWERS
CARBECK DRIVE
HAISLEY ROAD TO MAPLE ROAD

GEO. H. SANDENBURGH CITY ENGINEER

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

Prepared by McNamee, Porter and Seeley
Consulting Engineers

71-67823
12.35

8" 6C-1173-S

Duncan St

71-67822
8.38

8" 6C-1173

Duncan St

Bruce St

Bruce St

Duncan St

71-67821
10.21

8" 6C-928

71-67820
9.36

Alice St

8" 6C-928

City of Ann Arbor

Duncan St.

N

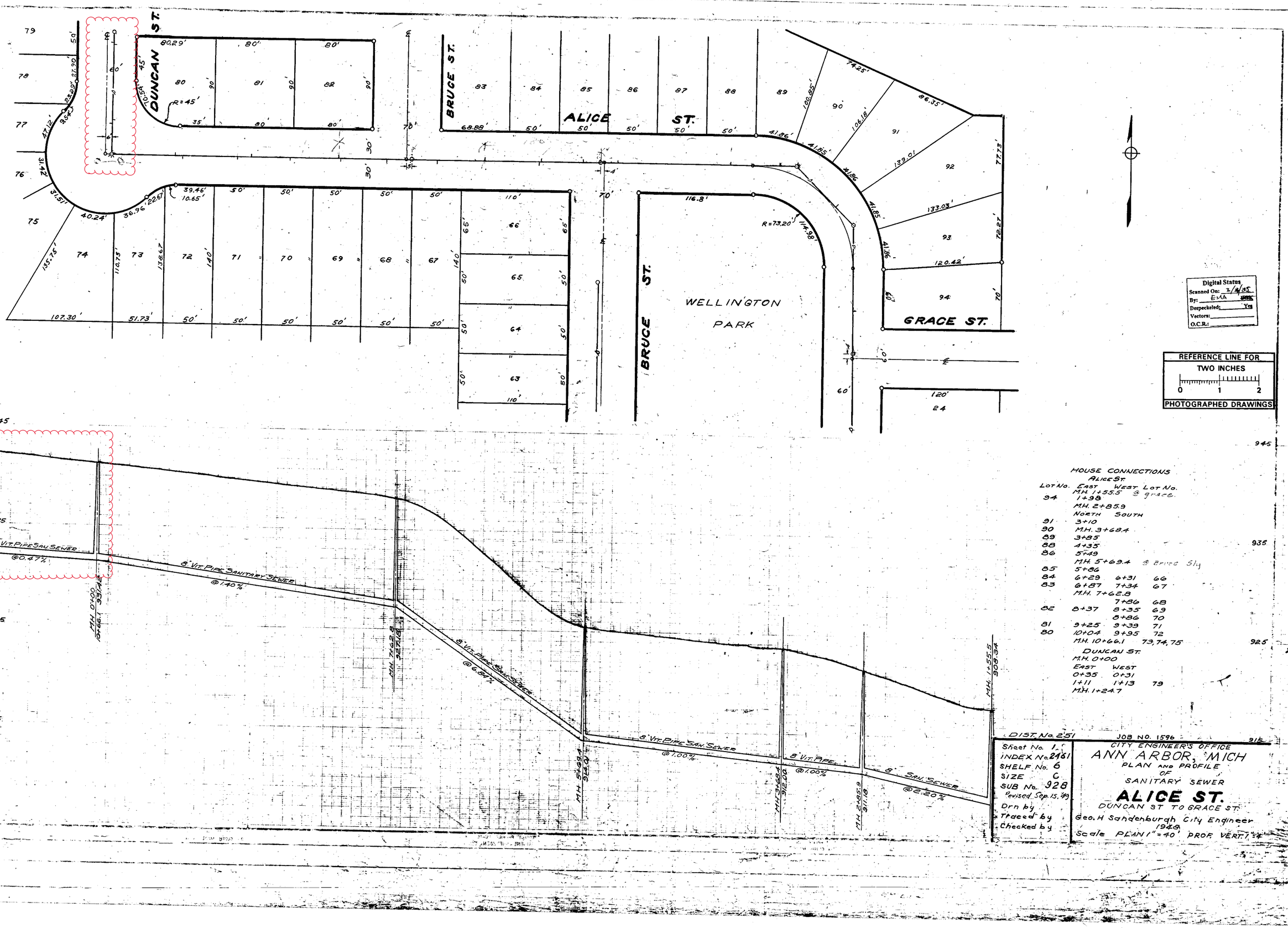
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

For terms and conditions please visit www.a2gov.org/terms



HOUSE CONNECTIONS
ALICE ST.

Lot No.	East	West	Lot No.
	MH 1+55.5		@ Grace.
94	1+98		
	MH. 2+85.9		
	North	South	
91	3+10		
90	MH. 3+68.4		
89	3+85		
88	4+35		
86	5+49		
	MH. 5+69.4		@ Brice Sly
85	5+86		
84	6+29	6+31	66
83	6+87	7+34	67
	MH. 7+62.8		
		7+86	68
82	8+37	8+35	69
		8+86	70
81	9+25	9+39	71
80	10+04	9+95	72
	MH. 10+66.1		73, 74, 75

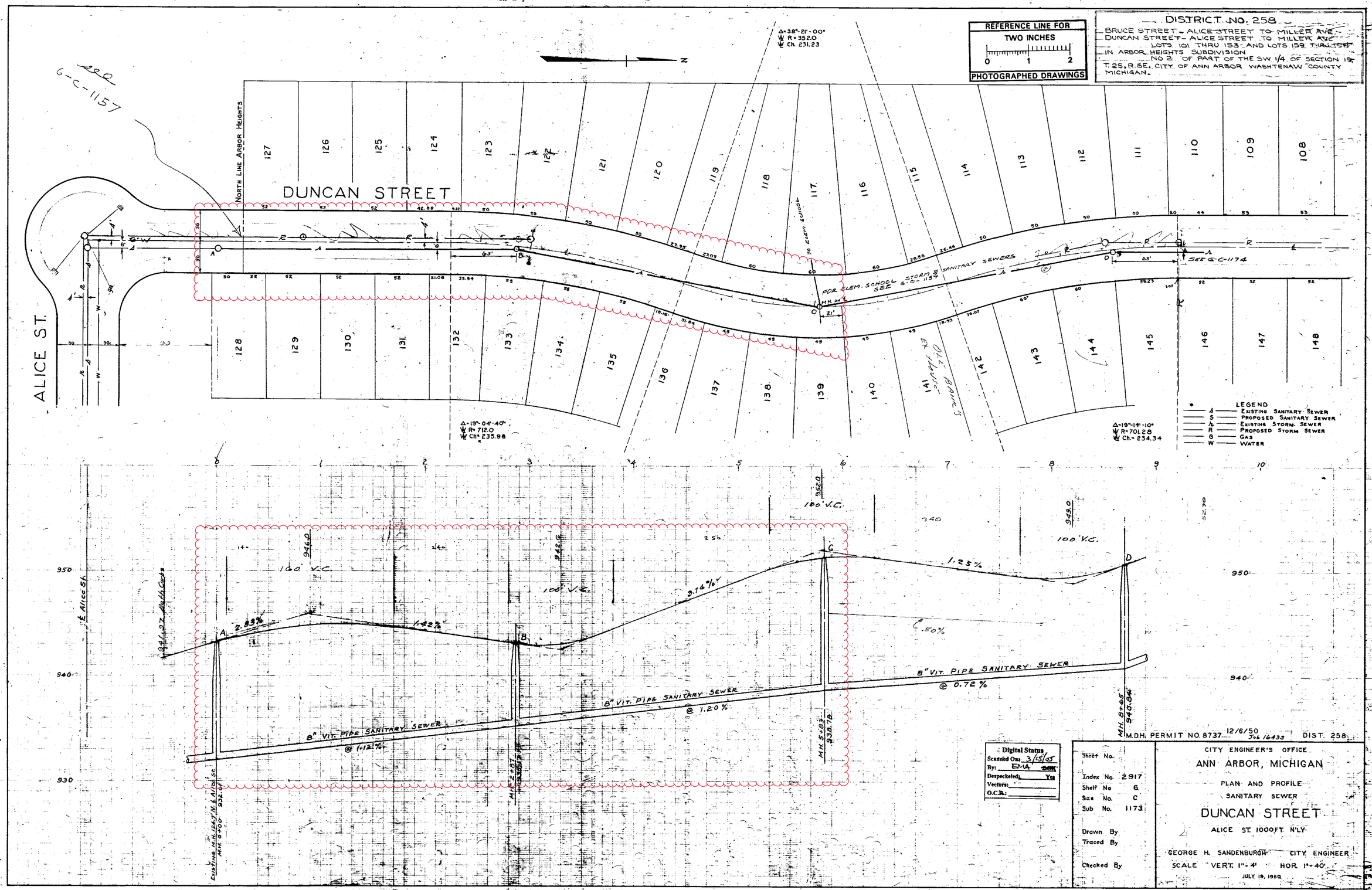
DUNCAN ST.
MH. 0+00

East	West	
0+35	0+31	
1+11	1+13	79
MH. 1+24.7		

DIST. No. 2.51 JOB NO. 1596

Sheet No. 1
INDEX No. 2481
SHELF No. 6
SIZE C
SUB No. 928
Revised Sep. 15, '49
Drn by
Traced by
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH
PLAN AND PROFILE
OF
SANITARY SEWER
ALICE ST.
DUNCAN ST TO GRACE ST.
Geo. H Sandenburgh City Engineer
1949
Scale PLAN 1" = 40' PROF. VERT. 1" =



DISTRICT NO. 258
BRUCE STREET - ALICE STREET TO MILLER AVE.
DUNCAN STREET - ALICE STREET TO MILLER AVE.
LOTS 101 THRU 153 AND LOTS 159 THRU 158
IN ARBOR HEIGHTS SUBDIVISION
NO 2 OF PART OF THE SW 1/4 OF SECTION 19
T. 2S, R. 6E, CITY OF ANN ARBOR WASHTENAW COUNTY
MICHIGAN.
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
DUNCAN STREET
ALICE ST.
NORTH LINE ARBOR HEIGHTS
FOR ELEM. SCHOOL STORM & SANITARY SEWERS SEE G-C-1157
SEE G-C-1174
OLD BANK'S EX. HOUSE
LEGEND
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Storm Sewer
Proposed Storm Sewer
Gas
Water
Δ=38°-21'-00"
R=352.0
Ch. 231.23
Δ=19°-04'-40"
R=712.0
Ch=235.98
Δ=19°-14'-10"
R=701.28
Ch.=234.34
8" VIT. PIPE SANITARY SEWER @ 1.12%
8" VIT. PIPE SANITARY SEWER @ 1.20%
8" VIT. PIPE SANITARY SEWER @ 0.72%
2.83%
1.42%
3.76%
1.25%
.50%
100' V.C.
160' V.C.
Digital Status
Scanned On: 3/15/05
By: EMA
Despeckeled: Yes
Vectors:
O.C.R.:
M.D.H. PERMIT NO. 8737 12/6/50 Job 16433 DIST. 258
Sheet No.
Index No. 2917
Shelf No 6
Size No. C
Sub No. 1173
Drawn By
Traced By
Checked By
CITY ENGINEER'S OFFICE
ANN ARBOR, MICHIGAN
PLAN AND PROFILE
SANITARY SEWER
DUNCAN STREET
ALICE ST. 1000 FT. N'LY
GEORGE H. SANDENBURGH CITY ENGINEER
SCALE VERT. 1"=4' HOR. 1"=40'
JULY 19, 1950

Duncan St.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 30 60 120 180 240

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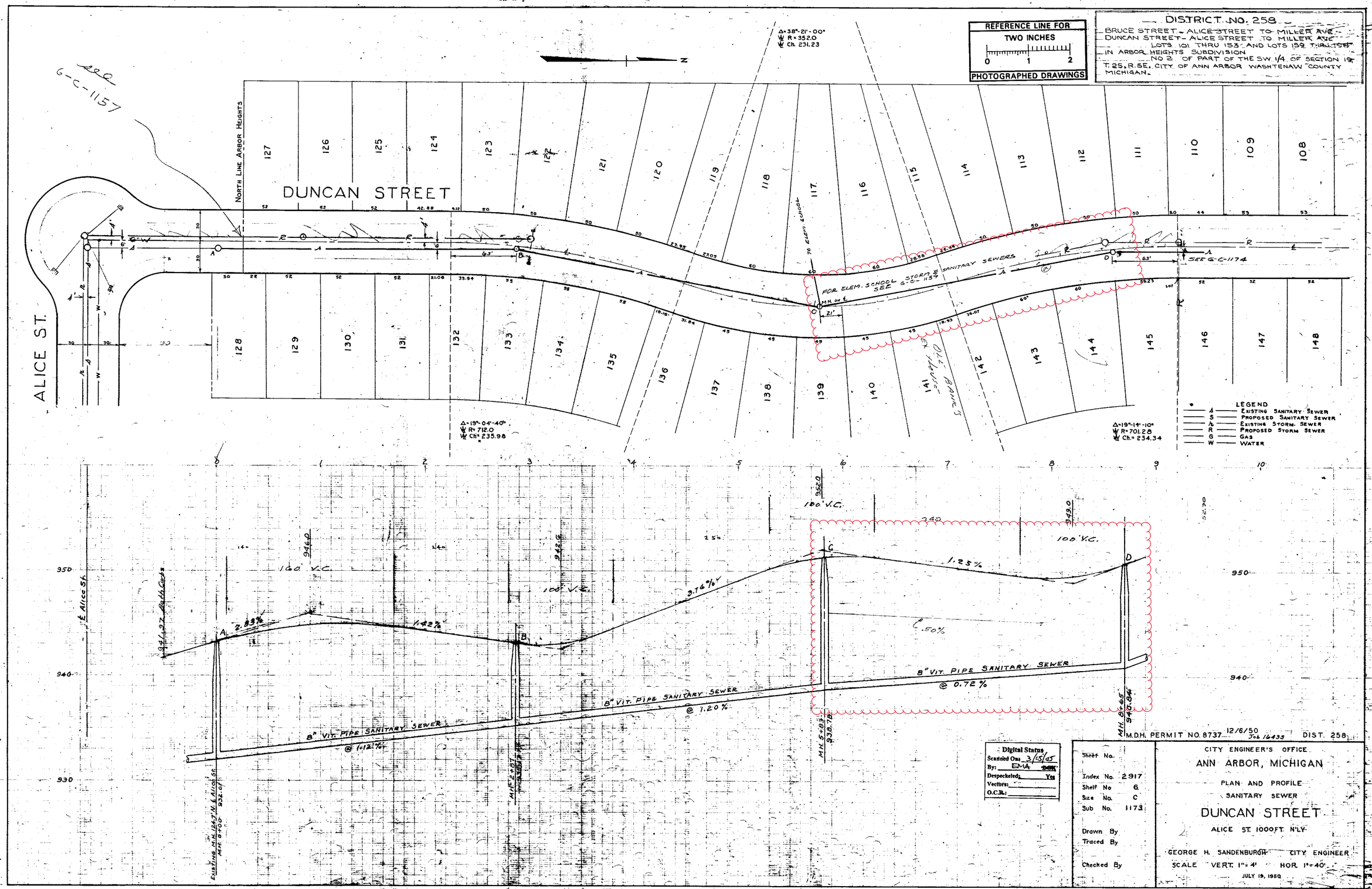
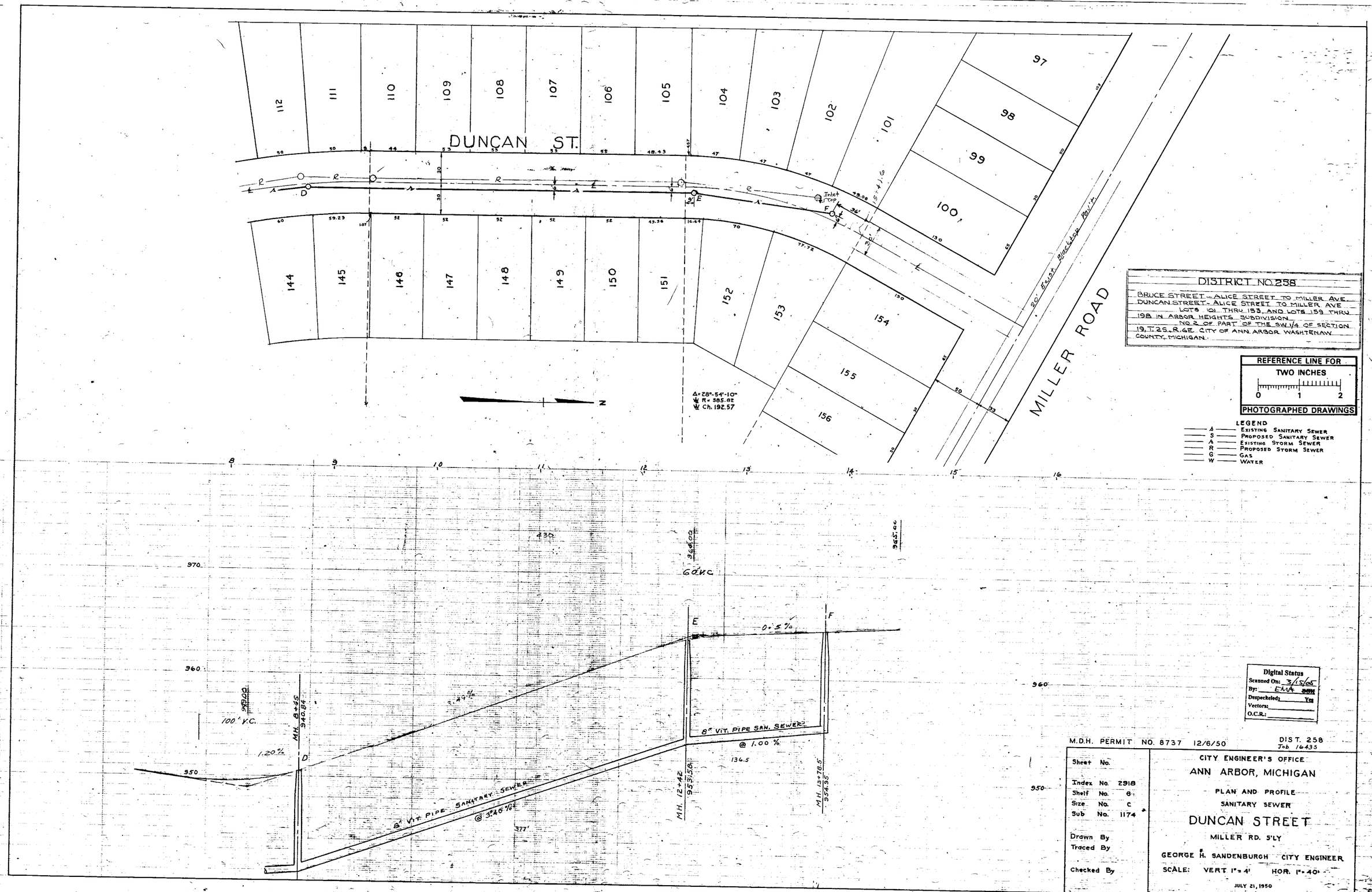


DISTRICT NO. 258
BRUCE STREET - ALICE STREET TO MILLER AVE.
DUNCAN STREET - ALICE STREET TO MILLER AVE.
LOTS 101 THRU 153 AND LOTS 159 THRU 158
IN ARBOR HEIGHTS SUBDIVISION
NO 2 OF PART OF THE SW 1/4 OF SECTION 19
T. 2S, R. 6E, CITY OF ANN ARBOR WASHTENAW COUNTY
MICHIGAN.
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
DUNCAN STREET
ALICE ST.
NORTH LINE ARBOR HEIGHTS
SEE 6-C-1157
SEE 6-C-1174
FOR ELEM. SCHOOL STORM & SANITARY SEWERS SEE 6-C-1157
TO ELEM. SCHOOL
OLD BANK'S EX. HOUSE
Δ=38°-21'-00"
℄ R=352.0
℄ Ch. 231.23
Δ=19°-04'-40"
℄ R=712.0
℄ Ch.=235.98
Δ=19°-14'-10"
℄ R=701.28
℄ Ch.=234.34
LEGEND
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Storm Sewer
Proposed Storm Sewer
Gas
Water
℄ Alice St.
100' V.C.
160' V.C.
100' V.C.
100' V.C.
2.83%
1.42%
3.76%
1.25%
.50%
8" VIT. PIPE SANITARY SEWER @ 1.12%
8" VIT. PIPE SANITARY SEWER @ 1.20%
8" VIT. PIPE SANITARY SEWER @ 0.72%
M.H. 5+83 938.78
M.H. 8+65 940.84
M.D.H. PERMIT NO. 8737 12/6/50 Job 16433 DIST. 258
Digital Status
Scanned On: 3/15/05
By: EMA
Despeckeled: Yes
Vectors:
O.C.R.:
Sheet No.
Index No. 2917
Shelf No 6
Size No. C
Sub No. 1173
Drawn By
Traced By
Checked By
CITY ENGINEER'S OFFICE
ANN ARBOR, MICHIGAN
PLAN AND PROFILE
SANITARY SEWER
DUNCAN STREET
ALICE ST. 1000 FT. N'LY
GEORGE H. SANDENBURGH CITY ENGINEER
SCALE VERT. 1"=4' HOR. 1"=40'
JULY 19, 1950


DUNCAN ST.
MILLER ROAD
20' Exist. Blacktop Pav't.
Inlet Top
Δ=28°-54'-10"
℄ R=385.82
℄ Ch. 192.57
DISTRICT NO. 258
BRUCE STREET - ALICE STREET TO MILLER AVE.
DUNCAN STREET - ALICE STREET TO MILLER AVE
LOTS 101 THRU 153, AND LOTS 159 THRU 198 IN ARBOR HEIGHTS SUBDIVISION NO 2 OF PART OF THE SW 1/4 OF SECTION 19, T. 2 S., R. 6 E. CITY OF ANN ARBOR WASHTENAW COUNTY, MICHIGAN.
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
LEGEND
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Storm Sewer
Proposed Storm Sewer
Gas
Water
60' V.C.
100' V.C.
8" VIT. PIPE SAN. SEWER @ 1.00 %
8" VIT. PIPE SANITARY SEWER @ 3.46 %
MH. 8+65 940.84
MH. 12+42 953.58
MH. 13+78.5 954.95
Digital Status
Scanned On: 3/15/05
By: EMA
Despeckeled: Yes
Vectors:
O.C.R.:
M.D.H. PERMIT NO. 8737 12/6/50
DIST. 258
Job 16435
Sheet No.
Index No. 2918
Shelf No. 6
Size No. C
Sub No. 1174
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Traced By
Checked By
CITY ENGINEER'S OFFICE
ANN ARBOR, MICHIGAN
PLAN AND PROFILE
SANITARY SEWER
DUNCAN STREET
MILLER RD. S'LY
GEORGE H. SANDENBURGH CITY ENGINEER
SCALE: VERT 1"=4' HOR. 1"=40'
JULY 21, 1950

Miller Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

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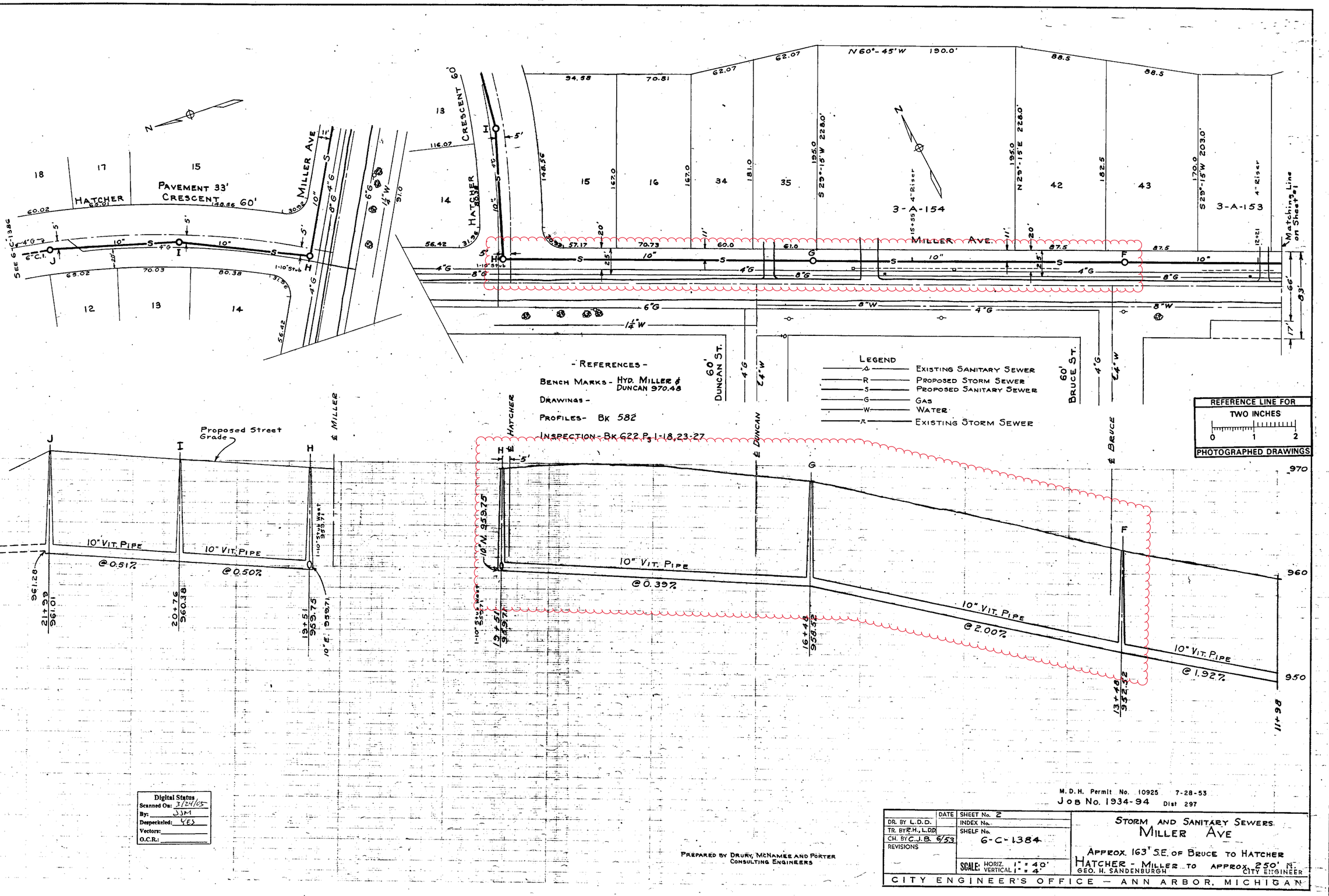


Digital Status
Scanned On: 3/24/05
By: JJM
Despeckeled: YES
Vectors:
O.C.R.:

PREPARED BY DRURY, McNAMEE AND PORTER CONSULTING ENGINEERS

M. D. H. Permit No. 10925 7-28-53
JOB No. 1934-94 Dist 297

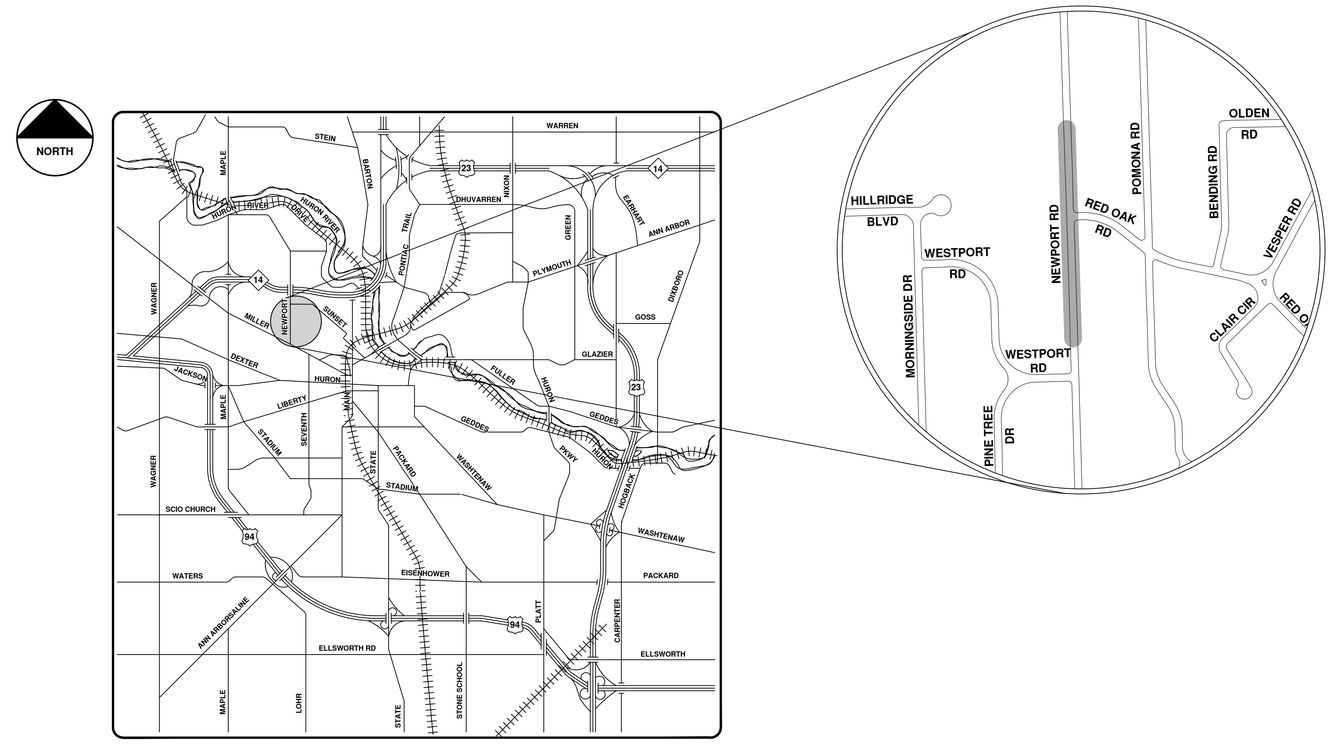
	DATE	
DR. BY L.D.D.		SHEET No. 2
TR. BY R.H., L.DD		INDEX No.
CH. BY C.J.B. 6/53		SHELF No. 6-C-1384
REVISIONS		SCALE: HORIZ. 1" = 40' VERTICAL 1" = 4'

STORM AND SANITARY SEWERS
MILLER AVE
APPROX. 163' S.E. OF BRUCE TO HATCHER
HATCHER - MILLER TO APPROX. 250' N.
GEO. H. SANDENBURGH CITY ENGINEER
CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

2021 SEWER LINING PROJECT

GROUP 3 - SANITARY

GROUP 3 - S NIT R	
SHEET NUMBER	SHEET TITLE
20	GROUP 3 COVER SHEET
206 - 20	NE PORT RD



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-205

SHEET No. 205 OF 362

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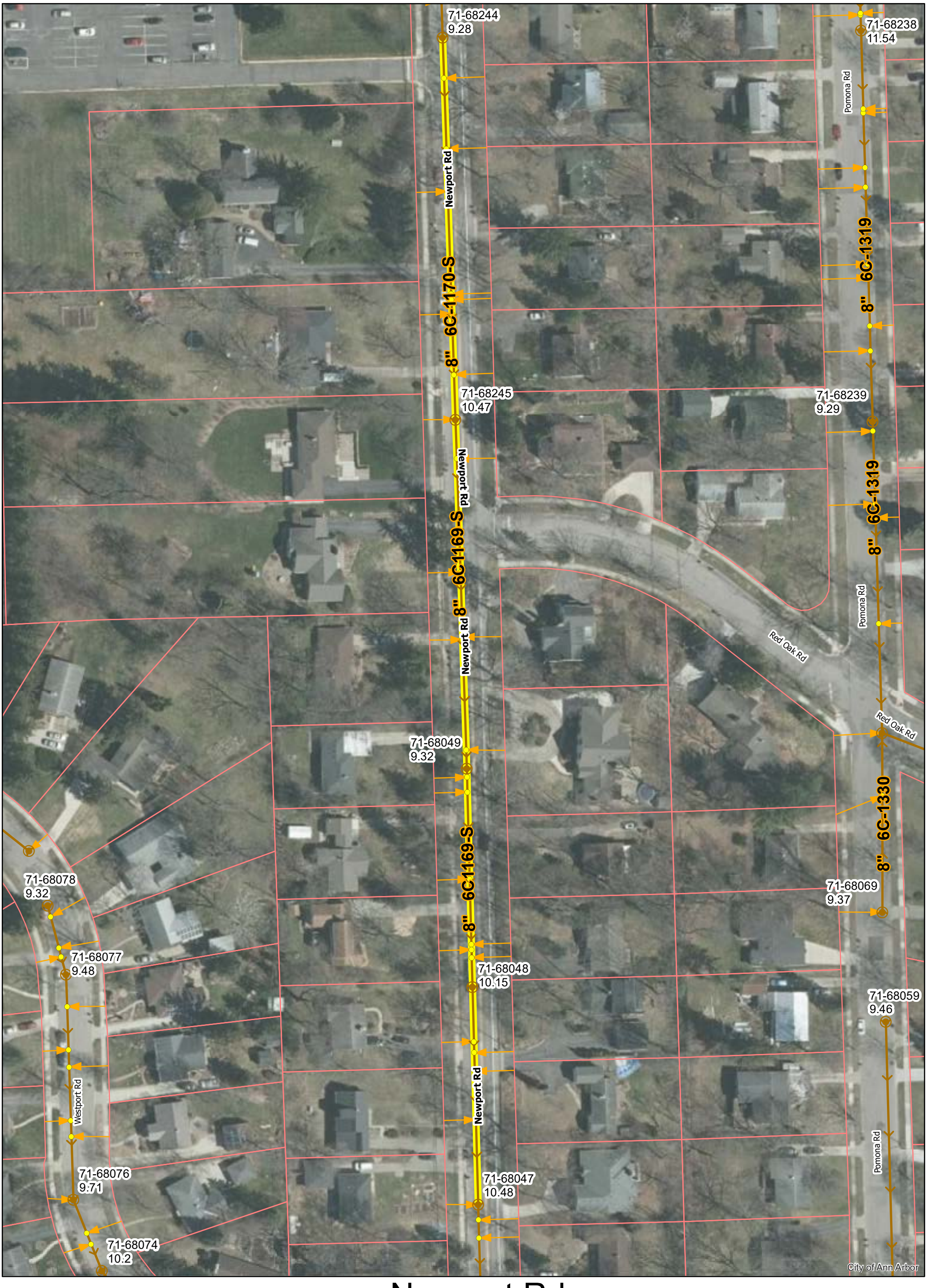
R: \2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg – _a2 standard bw.stb – Plot Date: 9/16/2021 3:36:14 PM

Newport Rd.



N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 40 80 160 240 320 Feet

For terms and conditions please visit www.a2gov.org/terms

10+80 # 10 — Sta. No. / Test Hole No.

Hard Sandy and Gravelly Clay — S-1 (18) — S-2 (31) — S-3 (42) — S-4 (46) — S-5 (33) — S-6 (50) — 15 ft.

Hard Varied Colored Clay, Some Sand and Gravel

15+80 # 9

Hard Yellown Clay Some Sand and Gravel — S-1 (20) — S-2 (39) — S-3 (33) — S-4 (14) — 10 ft.

Fine to Med. Yellow Sand

RED OAK

150'

1147.22 To S.L. SUNSET

NEWPORT RD.

House # 1270

160 — 75 — 75 — 75 — 75 — 75 — 75 — 75 — 157.5 — 139.5

Assessment District 269

150'

See G-C-1381 for Sanitary Sewer

3'x4' Max. C.I. Water

2-4" Stubs

6-C-1168 →

← 6-C-170

1266

#112. 24" Corr iron pipe culvert. Span with 8" C.I. water pipe 8' long.

→ 340'± to Millers

Assessment District 269

1495'

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

LEGEND
A — Existing Sanitary Sewer
S — Proposed Sanitary Sewer
A — Existing Storm Sewer
R — Proposed Storm Sewer
G — Gas
W — Water

K — J — I — H — G — F

Z-L Red Oak Rd.

8" V.R @ 0.48% 320'

M.H. 21.00 956.22

M.H. 19.80 956.48

8" V.R @ 0.55% 201'

M.H. 17.80 957.58

8" V.R @ 0.48% 179'

M.H. 15.80 958.44

M.H. 13.80 959.46

8" V.R @ 0.32% 190'

M.H. 11.80 960.26

M.H. 10.00 960.66

8" V.R @ 0.32%

Conc. Encasement — Extra Strength Pipe Laid (Sewer Inspection Book N. 1950)

See R.

8" V.P. — 8" C.I. Pipe — 8" V.R — 24" C.M.P. - Top of Pipe was 6'6" before San. Sewer was built. — App. 5" Top CMP to Inv. 8" C.I. Pipe

Scale: Hor. 1"=4' Vert. 1"=4'

Culvert at Sta. 11+06

8" C.I. Pipe 8' Long — 24" CMP from west

Note: C.I. Pipe & V.P. Pipe jointed on N. end by conc. encasement

960 — 950 — 940 — 930 — 920

TEES

East	West
15+03 (No Riser)	16+11.5 (No Riser)
15+19.3 (2' ")	17+20.5 (2' ")
18+16 (4' ")	18+64.8 (4' ")
18+63.6 (2' ")	19+59 (2' ")
17+26.8 (2' Riser)	
19+00.0 (4' ")	

Digital Status
Scanned On: 3/18/05
By: EMA
Despeckled: Yes
Vectors:
O.C.R.:

DIST. 269 — Job 1721

Sheet No.
Index No. 2913
Sheet No. 6
Size No. C
Sub No. 1169
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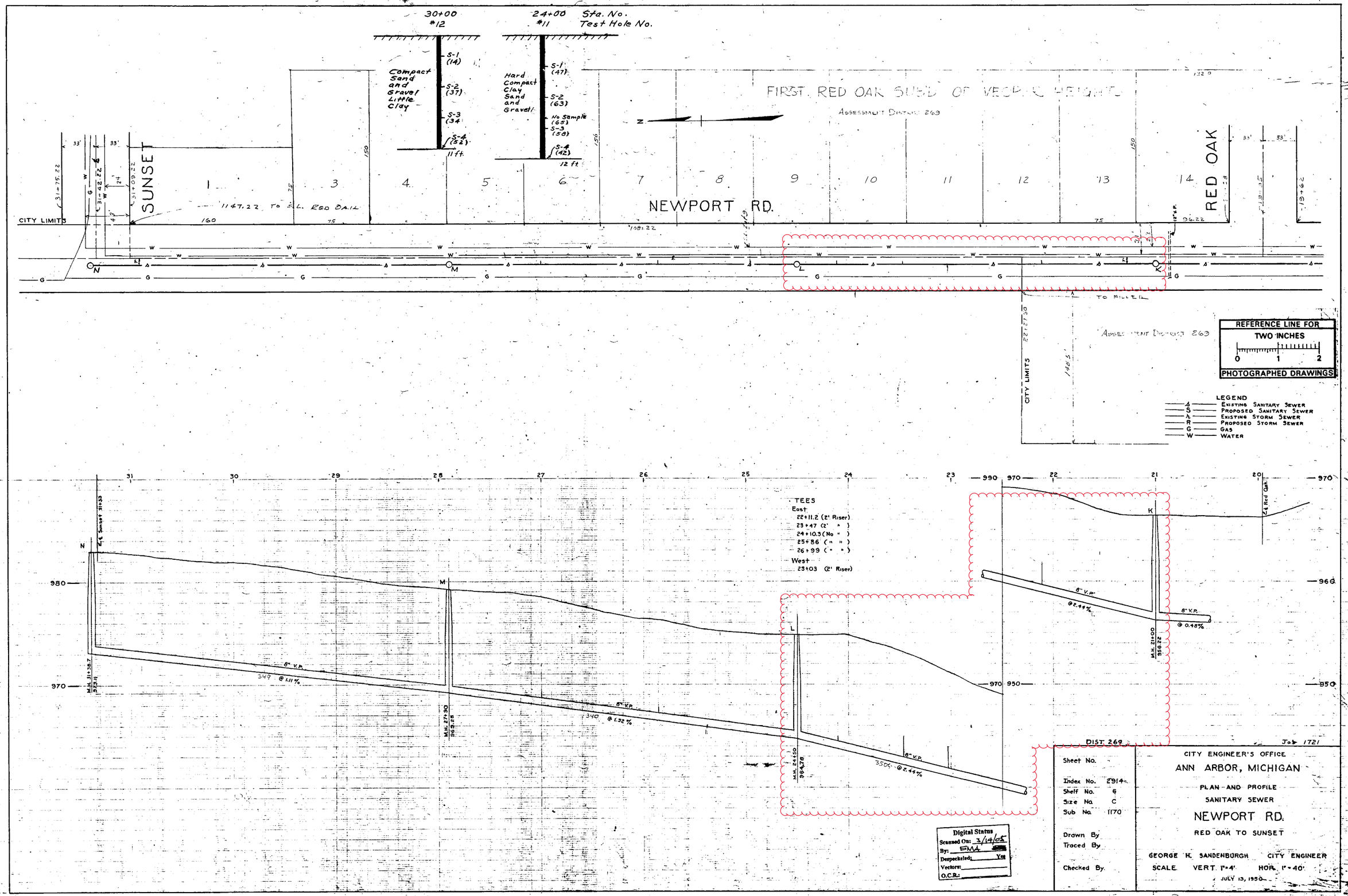
Traced By
Checked By

CITY ENGINEER'S OFFICE
ANN ARBOR, MICHIGAN
PLAN AND PROFILE
SANITARY SEWER
NEWPORT RD.
ROBIN RD. TO RED OAK
GEORGE H. SANDENBURGH CITY ENGINEER
SCALE: VERT. 1"=4' HOR. 1"=40'
JULY 13, 1950

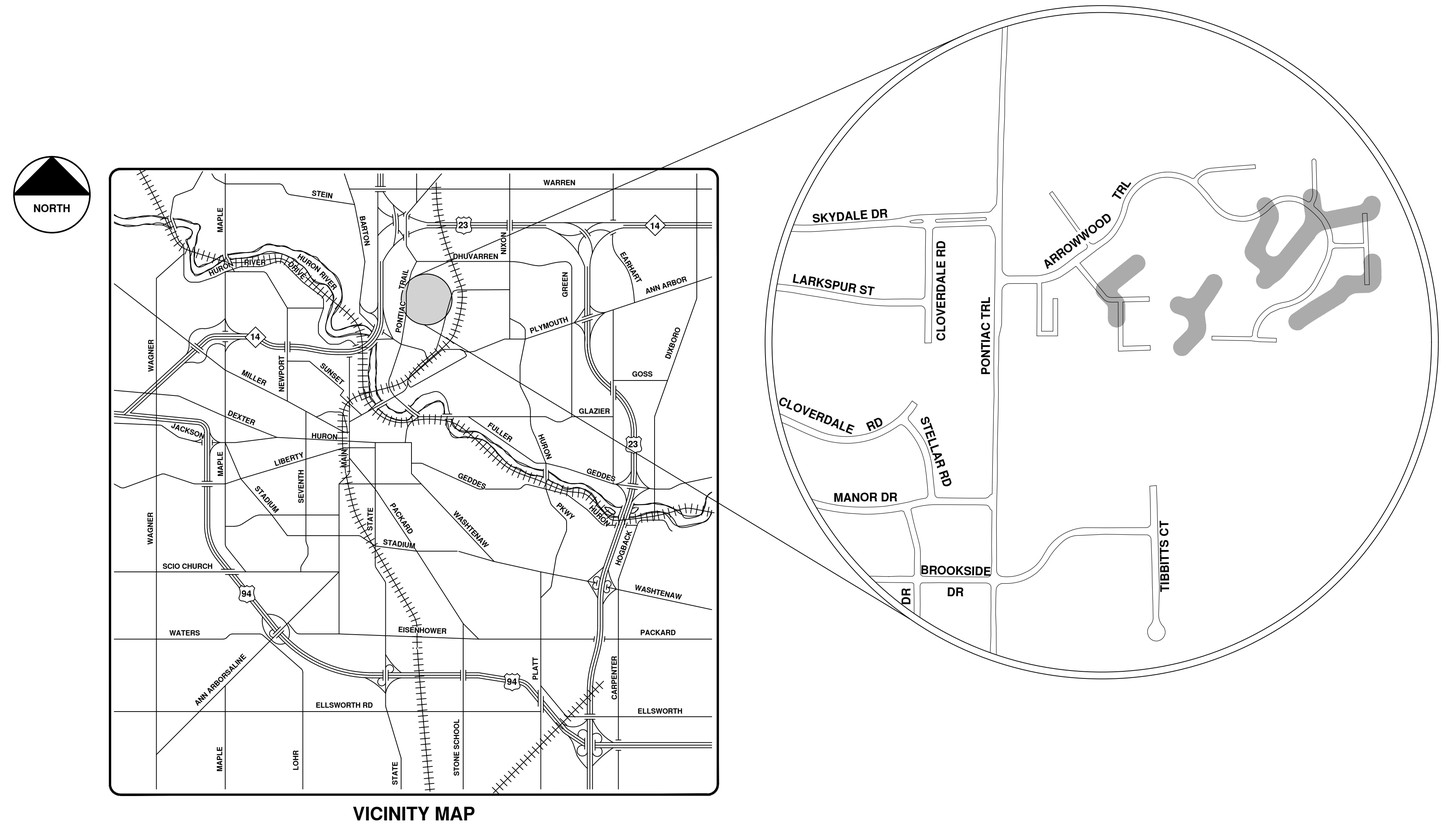


30+00 #12
24+00 #11
Sta. No.
Test Hole No.
Compact Sand and Gravel Little Clay
Hard Compact Clay Sand and Gravel
S-1 (14)
S-2 (37)
S-3 (34)
S-4 (52)
11 ft.
S-1 (47)
S-2 (63)
No Sample (65)
S-3 (58)
S-4 (42)
12 ft.
FIRST RED OAK SUB'D OF VESPER HEIGHTS
ASSESSMENT DISTRICT 269
SUNSET
RED OAK
NEWPORT RD.
CITY LIMITS
1147.22 TO S.L. RED OAK
TO MILLER
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
LEGEND
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Storm Sewer
Proposed Storm Sewer
Gas
Water
TEES
East
22+11.2 (2' Riser)
23+47 (2' ")
24+10.3 (No ")
25+86 (" ")
26+99 (" ")
West
23+03 (2' Riser)
8" V.P.
349 @ 1.11%
340 @ 1.32%
350 @ 2.44%
@ 2.44%
@ 0.48%
M.H. 31+38.7
M.H. 27+90
M.H. 24+50
M.H. 21+00
DIST. 269
Job 1721
Sheet No.
Index No. 2914
Shelf No. 6
Size No. C
Sub No. 1170
Drawn By
Traced By
Checked By
CITY ENGINEER'S OFFICE
ANN ARBOR, MICHIGAN
PLAN AND PROFILE
SANITARY SEWER
NEWPORT RD.
RED OAK TO SUNSET
GEORGE H. SANDENBURGH CITY ENGINEER
SCALE VERT. 1"=4' HOR. 1"=40'
JULY 13, 1950
Digital Status
Scanned On: 3/14/05
By: EMA
Despeckeled: Yes
Vectors:
O.C.R.:

2021 SEWER LINING PROJECT

GROUP 4 - SANITARY

GROUP - S NIT R	
SHEET NUMBER	SHEET TITLE
20	GROUP COVER SHEET
210 - 21	CROSSLOT RRO OOD TRL



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-209

SHEET No. 209 OF 362

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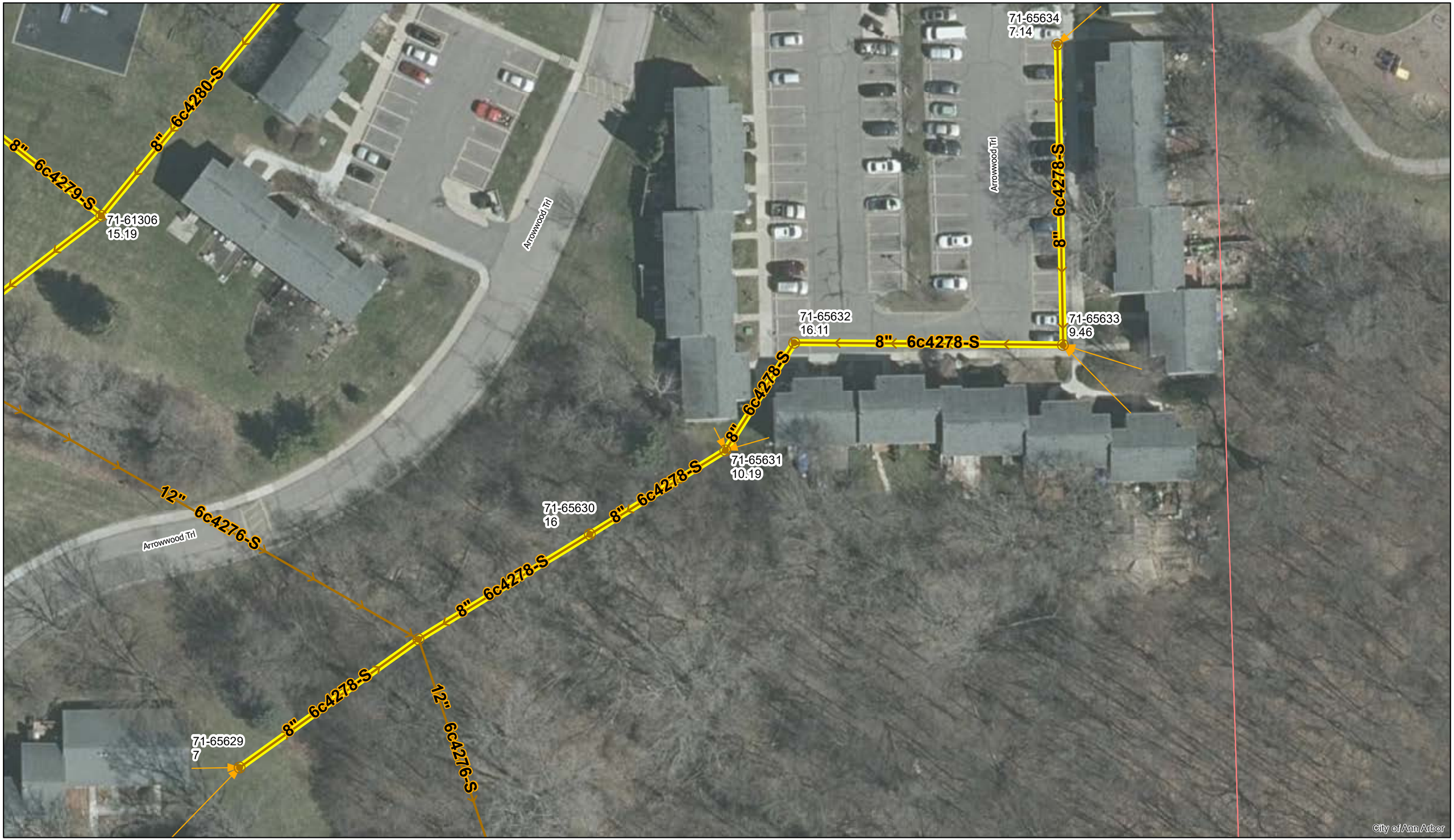
R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:36:19 PM

Crosslot Arrowwood Trl.



Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

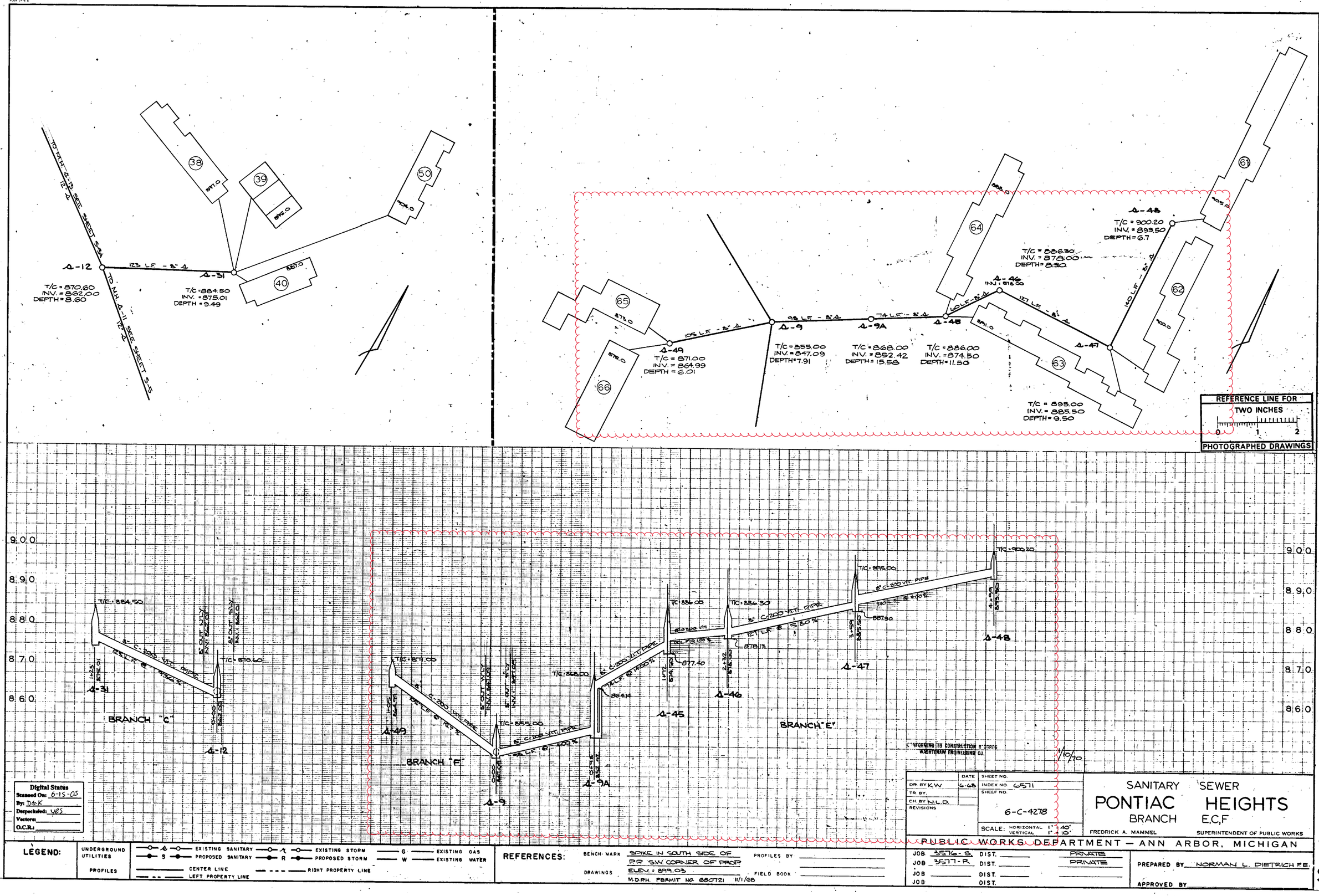
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

For terms and conditions please visit www.a2gov.org/terms



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By: DGK
Despeckeled: YES
Vectors:
O.C.R.:

	DATE	SHEET NO.
DR. BY K.W.	6-68	INDEX NO. 6571
TR. BY		SHELF NO.
CH. BY N.L.D.		6-C-4278
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 10'

SANITARY SEWER
PONTIAC HEIGHTS
BRANCH E,C,F

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

LEGEND:

UNDERGROUND UTILITIES: EXISTING SANITARY; PROPOSED SANITARY; EXISTING STORM; PROPOSED STORM; EXISTING GAS; EXISTING WATER

PROFILES: CENTER LINE; LEFT PROPERTY LINE; RIGHT PROPERTY LINE

REFERENCES:

BENCH MARK: SPIKE IN SOUTH SIDE OF P.P. S.W. CORNER OF PROP. ELEV. = 899.03

DRAWINGS: M.D.P.H. PERMIT NO. 680721 11/1/68

PROFILES BY

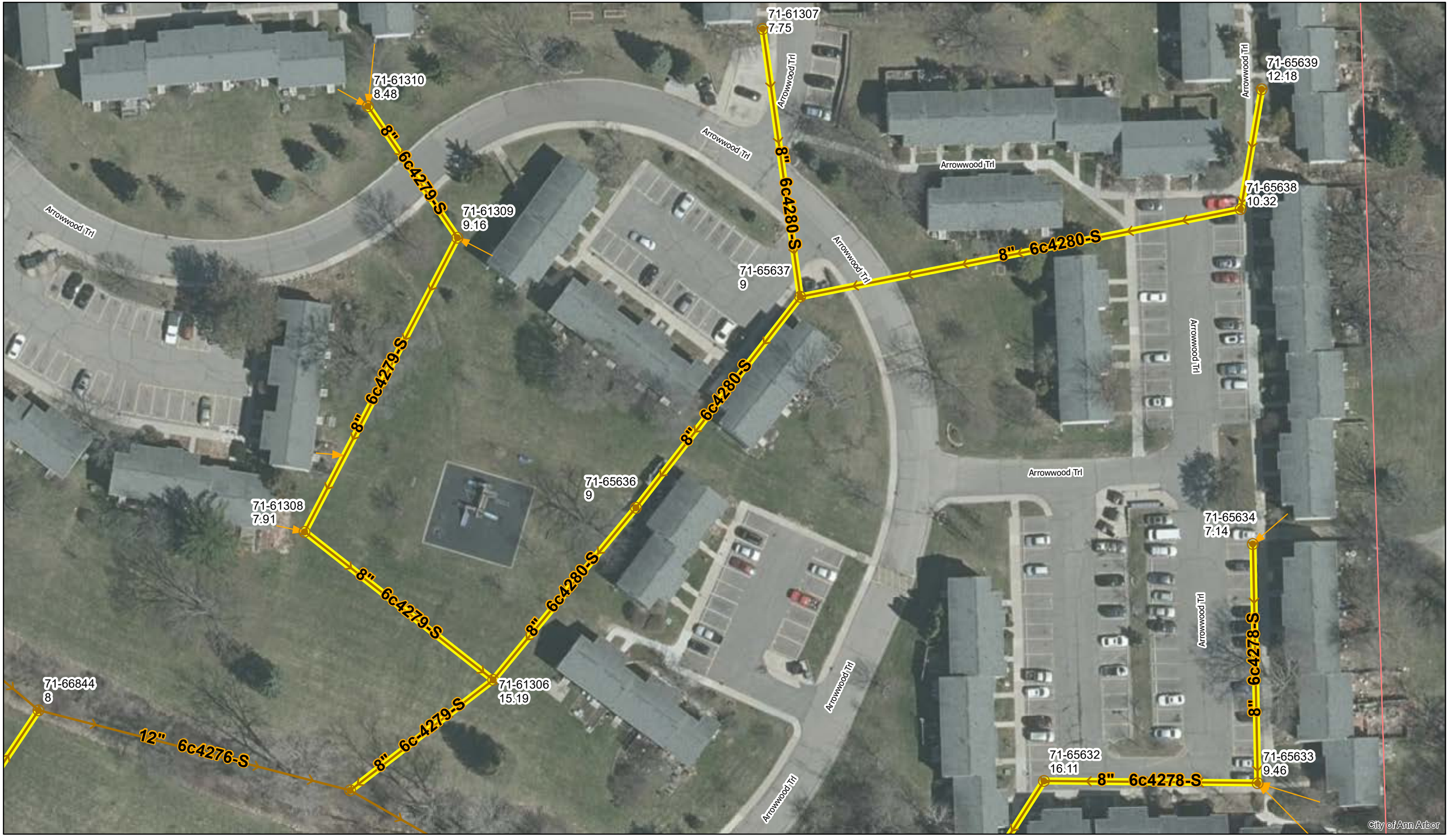
FIELD BOOK

JOB 3576-S DIST. PRIVATE
JOB 3577-R DIST. PRIVATE
JOB DIST.
JOB DIST.

PREPARED BY NORMAN L. DIETRICH P.E.

APPROVED BY

S4



Crosslot Arrowwood Trl.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

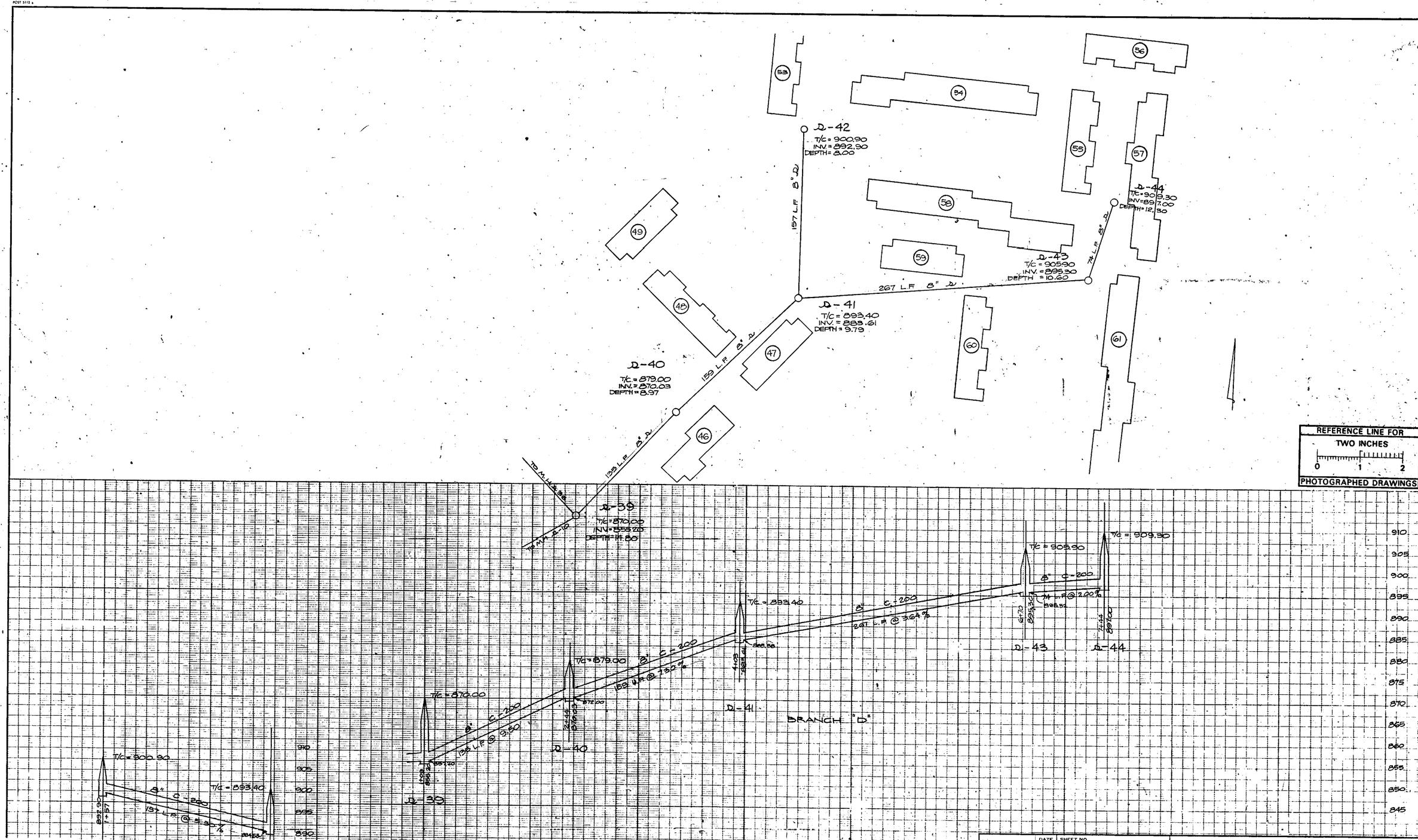
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms



Digital Status
Scanned On: 6-15-05
By: DGK
Despeckeled: yes
Vectors:
O.C.R.:

	DATE	SHEET NO.
DR. BY K.W.	6-68	INDEX NO. 6573
TR. BY		SHELF NO.
CH. BY N.L.D.		6-C-4280
REVISIONS		

SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 10'

SANITARY SEWER
PONTIAC HEIGHTS
BRANCH D

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

JOB 3576-S	DIST.	PRIVATE	
JOB 3577-R	DIST.	PRIVATE	
JOB	DIST.		
JOB	DIST.		

PREPARED BY NORMAN L. DIETRICH P.E.

APPROVED BY

S 6

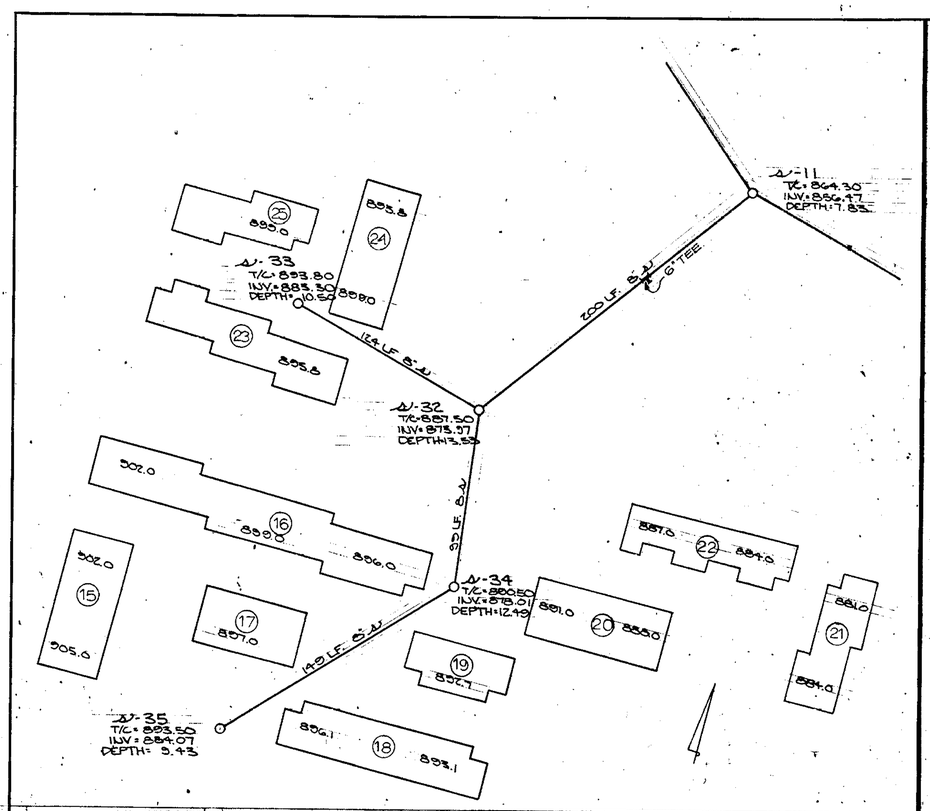
LEGEND:

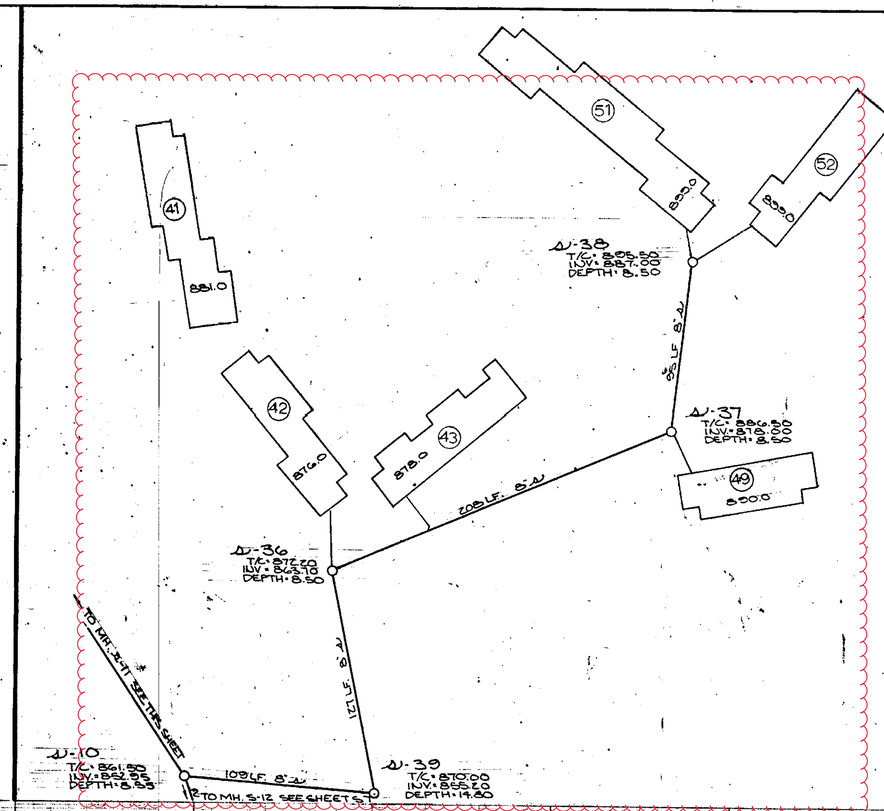
UNDERGROUND UTILITIES: EXISTING SANITARY; PROPOSED SANITARY; EXISTING STORM; PROPOSED STORM; EXISTING GAS; EXISTING WATER

PROFILES: CENTER LINE; LEFT PROPERTY LINE; RIGHT PROPERTY LINE

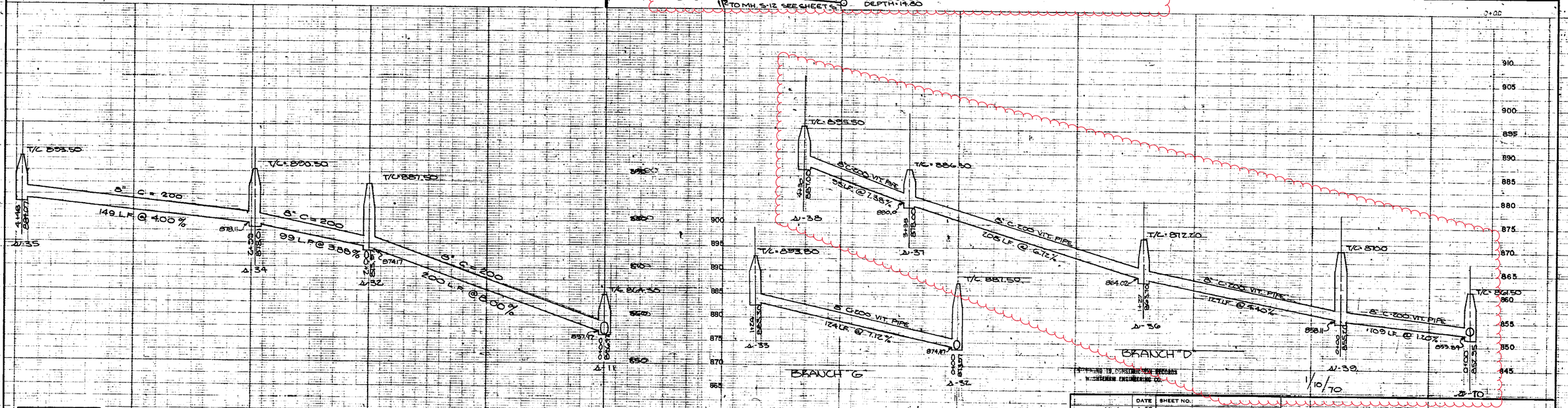
REFERENCES:
BENCH MARK: SPK. IN SOUTH SIDE OF P.P. S.W. CORNER OF PROP. EL. 899.03
PROFILES BY
DRAWINGS: M.D.P.H. PERMIT No. 680721 11/1/68
FIELD BOOK

POST 33059





REFERENCE LINE FOR TWO-INCHES
0 1 2
PHOTOGRAPHED DRAWINGS



Digital Status
Scanned On: 6-15-05
By: D&K
Despeckled: yes
Vectorized:
O.C.R.:

LEGEND:
UNDERGROUND UTILITIES
PROFILES
EXISTING SANITARY
PROPOSED SANITARY
EXISTING STORM
PROPOSED STORM
EXISTING GAS
EXISTING WATER
CENTER LINE
RIGHT PROPERTY LINE
LEFT PROPERTY LINE

REFERENCES:
BENCH MARK: SPK IN SOUTH SIDE OF P.P. SW. CORNER OF PROP EL 899.03
DRAWINGS
MDPH PERMIT NO. 680721 11/1/68
PROFILES BY
FIELD BOOK

DR. BY KW. DATE 6-68
TR. BY
CH. BY NLD
REVISIONS
SHEET NO.
INDEX NO. 6572
SHELF NO. 6-C-4279
SCALE: HORIZONTAL 1"=40' VERTICAL 1"=10'

SANITARY SEWER
PONTIAC HEIGHTS BRANCH G, D

FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS
PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

JOB 3576-S DIST. Private
JOB 3577-B DIST. Private
JOB DIST.
JOB DIST.

NORMAN L. DIETRICH, P.E.
PREPARED BY
APPROVED BY Howard F. Purcell 12/20/68

1/10/70

S5

71-66837
9.33

8" 6C-4281-S

71-66783
10

Arrowwood Trl

8" 6c4277-S

8" 6c4282-S

71-66784
6.47

Arrowwood Trl

Arrowwood Trl

8" 6c4282-S

Arrowwood Trl

71-66785
6.84

Arrowwood Trl

City of Ann Arbor

Crosslot Arrowwood Trl.

N

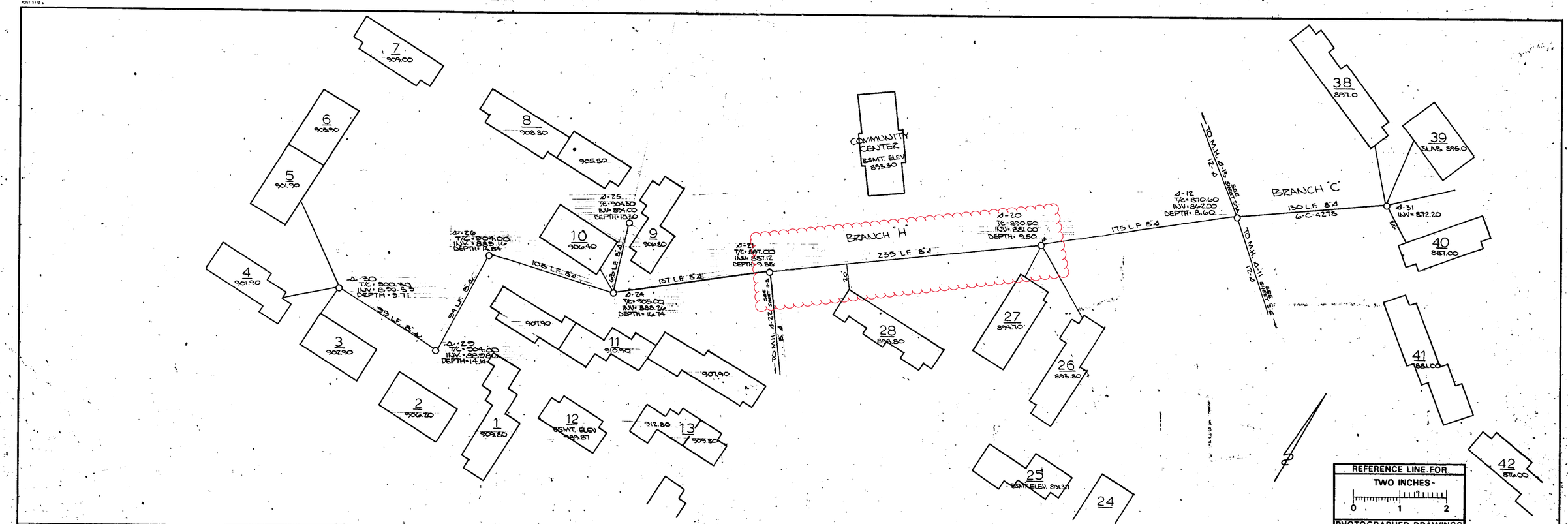
Manholes
Proposed Lining
Sanitary Main
Sanitary Lateral
Road Labels

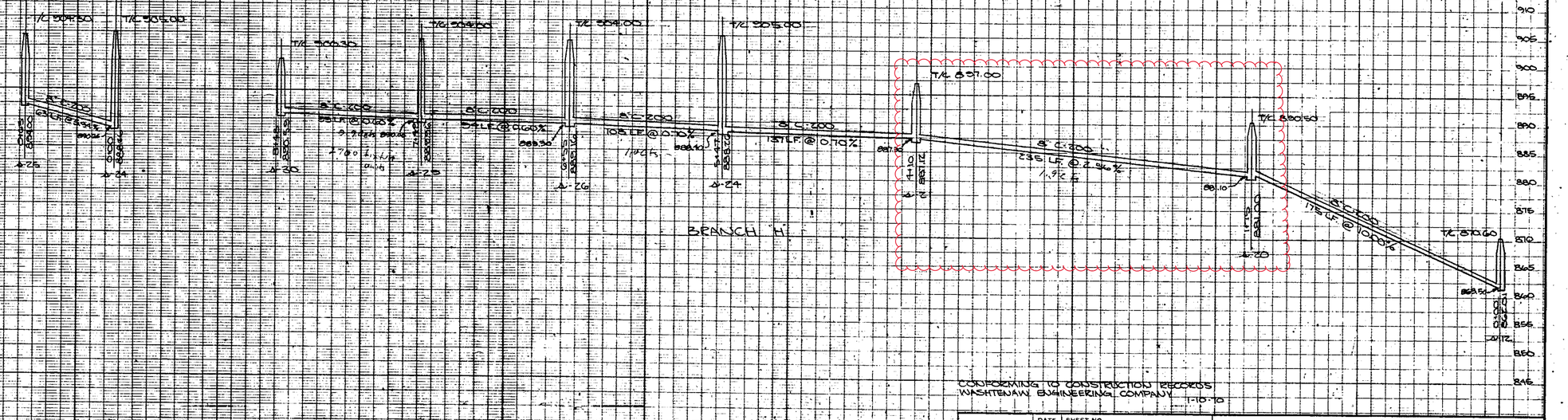
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms





Digital Status
Scanned On: 6-15-05
By: DSK
Despeckled: YES
Vectors:
O.C.R.:

LEGEND:

UNDERGROUND UTILITIES
- EXISTING SANITARY
- PROPOSED SANITARY
- EXISTING STORM
- PROPOSED STORM
- EXISTING GAS
- EXISTING WATER

PROFILES
- CENTER LINE
- LEFT PROPERTY LINE
- RIGHT PROPERTY LINE

REFERENCES:
BENCH MARK: SPIKE IN SOUTH SIDE PP N.W. CORNER PROP. ELEV. = 920.71
DRAWINGS: M.D.P.H. PERMIT NO. 60721 11/1/66
PROFILES BY:
FIELD BOOK:

	DATE	SHEET NO.
DR. BY KW	6-68	INDEX NO. 6573
TR. BY		SHELF NO.
CH. BY N.L.D.		
REVISIONS		

6-C-4281

SCALE: HORIZONTAL 1"=40' VERTICAL 1"=10'

SANITARY SEWER
PONTIAC HEIGHTS
BRANCH "H"

FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

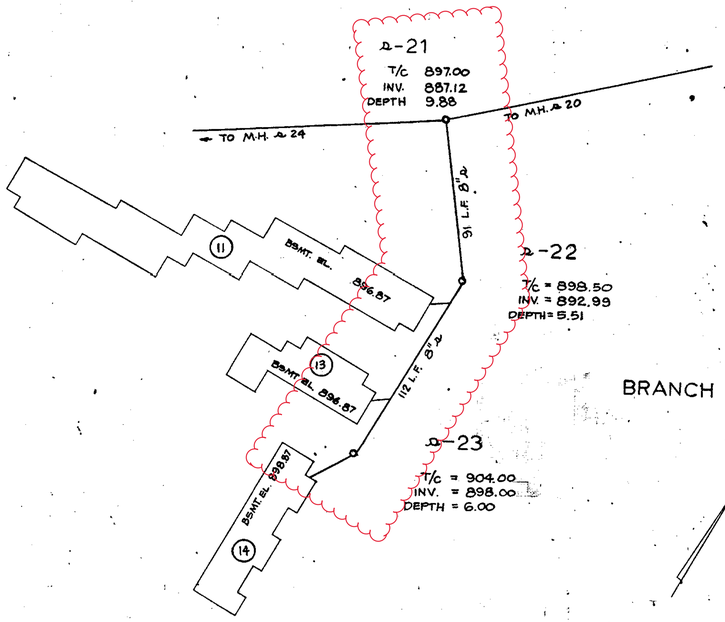
JOB 3576-S	DIST.	PRIVATE
JOB 3577-R	DIST.	PRIVATE
JOB	DIST.	
JOB	DIST.	

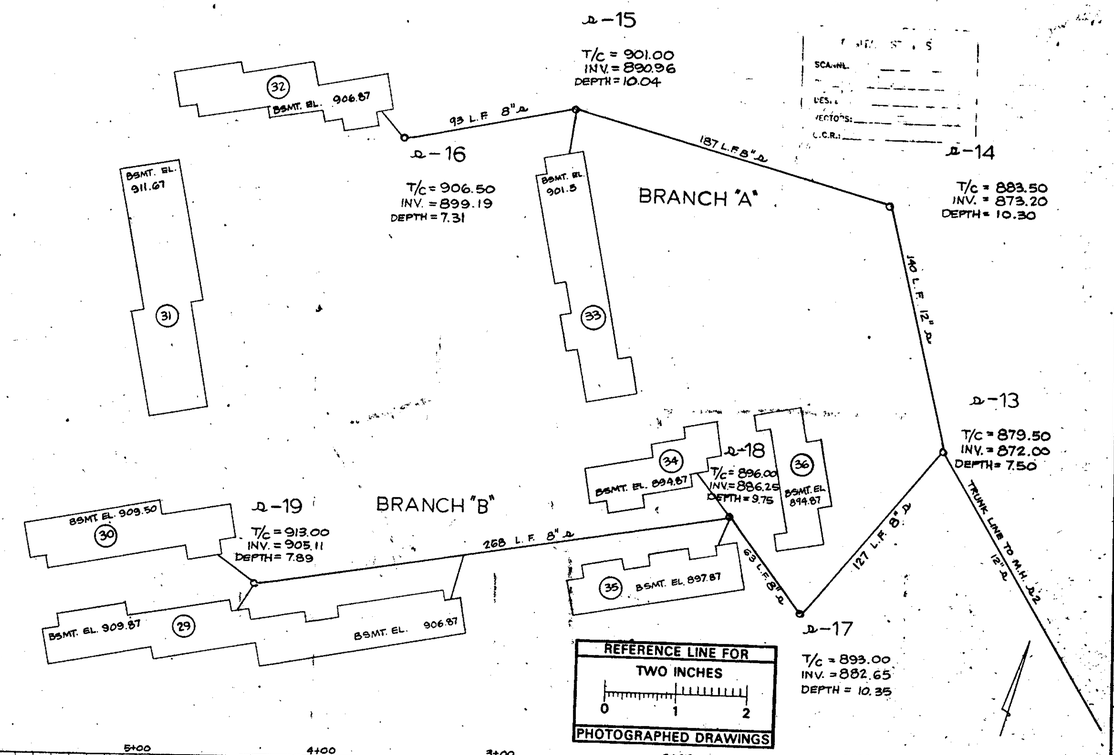
PREPARED BY NORMAN L. DIETRICH P.E.

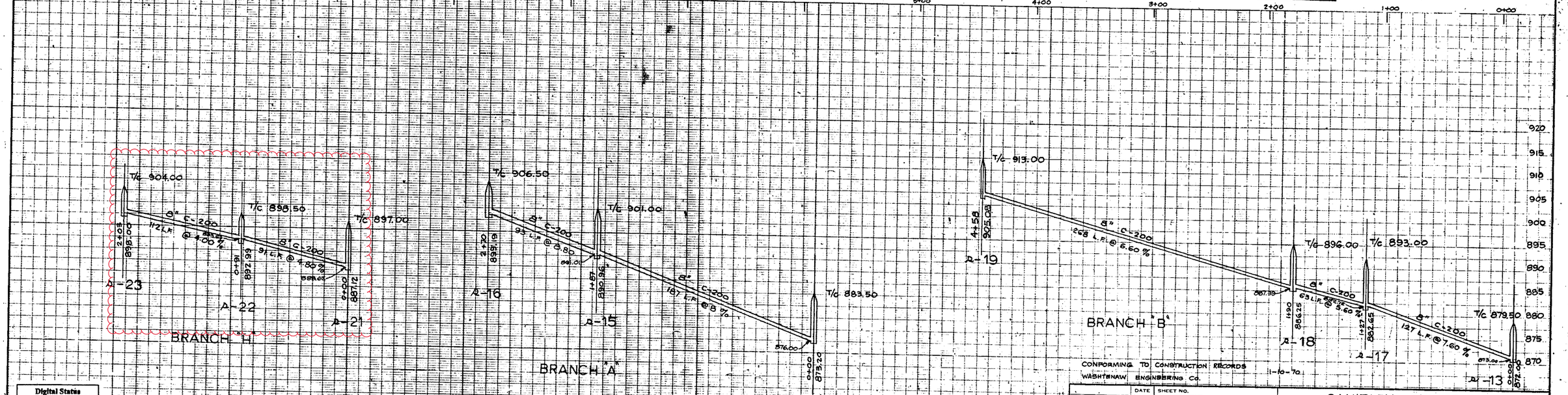
APPROVED BY

S 7

POST 5112 a







CONFORMING TO CONSTRUCTION RECORDS
WASHTENAW ENGINEERING CO. 1-10-70

Digital Status
Scanned On: 6-15-05
By: D&K
Despeckled: yes
Vectors:
O.C.R.:

LEGEND:

UNDERGROUND UTILITIES
PROFILES

EXISTING SANITARY — PROPOSED SANITARY — CENTER LINE — LEFT PROPERTY LINE
EXISTING STORM — PROPOSED STORM — RIGHT PROPERTY LINE
EXISTING GAS — EXISTING WATER

REFERENCES:
BENCH MARK: SPK. IN SOUTH SIDE OF P.P. N.W. CORNER OF PROP. ELE. 902.21
DRAWINGS:
M.D.P.H. PERMIT NO. 68072 11/1/68
PROFILES BY:
FIELD BOOK:

DR BY K.W.	DATE 6-68	SHEET NO.	
TR BY		INDEX NO. G575	
CH. BY. N.L.D.		SHELF NO. 6-C-4282	
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 10'	

SANITARY SEWER
PONTIAC HEIGHTS
BRANCH A, B, H
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

JOB 3576-S	DIST.	PRIVATE
JOB 3577-R	DIST.	PRIVATE
JOB	DIST.	
JOB	DIST.	

PREPARED BY NORMAN L. DIETRICH P.E.
APPROVED BY

S 8

Crosslot Arrowwood Trl.

N

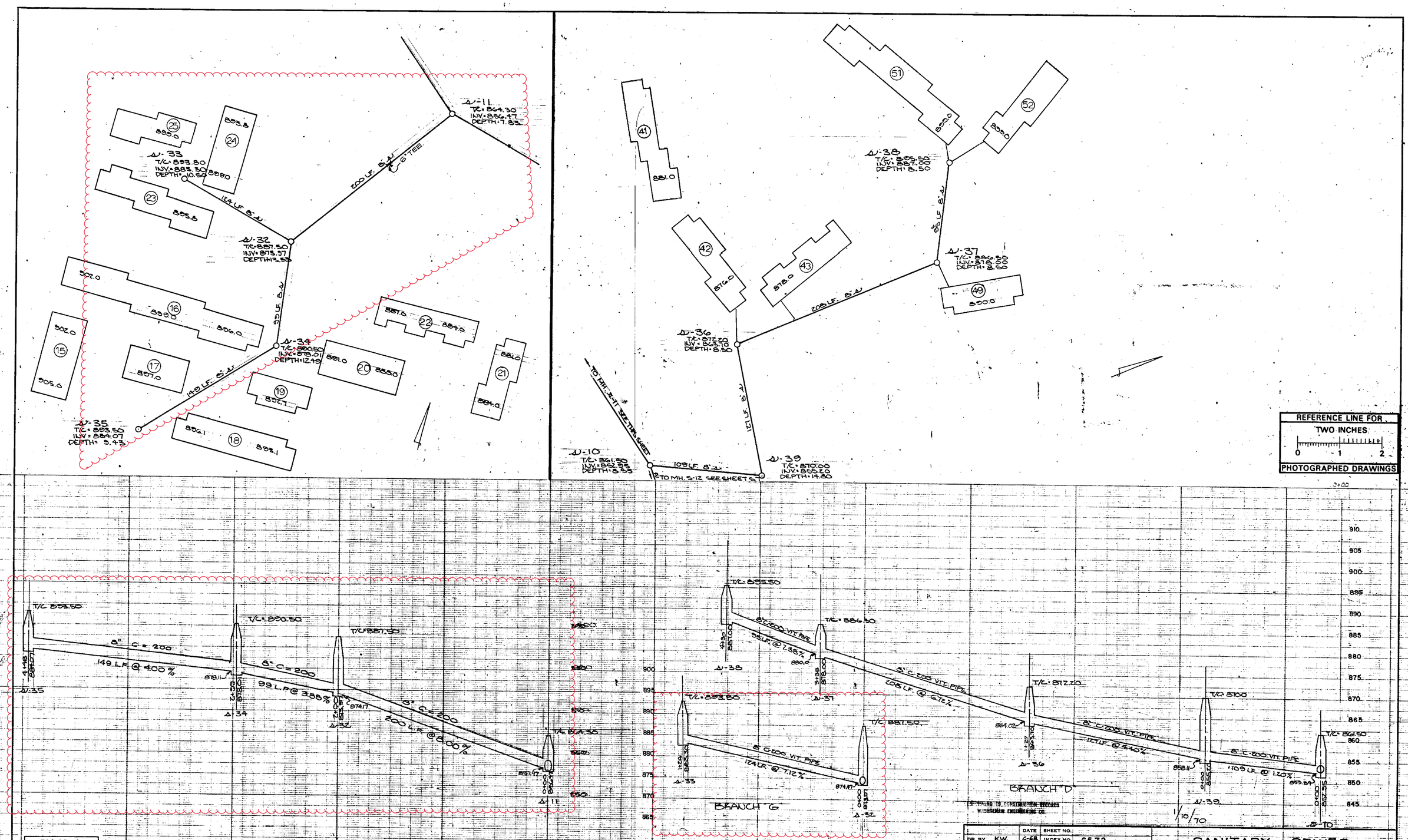
Manholes
Sanitary Main
Proposed Lining
Road Labels

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

For terms and conditions please visit www.a2gov.org/terms



DR. BY KW.	DATE 6-68	SHEET NO.	
TR. BY		INDEX NO. 6572	
CH. BY NLD		SHELF NO. 6-C-4279	
REVISIONS		SCALE: HORIZONTAL 1"=40' VERTICAL 1"=10'	

SANITARY SEWER
PONTIAC HEIGHTS
BRANCH G, D

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

Digital Status
Scanned On: 6-15-05
By: D&K
Despeckeled: YES
Vectors:
O.C.R.:

LEGEND:

UNDERGROUND UTILITIES: S — EXISTING SANITARY; S — PROPOSED SANITARY; R — EXISTING STORM; R — PROPOSED STORM; G — EXISTING GAS; W — EXISTING WATER

PROFILES: CENTER LINE; LEFT PROPERTY LINE; RIGHT PROPERTY LINE

REFERENCES:

BENCH MARK: SPK IN SOUTH SIDE OF P.P. SW. CORNER OF PROP EL 899.03

DRAWINGS: MDPH. PERMIT NO. 680721 11/1/68

PROFILES BY:

FIELD BOOK:

JOB 3576-S	DIST.	PRIVATE	
JOB 3577-R	DIST.	PRIVATE	
JOB	DIST.		
JOB	DIST.		

NORMAN L. DIETRICH, P.E.

PREPARED BY

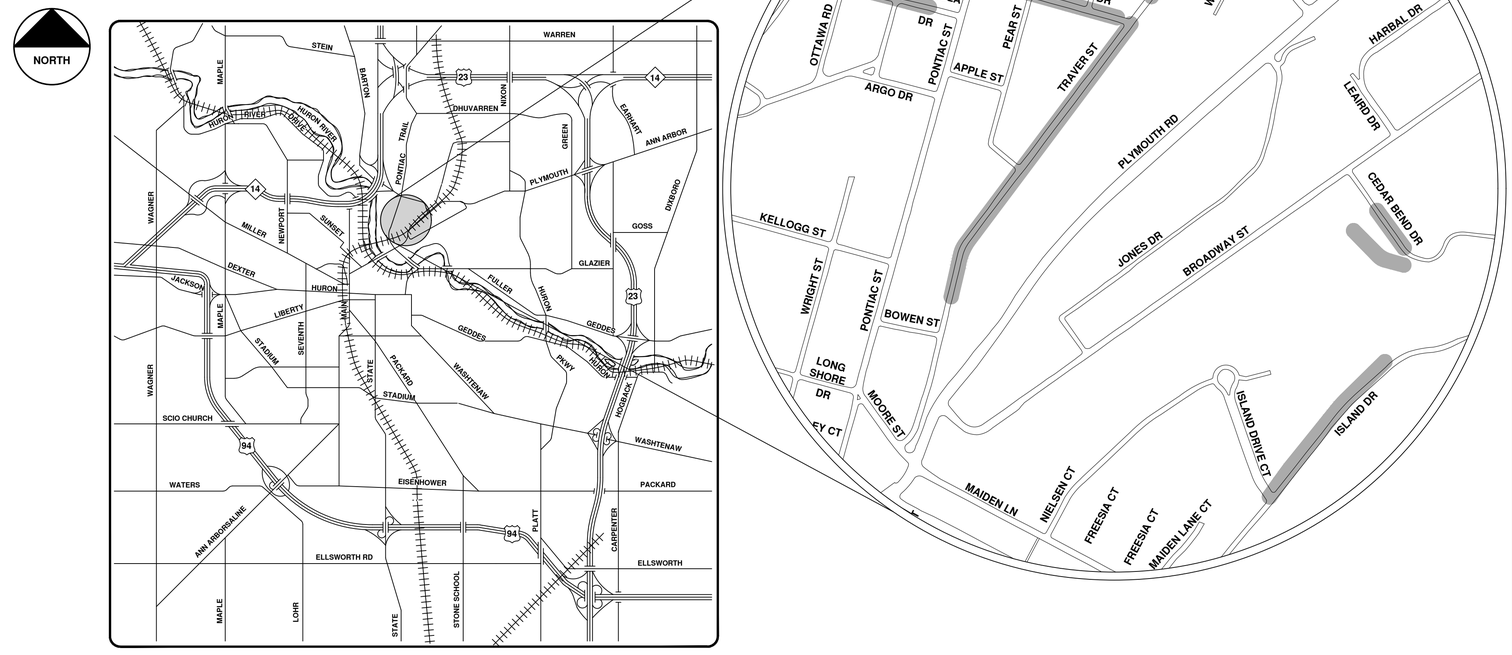
APPROVED BY Howard F. Russell 10/30/68

S5

2021 SEWER LINING PROJECT

GROUP 5- SANITARY

GROUP - S NIT R	
SHEET NUMBER	SHEET TITLE
220	GROUP COVER SHEET
221 - 222	MHERST VE PONTI C ST
223 - 22	CED R BEND DR
22 - 226	CROSSLOT CED R BEND N TURE RE
22 - 22	INDI NOL DR
22 - 231	ISL ND DR
232 - 233	OHN OODS DR
23 - 2 0	TR VER ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
	REV.	DESCRIPTION	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-220

SHEET No. 220 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\20210006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:25 PM

CITY OF ANN ARBOR MICHIGAN

Manholes
Proposed Sanitary
Sanitary Main
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Amherst Ave. & Pontiac St.

0 10 20 40 60 80 Feet

N

For terms and conditions please visit www.a2gov.org/terms

LONG SHORE DRIVE

CHANDLER ROAD

PONTIAC ST.

AMHERST AVE.

8" San. Sewer

20 — 164.13 — 168.60 — 19 — 181.84 — 61.23 — 63

27 — 28 — 29 — 136 — 61 — 50 — 50 — 50

30 — 31 — 32 — 34 — 33 — 136 — 80 — 56 — 50 — 50 — 50 — 146

18 — 165.33 — 182.07 — 17 — 198.81 — 16 — 215.55 — 59.70 — 59.70 — 59.70 — 45 — 62 — 60 — 62

14 — 13 — 12 — 11 — 128 — 62 — 60 — 62

7 — 6 — 5 — 4 — 3 — 2 — 8 — 128 — 57 — 50 — 50 — 50 — 146

ASSESSOR'S PLAT No. 33

10 9 8 7 6 5 4 3 2 1 0

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

850

840

Sta. 2+05.2 — 838.32

0.40% Grade — 8" Vit. Pipe

MEASUREMENTS TO HOUSE CONNECTIONS
0+60 = M.H. @ CHANDLER

NORTH	SOUTH
0+54	0+69
1+07	1+24
1+56	1+82

STub in M.H. 2+05.2

838.50 — 836.81 — 0+00 — 3+43

3+05.95 - F.T. Elev 841.92

30% — 8" Vit. Pipe

MEASUREMENTS TO HOUSE CONNECTIONS
0+00 - New M.H. on Pontiac St.

North	South
1+53	1+55
2+02	2+00
2+61	2+59
2+99.5	3+01.5

3+05.95 - F.T. at End

0+00 M.H. Elev 841.09

SHEET No.	
INDEX No.	1527
SHELF No.	6
SIZE	C
SUB. No.	549
Drawn By	
Traced By	
Checked By	

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH.

PLAN AND PROFILE OF SANITARY SEWER ON

AMHERST AVE.

PONTIAC ST. to LONG SHORE DR.

Geo. H. Sandenburgh City Engineer

1925-4-30

Scales 1" = 40' — Prof. Vert. 1" = 4'

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Cedar Bend Dr.

N

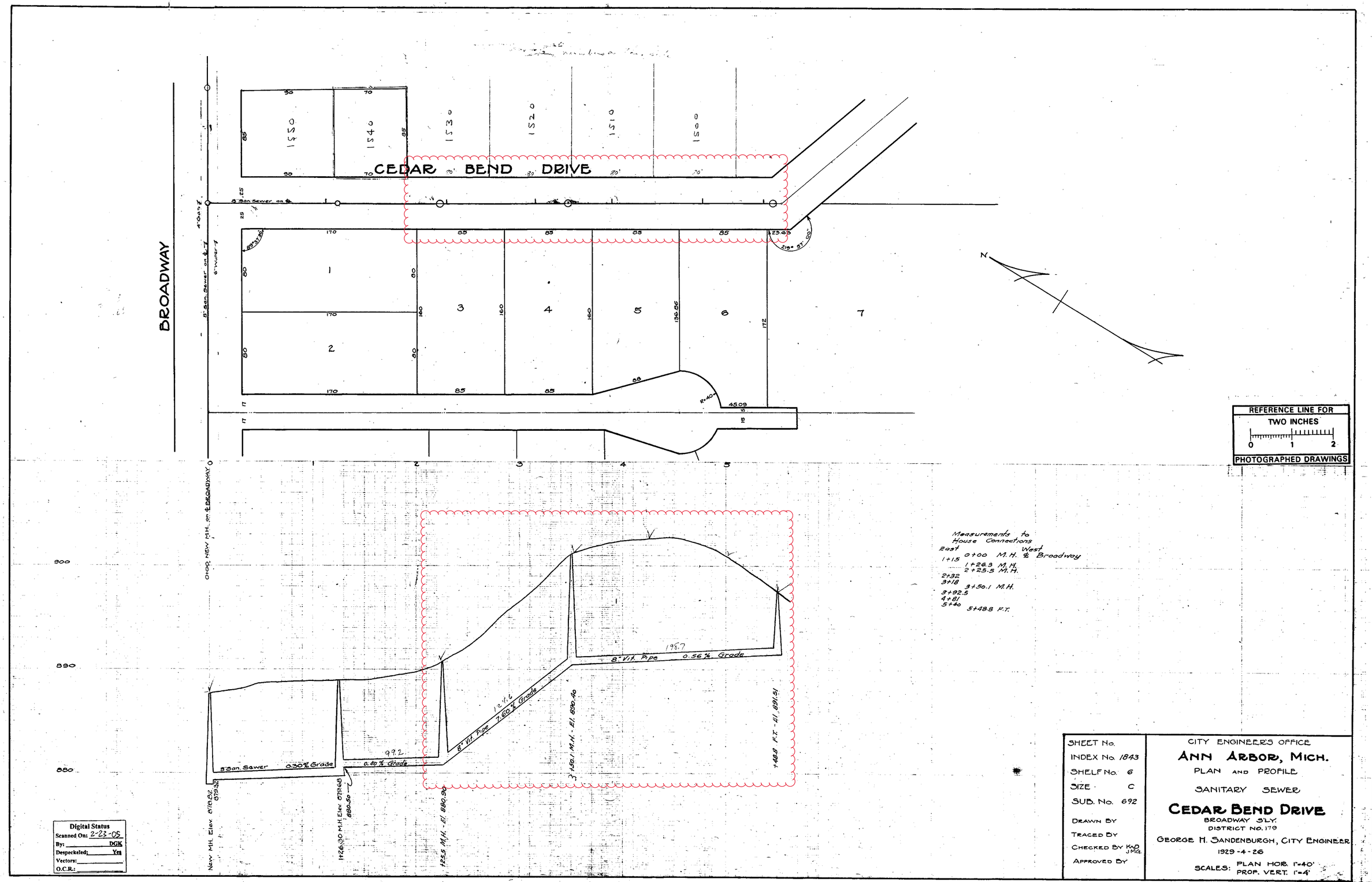
Manholes
Sanitary Main
Proposed Lining
Road Labels

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms



Measurements to House Connections

East		West
	0+00 M.H.	℄ Broadway
1+15		
	1+26.3 M.H.	
	2+25.5 M.H.	
2+32		
3+18		
	3+50.1 M.H.	
3+92.5		
4+81		
5+40		
	5+48.8 F.T.	

SHEET No.	CITY ENGINEER'S OFFICE
INDEX No. 1843	ANN ARBOR, MICH.
SHELF No. 6	PLAN AND PROFILE
SIZE C	SANITARY SEWER
SUB. No. 692	CEDAR BEND DRIVE
DRAWN BY	BROADWAY S'LY.
TRACED BY	DISTRICT NO. 179
CHECKED BY KWD JMG.	GEORGE H. SANDENBURGH, CITY ENGINEER
APPROVED BY	1929-4-26
	SCALES: PLAN HOR. 1"=40' PROF. VERT. 1"=4'

Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Crosslot Cedar Bend Nature Area

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 597 200 2-55

BROADWAY 66'

CEDAR BEND DRIVE 50'

IRVINGDALE (PRIVATE) COURT

BURY

KARPP

1 2 3 4 5 6

Johnson, John E.

Gravel

Gas ENDS here

Sidewalk

660'-18" CULVERT

BLINDE BRIDGE & REPLACE WITH 18" CONC. PIPE

MATCH LINE 6-C-1557

MATCH LINE 11-50

Dent

Δ = 89°58'
℄R = 38.35
℄T = 58.3
tgT = 83.34

Δ = 38°26'30"
℄R = 102.67
℄T = 57.54
tgR = 27.87
tgT = 71.53

Δ = 100°43'
R = 70.69
123.98'

Δ = 73°51'
℄R = 39.87
℄T = 68.96
tgT = 50.19

S 34°00' E
S 84°16' E
S 25°29'30" E
N 84°16' W

A 0+00 868.50
B 2+00 869.14
C 2+50 869.30
D 5+00 870.10
E 6+65 870.63
F 7+86 870.85
G 9+17 871.43
H 10+42 871.83
I 12+33
J 13+68.5
K 14+10.5

Inv. 869.00 — 18" CONC. SWR. PIPE

Inv. 874.70

℄ CEDAR BEND 66' 10' 10' SLOPE 3/4"

NO SCALE

N

~LEGEND~

- A — EXISTING SANITARY SEWER
- S — PROPOSED SANITARY SEWER
- ∿ — EXISTING STORM SEWER
- R — PROPOSED STORM SEWER
- W — WATER
- G — GAS

~REFERENCES~

Benchmark Ks - 1540 Broadway Elev 871.02

Drawings

Profiles
bk 594 pg 58
626 55
655 29-34

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

880
870
860

A 0+00 868.50 — 8" C-200 VIT. PIPE 200' @ 0.32%
B 2+00 869.14 — 8" C-200 50' @ 0.32%
C 2+50 869.30 — 8" C-200 VIT. PIPE 250' @ 0.32%
D 5+00 870.10 — 8" C-200 VIT. PIPE 165' @ 0.32%
E 6+65 870.63 — 8" C-200 71' @ 0.32%
F 7+86 870.85 — 8" C-200 VIT. PIPE 181' @ 0.32%
G 9+17 871.43 — 8" C-200 VIT. PIPE 125' @ 0.32%
H 10+42 871.83 — MATCH LINE 6-C-1557

Digital Status
Scanned On: 4/7/05
By: JDM
Despeckled: YES
Vectors:
O.C.R.:

M.D.H. Permit No. 13896 11-21-55

Job #2009 DIST # 311

	DATE		
DR. BY D.W.	3/55	SHEET NO.	1 of 2
TR. BY		INDEX NO.	33 I 9
CH. BY	8/56	SHELF NO.	6-C-1556
REVISIONS		SCALE: HORIZONTAL	1" = 40'
		VERTICAL	1" = 4'

SANITARY AND STORM SEWERS

CEDAR BEND DRIVE

FROM BROADWAY EASTERLY

GEO. H. SANDENBURGH CITY ENGINEER

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

Indianola Dr.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

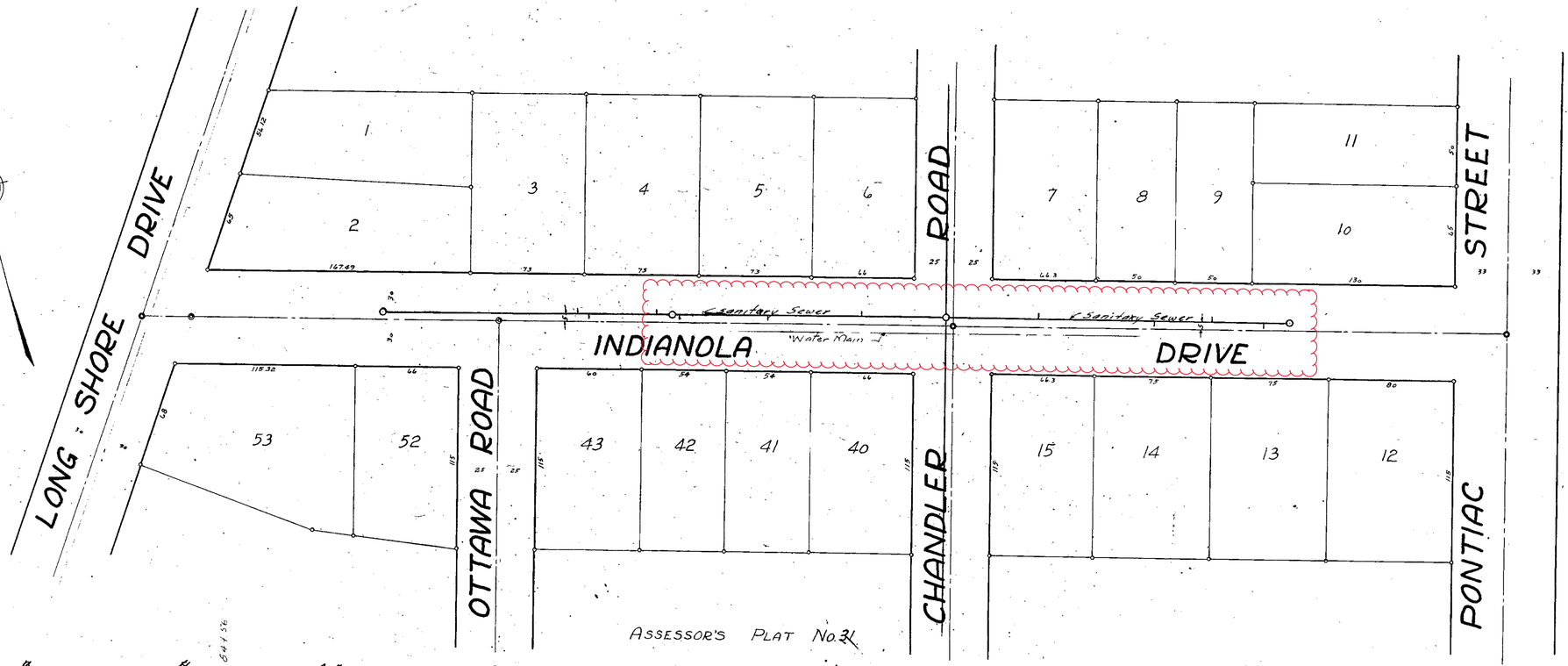
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

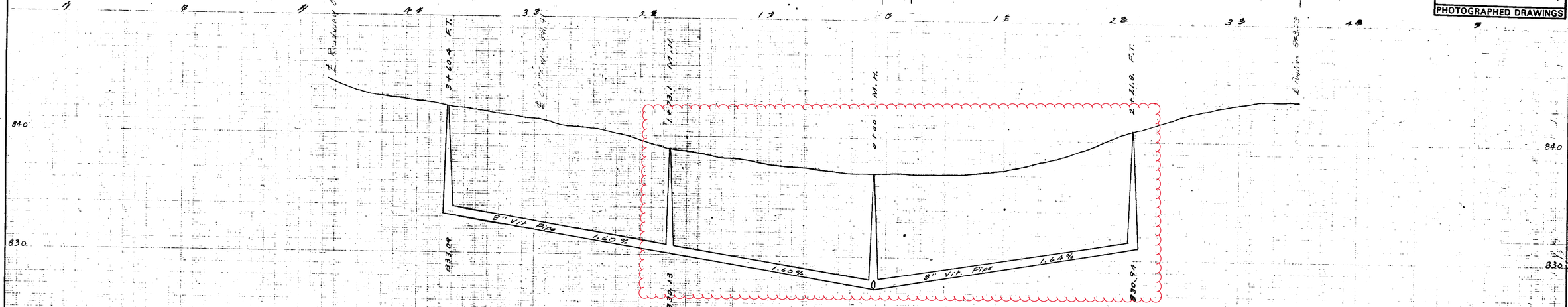
0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms



REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS



House Connections
0+00 M.H. at Chandler
North: 0+54, 1+19, 1+85, 2+35, 3+60.4 ~~FT.~~
South: 1+19, 1+70, 2+28
1+73.1 M.H.

House Connections
0+00 M.H at Chandler
North: 0+39, 1+19, 1+70, 2+21.8 ~~FT.~~
South: 1+33, 2+03

Digital Status
Scanned On: 3/4/05
By: EMK ~~DGK~~
Despeckeled: Yes
Vectors:
O.C.R.:

SHEET No.
INDEX No. 2441
SHELF No 6
SIZE C
SUB No. 904
DRAWN BY
TRACED BY
CHECKED BY

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
SANITARY SEWER
INDIANOLA DRIVE
LONG SHORE DRIVE TO PONTIAC ST.
Geo. H. Sandenburgh City Engineer
Scales: Plan Hor. 1" = 40'
Profile Vert. 1" = 4'

Island Dr.

N

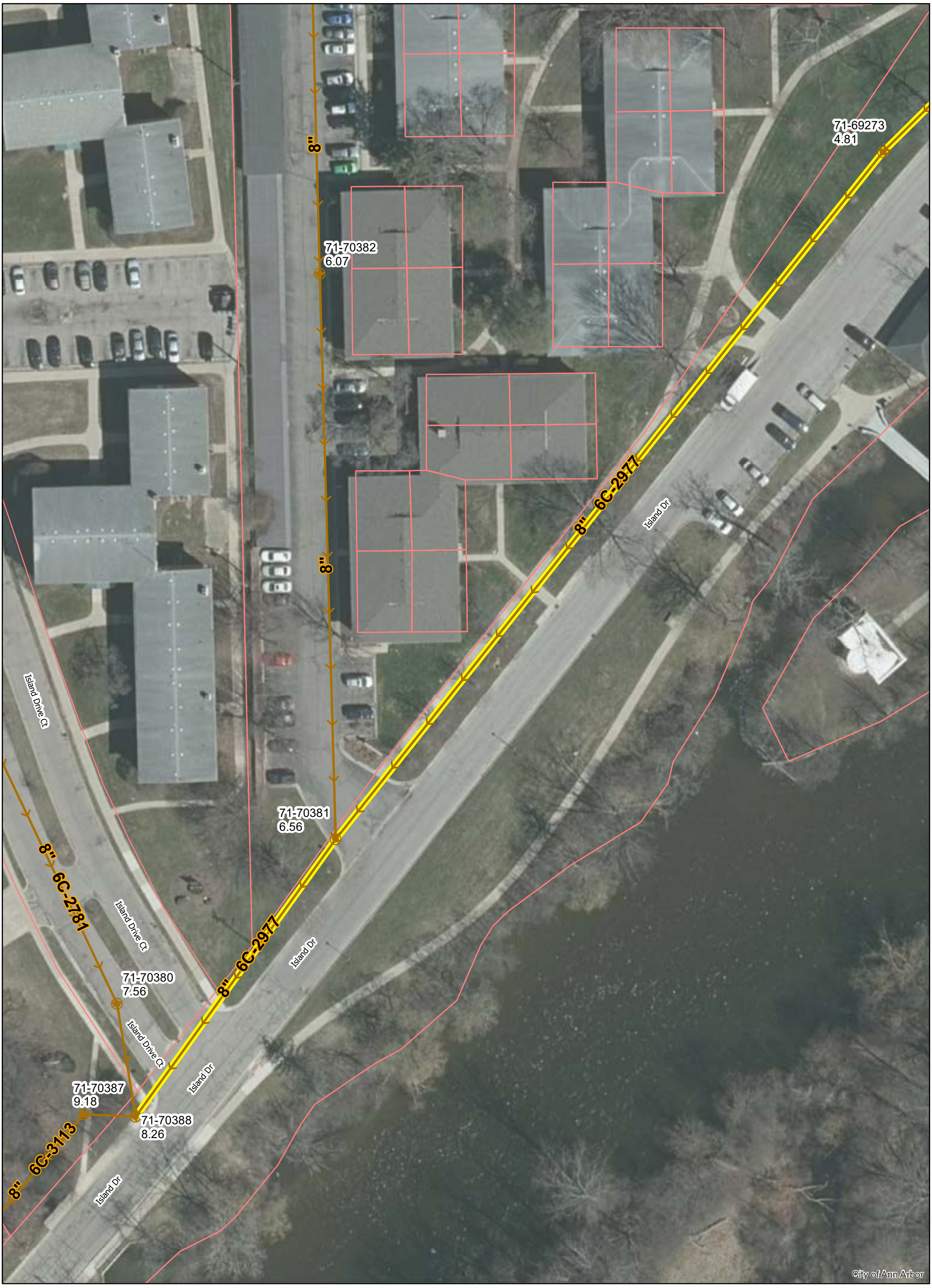
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

For terms and conditions please visit www.a2gov.org/terms



Island Dr.

N

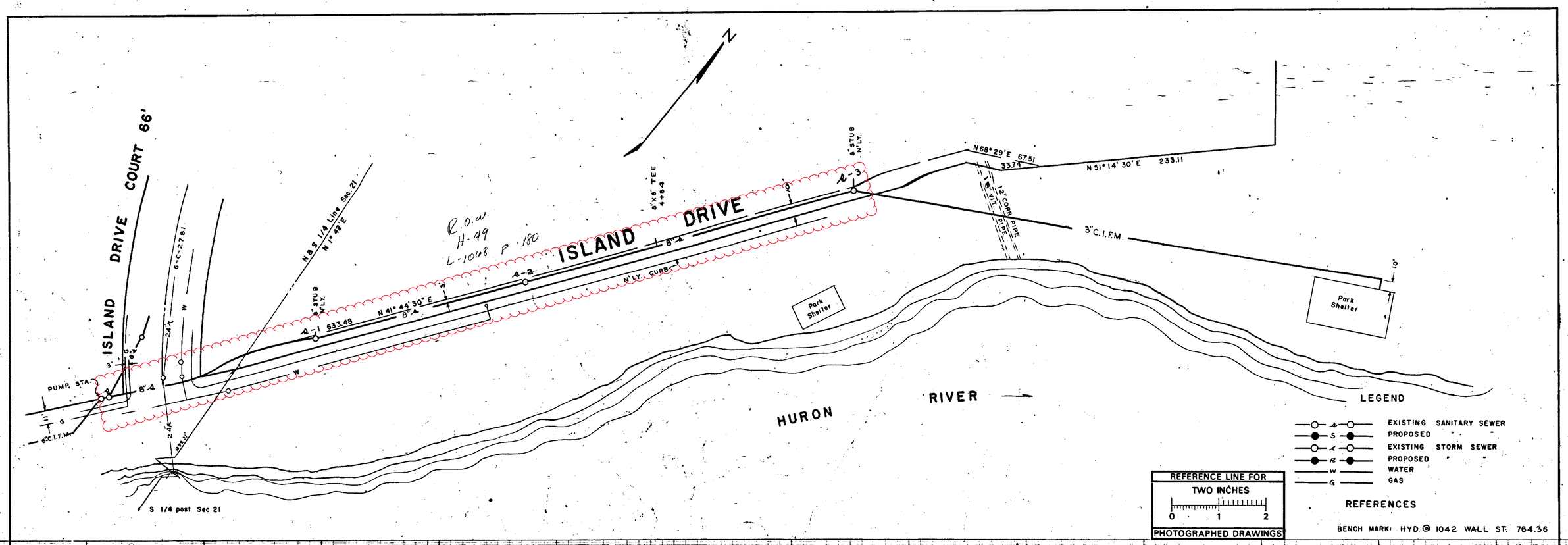
Manholes
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 20 40 80 120 160

For terms and conditions please visit www.a2gov.org/terms



ISLAND DRIVE COURT 66'
ISLAND DRIVE
N
N & S 1/4 Line Sec. 21
N 1° 42' E
6-C-2781
PUMP. STA.
6" C.I.F.M.
8" STUB N'LY.
N 41° 44' 30" E
633.48
8" X 6" TEE 4+84
N'LY. CURB
8" STUB N'LY.
N 68° 29' E 67.51
33.74
N 51° 14' 30" E 233.11
12" CORR. PIPE
18" VIT. PIPE
3" C.I.F.M.
Park Shelter
Park Shelter
HURON RIVER
S 1/4 post Sec 21
R.O.W. H-49 L-1068 P 180
LEGEND
EXISTING SANITARY SEWER
PROPOSED
EXISTING STORM SEWER
PROPOSED
WATER
GAS
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
REFERENCES
BENCH MARK: HYD. @ 1042 WALL ST. 764.36
DRAWINGS:
PROFILES: BOOK 812
770
760
750
10' IN TUNNEL UNDER STORM
OUT 754.65
8" C-200 VIT. PIPE
183' @ 0.4%
8" STUB N'LY. 755.44
8" C-200 VIT. PIPE
185' @ 0.4%
8" C-200 VIT. PIPE
290' @ 0.4%
8" STUB N'LY. 757.37
OUT 758.30
3" C.I. FORCE MAIN
142' @ 3.02%
18" VIT. PIPE
12" CORR. METAL PIPE
3" C.I. FORCE MAIN
300' @ 0.32%
SLAB OF SHELTER 760.91
BOTTOM OF SUMP IN SHELTER 758.87
0+00 749.95
1+83 755.38
3+68 756.12
6+58 757.28
8+00 754.01
11+00 754.97
11+19
SEWER LAID ON CURVE
Digital Status
Scanned On: 6-13-05
By: DGK
Despeckeled: YES
Vectors:
O.C.R.:
JOB 2999-S
M.D.H. PERMIT NO 23398 3/9/63
DR. BY Don
DATE 1/63
TR. BY
CH. BY
REVISIONS
AS BUILT L.F.S. 11/63
SHEET NO.
INDEX NO. 5024
SHELF NO.
6-C-2977
SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'
SANITARY SEWER
ISLAND DRIVE
ISLAND DRIVE COURT
TO 1200 FT NORTHEASTERLY
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS
PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

CH AC 2/65

John A Woods Dr.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

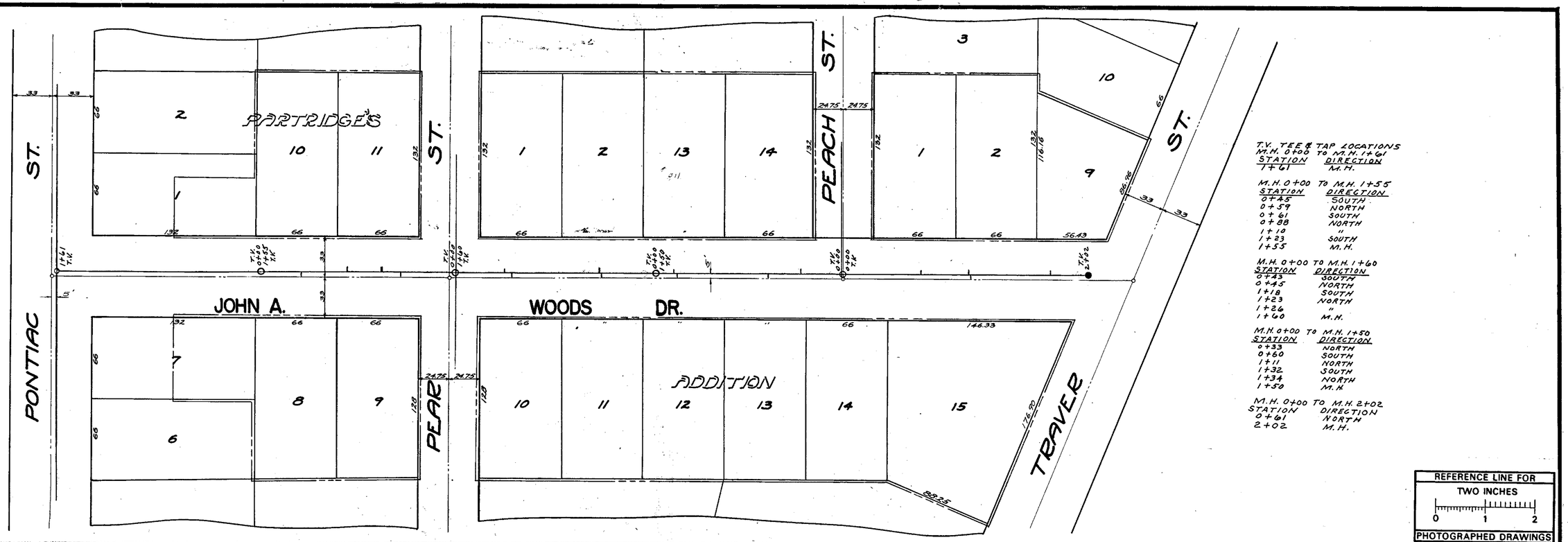
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms



T.V. TEE & TAP LOCATIONS

M.H. 0+00 TO M.H. 1+61

STATION	DIRECTION
1+61	M.H.

M.H. 0+00 TO M.H. 1+55

STATION	DIRECTION
0+45	SOUTH
0+59	NORTH
0+61	SOUTH
0+88	NORTH
1+19	"
1+23	SOUTH
1+55	M.H.

M.H. 0+00 TO M.H. 1+60

STATION	DIRECTION
0+43	SOUTH
0+45	NORTH
1+18	SOUTH
1+23	NORTH
1+26	"
1+60	M.H.

M.H. 0+00 TO M.H. 1+50

STATION	DIRECTION
0+33	NORTH
0+60	SOUTH
1+11	NORTH
1+32	SOUTH
1+34	NORTH
1+50	M.H.

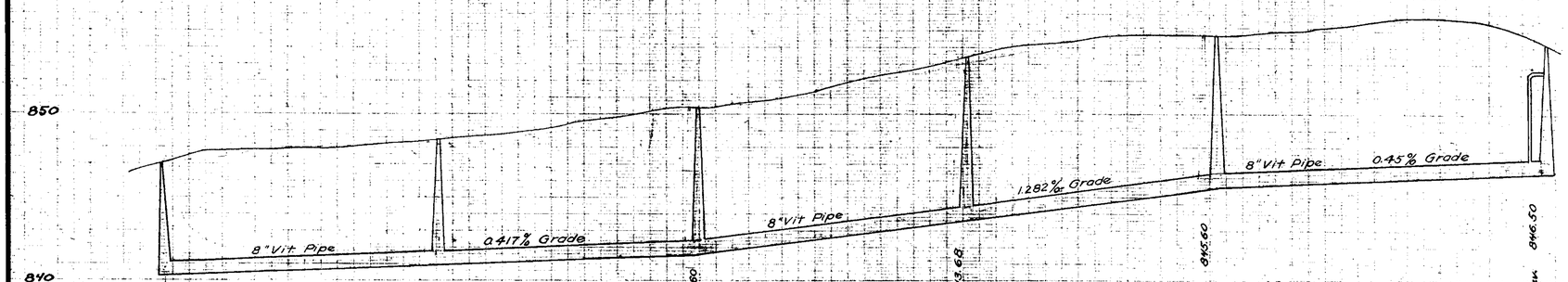
M.H. 0+00 TO M.H. 2+02

STATION	DIRECTION
0+61	NORTH
2+02	M.H.

REFERENCE LINE FOR TWO INCHES

0 1 2

PHOTOGRAPHED DRAWINGS



MEASUREMENTS TO HOUSE CONNECTIONS

Ys only

North	0+00 M.H. on Pontiac St.	South
165	1+65.55 M.H.	
235		197.5
262		277
	3+22.45 M.H.	
365		369
438		440
	4+84.95 M.H.	
500		502
602		573
	6+35.80 M.H.	
698		739
737		
803		
	8+34.95 F.T. at End.	

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

INDEX No. 1521
SHELF No. 6
SIZE C
SUB. No. 595

Drawn By G.H.
Traced By G.H.
Checked B.

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER ON
JOHN A. WOODS DR.
PONTIAC ST. TO TRAVER ST.
Geo. H. Sandenburgh City Engineer
1925-3-24
Scales: Hor. 1"=40' Vert. Prof. 1"=4'

Traver St.

N

Manholes
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

For terms and conditions please visit www.a2gov.org/terms

T.V. TEE & TAP LOCATIONS

M.H.'W' TO M.H.'V'

STATION	DIRECTION
0+09	M.H.
0+55	WEST
0+62	EAST
1+04	M.H.

M.H.'V' TO M.H.'U'

STATION	DIRECTION
0+18	UNKNOWN
0+27	WEST
0+60	"
0+63	UNKNOWN
0+98	WEST
1+10	"
1+51	EAST
1+57	UNKNOWN
1+69	M.H.

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

PARTRIDGE ADDITION

NOTE
(1) HOUSES INCL. 1615 ON NORTH SIDE WILL BE > 3' ABOVE ROAD GRADE
NO HOUSES ON PEACH ST.
(2) NO BASEMENTS ON NOS 1616, 1626, 1634, 1642, 1650 HOUSES
(3) SEWER CONNECTIONS ARE APPROX. 3.0' BELOW FLOOR (CONTRACTOR)

PEACH ST — CROSSLOTS CONSTR. 1949 JOB 1621 6-C-1009

TRAVER STREET 66' — BARTON DRIVE 50' — PLUM STREET — TAYLOR STREET — JONES DRIVE — PLYMOUTH ROAD — A.A.R.R.

ALL HOUSES WITHOUT BASEMENT

STUBS N. ON BARTON & TRAVER

STUB N. ON TRAVER

TEE ON SEWER LINE

EXIST. M.H. 811.00

Test Boring #24: HARD YELLOW CLAY. CLAYEY & GRAVELLY SAND; COARSE YELLOW SAND LITTLE GRAVEL; WATER LEVEL (DRY); 12'-0"

Test Boring #23: SANDY LOAM, FINE BROWN SAND, LITTLE GRAVEL & CLAY; CLAYEY MEDIUM YELLOW SAND, LITTLE GRAVEL; FINE TO VERY FINE YELLOW SAND, SEAMS OF HARD SANDY YELLOW CLAY; VERY FINE GREY SAND TRACE OF CLAY; DELAYED WATER LEVEL 7'-6"; 18'-10"

Test Boring #22: SAND, GRAVEL, CLAY & MUD; CLAYEY FINE YELLOW SAND SOME GRAVEL; COMPACT SAND, GRAVEL & ROCK CHIPS, LITTLE CLAY; DELAYED WATER LEVEL 8'-4"; FINE TO MEDIUM GREY SAND HARD SANDY BLUE CLAY & SEAMS OF VERY FINE GREY SAND; 12'-6"

Test Boring #21: SAND LOAM; COARSE GRAVEL SAND & GRAVEL LITTLE VEGETATION (MAY BE FILL); WATER LEVEL 1'-8"; MEDIUM BLUE CLAY, SEAMS OF SAND & GRAVEL; COMPACT VERY FINE GREY SAND & SEAMS OF HARD SANDY BLUE CLAY

Test Boring #20: SANDY LOAM; SILTY FINE BROWN SAND LITTLE GRAVEL (MAY BE FILL); MEDIUM GREY SAND, LITTLE SILT & GRAVEL; COMPACT COARSE GREY SAND, GRAVEL & ROCK CHIPS, LITTLE CLAY; VERY SANDY MEDIUM HARD BLUE CLAY, LITTLE GRAVEL; WATER LEVEL 0'-11"; 8'-8"

- REFERENCES -

BENCH MARKS — BARTON W. of TRAVER 825.62
No 2 - TOP OF BRACE DECK AT N.W. CORNER BOX #9
No 3 - N. END OF N.E. WINGWALL A.R. CULVERT 786.57
No 4 - N.W. COR. OF 6'IN WINGWALL CULVERT ON PLYMOUTH RD 796.69
No 5 - TOP OF 36" PIPE E. END OF N'LY CULVERT ARBOR SPRINGS WATER CO. 786.34.

PROFILES — BK. 535 PG. 39
" 561 " 24

- LEGEND -

——L—— EXISTING SANITARY SEWER
——S—— PROPOSED SANITARY SEWER
——M—— EXISTING STORM SEWER
——R—— PROPOSED STORM SEWER
——W—— WATER
——G—— GAS

NOTE:
HOLES IN COVER S OF M.H.'S M, N, O & P TO BE PLUGGED.

NOTE:
1) ALTERNATE - 12" SEWER PIPE MAY BE TRANSITE PIPE CLASS I
2) TEST BORING SAMPLES ARE ON FILE IN THE CITY ENGINEER'S OFFICE

Sheet No	1
Index No	
Shelf No	
Size No	
Sub No	
Designed By	
Drawn By	B.O.
Traced By	
Checked By	

PUBLIC WORKS DEPARTMENT
ANN ARBOR, MICH.
PEACH ST. — Taylor to Plum
TRAVER ST - Barton to Plum
BARTON DR. - Culvert to Traver
SANITARY SEWER
SCALE HOR. 1"=100' VERT. 1"=10'
Geo. H. Sandenburgh, City Engineer
REVISED 1952

NOTE —
ALL WORK WITHIN THE A.A.R.R. RIGHT OF WAY MUST MEET THEIR SPECIFICATION COVERING SUCH WORK.

U S 12 — PLYMOUTH ROAD — ANN ARBOR RAILROAD — BARTON DRIVE — JONES DRIVE 49.5'

3" WATER PIPE FROM SPRINGS

CITY PARK — BARNS — BROADWAY 82.50' — STREET 66' — JONES DRIVE — TRAVER ADDITION

ARBOR SPRINGS WATER CO.

4" TAP BY CITY CREW 1440 PLYMOUTH RD.

SEE DETAIL — SEE DWG. 6-C-1293 — SEE DWG. 6-C-133

Digital Status
Scanned On: 3-6-05
By: DGK
Despeckeled: YES
Vectors:
O.C.R.:

M.H.'A' TO M.H.'K' FOR PROFILE SEE 6-C-1194

ELEV. 907.31 — ELEV. 921.07

Test Boring #19: SOFT BLACK PEATY LOAM; SILTY YELLOW SAND, LITTLE GRAVEL & VEGETATION; GRAVELLY MEDIUM YELLOW SAND; HARD SANDY BLUE CLAY & SEAMS OF FINE GREY SAND, LITTLE GRAVEL; WATER LEVEL 2'-6"; 8'-0"

Test Boring #18: SANDY LOAM; MEDIUM YELLOW SAND, SOME SILT & PEAT; VERY SOFT, BLACK PEAT, LITTLE SAND; COMPACT FINE GREY SAND, LITTLE GRAVEL, TRACE OF CLAY; WATER LEVEL 2'-6"; 8'-0"

Test Boring #9: BLACK LOAM; MEDIUM YELLOW SAND, LITTLE GRAVEL AND CLAY; MEDIUM TO COARSE CLAYEY & GRAVELLY YELLOW SAND; DITTO (BUT GREY); WATER LEVEL 8'6"; 12'-6"

Test Boring #10: DARK SANDY LOAM (MAY BE FILL); COMPACT SAND GRAVEL & ROCK CHIPS, LITTLE CLAY; VERY FINE CLAY SAND SEAMS OF CLAY & GRAVEL; WATER LEVEL 4'-10"; 9'-0"

Test Boring #11: BLACK SANDY LOAM; COMPACT SAND, GRAVEL & ROCK CHIPS, LITTLE CLAY; FINE VARICOLORED SAND, FEW CLAY & GRAVEL SEAMS; FINE GREY SAND, LITTLE CLAY; WATER LEVEL 4'-8"; 9'-0"

Test Boring #12: VERY SOFT, SANDY, BLACK PEAT; MEDIUM YELLOW SAND AND GRAVEL; HARD SANDY BLUE CLAY, SEAMS OF FINE SAND; WATER LEVEL 1'-0"; 8'-0"

Test Boring #13: SANDY LOAM; YELLOW CLAY, SOFT BLACK, SANDY SILT (ORGANIC); SOFT BLACK PEAT SOME SAND & GRAVEL; HARD SANDY BLUE CLAY, LITTLE GRAVEL; 8'-0"

Test Boring #14: SANDY LOAM; HARD SANDY YELLOW CLAY, LITTLE GRAVEL PARTINGS OF SAND; HARD SANDY BLUE CLAY & SEAMS OF FINE GREY SAND; WATER LEVEL (DRY); 8'-0"

NOTE: TEST BORING #15 WAS NOT TAKEN

Test Boring #16: SOFT BROWN ORGANIC SILT, SAND & GRAVEL; COMPACT SAND & GRAVEL, TRACE OF VEGETATION; HARD SANDY BLUE CLAY, LITTLE GRAVEL; WATER LEVEL 4'-4"; 8'-5"

Test Boring #17: SANDY LOAM; MEDIUM YELLOW SAND LITTLE SAND & GRAVEL; COMPACT YELLOW SAND & GRAVEL, LITTLE CLAY; HARD VERY SANDY, BLUE CLAY, LITTLE GRAVEL; 12"

12" V.P. @ .81% — 12" V.P. @ .81% — 12" V.P. @ .81% — 12" VIT. PIPE @ .81% — 12" VIT. PIPE @ .95% — 12" VIT. PIPE @ 1.89% — 12" VIT. PIPE @ 1.31% — 12" V.P. @ .62% — 12" VIT. PIPE @ .91% — 12" V.P. @ .96% — 12" V.P. @ .95% — 12" VIT. PIPE @ 1.57%

12"Ø 0.50% Reduced grade 3 Sets

See Specs. & 18-1952 TUNNEL 190' UNDER PLYMOUTH RD. AND ANN ARBOR R.R.

M.D.H. Permit No. 10089 8-27-52
DIST. 240
Job No. 1887 - (1480)

Sheet No	2
Index No	2492
Shelf No	6
Size No	C
Sub No	959
Designed By	
Drawn By	M.O.
Traced By	
Checked By	

PUBLIC WORKS DEPARTMENT
ANN ARBOR, MICH.
CROSSLOTS — Broadway, following Traver Creek to Barton Dr.
SANITARY SEWER
SCALE HOR. 1"=100' VERT. 1"=10'
Geo. H. Sandenburgh, City Engineer
REVISED 1952

Traver St.

N

Manholes
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 30 60 120 180 240

For terms and conditions please visit www.a2gov.org/terms

TRAVER ST.

1926

1926 Approx.

PLUM ST.

PEAR ST.

9 2 15 14 16 17 18 19 20 21 22 3 2 1

27 26 25 24 23 22 21 20 19 18 17 16

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

15+25.10 F.T. Elev 844.60

12+75.8 M.H. Elev 849.09

10+26 M.H. Elev 834.90

7+77 M.H.

10+26 M.H.

12+75.8 M.H.

15+25.10 F.T.

7+77.00 M.H. Elev 831.00

8+25 M.H. Elev 824.78

DIST 160

MEASUREMENTS TO HOUSE CONNECTIONS
Y's ONLY
0+00 M.H. @ 2nd Angle
5+23 M.H. @ Pear St.

EAST	WEST
5+62.6	5+86.7
7+28.9	6+42.8
7+85.7	7+60.4
8+12.7	8+02.7
9+38.8	8+99.0
8+97.1	9+34.1
9+51.8	10+02.1
10+00	10+52.1
10+50.1	10+99.5
11+01.4	11+50.3
11+48.1	11+85.7
11+90.0	12+50.8
12+52.8	13+00.2
13+02.2	13+43.8
13+45.8	13+98.9
14+00.8	
14+52.7	
14+94.6	
15+16.2	

SHEET No.	
INDEX No.	1535
SHELF No.	6
SIZE	6
SUB. No.	607
Drawn By	
Traced By	
Checked By	

CITY ENGINEER'S OFFICE
ANN ARBOR MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
TRAVER ST.
PEAR ST. to PLUM ST.
Geo. H. Sandenburgh City Engineer
1925-8-30
Scales: Plan 1"=40' Prof. Vert. 1"=4'

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

Traver St.

N

Manholes
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

For terms and conditions please visit www.a2gov.org/terms

TRAVER ST.

PEAR ST.

19 20 21 22 3 2 1

22 21 20 19 18 17 16 15 14 13 12

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS Y's ONLY

EAST	0+00 M.H. @ Angle	WEST
0+67.9		0+48.3
1+59.8		1+01.4
2+51.8	2+70.4 M.H.	1+48.2
2+85.6		2+01.9
3+43.9		2+51.8
4+43.1		3+02.0
5+15.8		3+54.4
		4+00.0
		4+52.3

5+25 M.H. @ Pear
7+77 M.H.
10+25.1 M.H.
12+75.8 M.H.
15+22.10 P.T. @ End

0+00 M.H. Elev. 834.80

8" Vit Pipe 1.52 % Grade

Same M.H. 7+77 M.H. Elev. 831.00

8" Vit Pipe 2.49 % Grade

25'

5+25 M.H. Elev. 824.78

8" Vit Pipe 0.46 % Grade

25 1/2'

2+70.4 M.H. Elev. 823.58

8" Vit Pipe 1.35 % Grade

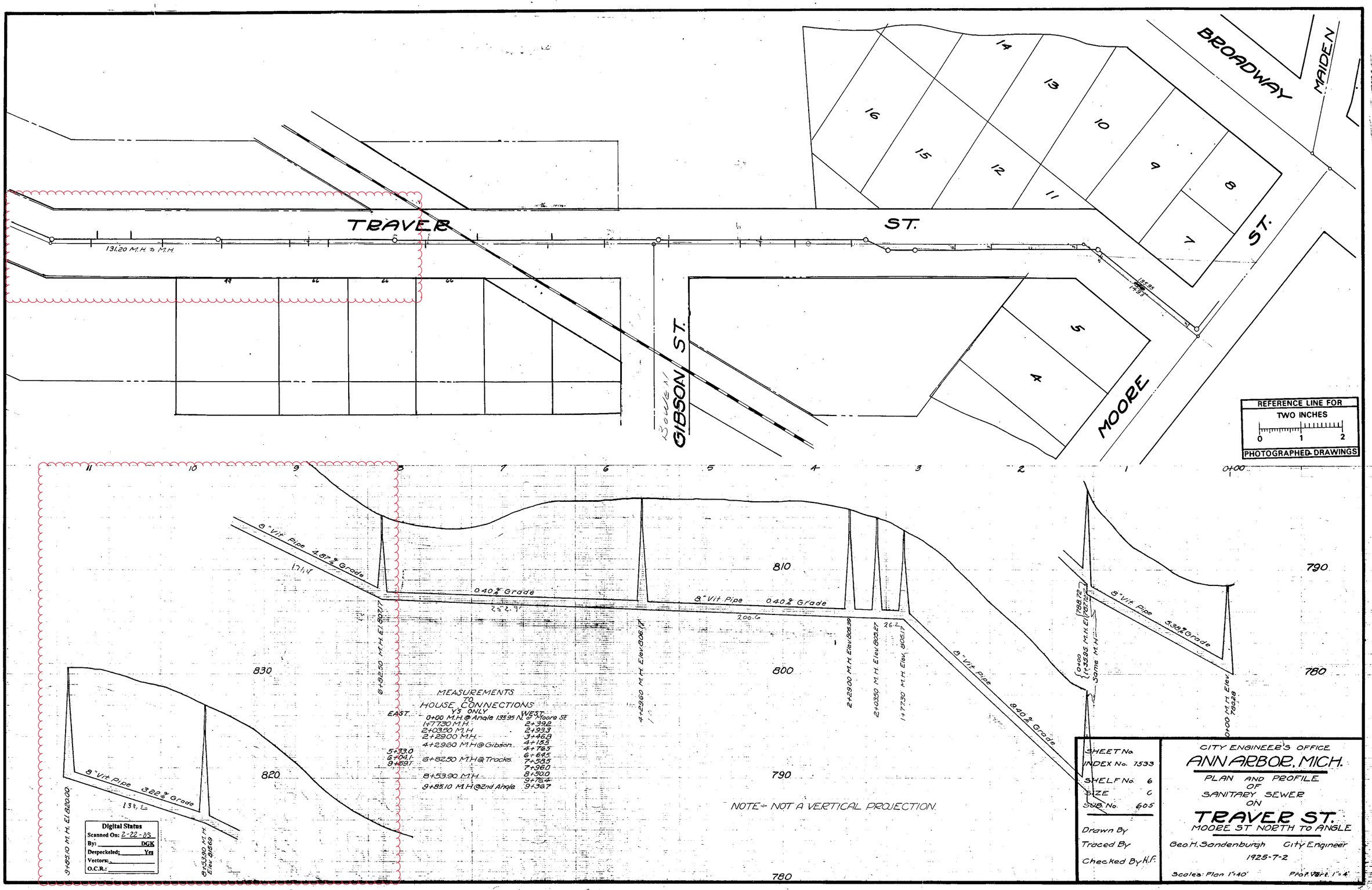
0+00 M.H. Elev. 820.00

Digital Status
Scanned On: 2-22-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Sheet No.
Index No. 1534
Shelf No. 6
Size C
Sub No. 606

Drawn by
Traced by
Checked by

CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER ON
TRAVER ST.
ANGLE to PEAR ST.
Geo. H. Sondenburgh, City Engineer.
1925-7-2
Scale: Plan 1"=40' Vert 1"=40'

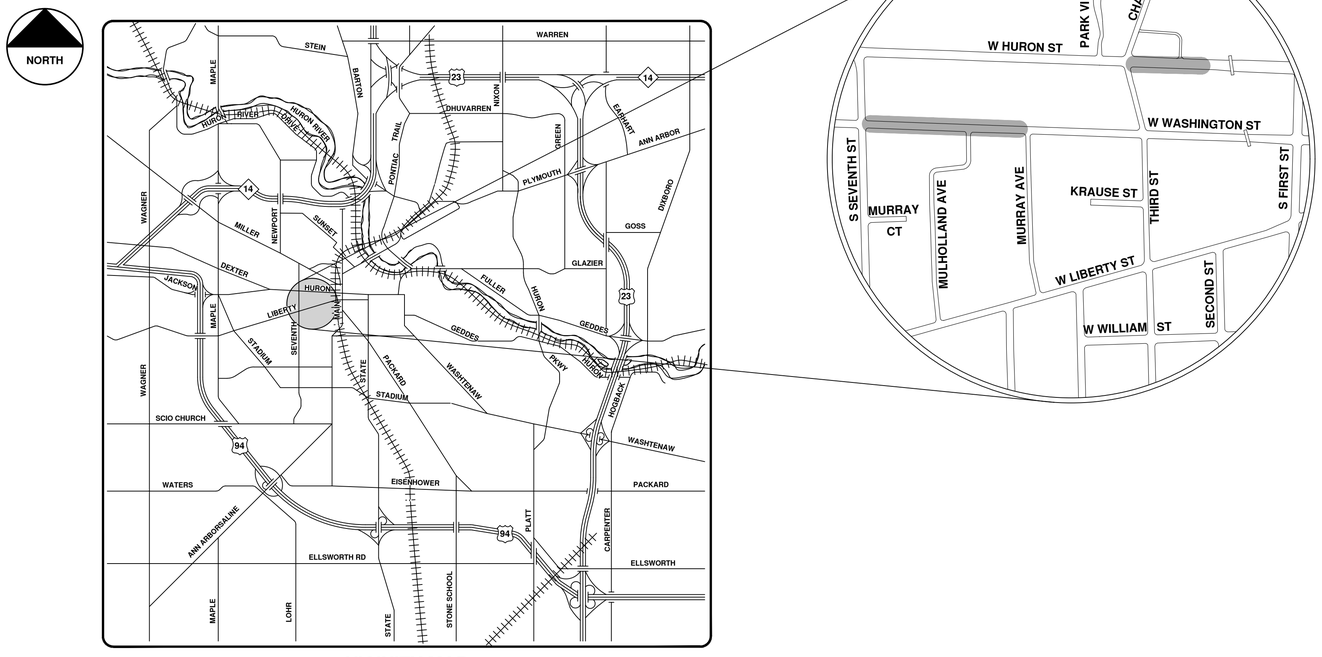


TRAVER ST.
BROADWAY
MAIDEN
MOORE ST.
GIBSON ST.
Bowen
131.20 M.H. to M.H.
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
8" Vit Pipe 4.87% Grade
0.40% Grade
8" Vit Pipe 0.40% Grade
8" Vit Pipe 9.40% Grade
8" Vit Pipe 5.38% Grade
8" Vit Pipe 3.22% Grade
6+82.50 M.H. El. 807.17
4+29.60 M.H. Elev. 806.17
2+29.00 M.H. Elev. 805.99
2+03.50 M.H. Elev. 805.27
1+77.30 M.H. Elev. 805.17
0+00 M.H. Elev. 780.28
Same M.H.
9+85.10 M.H. El. 820.00
8+53.90 M.H. Elev. 815.69
810
800
790
780
830
820
MEASUREMENTS TO HOUSE CONNECTIONS
Y'S ONLY
EAST
WEST
0+00 M.H. @ Angle 135.95 N. of Moore St.
1+77.30 M.H. 2+39.2
2+03.50 M.H. 2+93.3
2+29.00 M.H. 3+46.8
4+29.60 M.H. @ Gibson 4+15.5
4+76.5
5+33.0 6+04.1 9+69.7
6+82.50 M.H. @ Tracks 6+64.5
7+58.5
7+96.0
8+53.90 M.H. 8+50.0
9+76.4
9+85.10 M.H. @ 2nd Angle 9+36.7
NOTE:- NOT A VERTICAL PROJECTION.
Digital Status
Scanned On: 2-22-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No.
INDEX No. 7533
SHELF No. 6
SIZE C
SUB. No. 605
Drawn By
Traced By
Checked By H.F.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER ON
TRAVER ST.
MOORE ST NORTH TO ANGLE
Geo. H. Sandenburgh City Engineer
1925-7-2
Scales: Plan 1"=40' Prof. Vert. 1"=4'

2021 SEWER LINING PROJECT

GROUP 6 - SANITARY

GROUP 6 - S NIT R	
SHEET NUMBER	SHEET TITLE
2 1	GROUP 6 COVER SHEET
2 2 - 2 3	HURON ST
2 - 2 6	SHINGTON ST



VICINITY MAP

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-241

SHEET No. 241 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:29 PM

W Huron St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

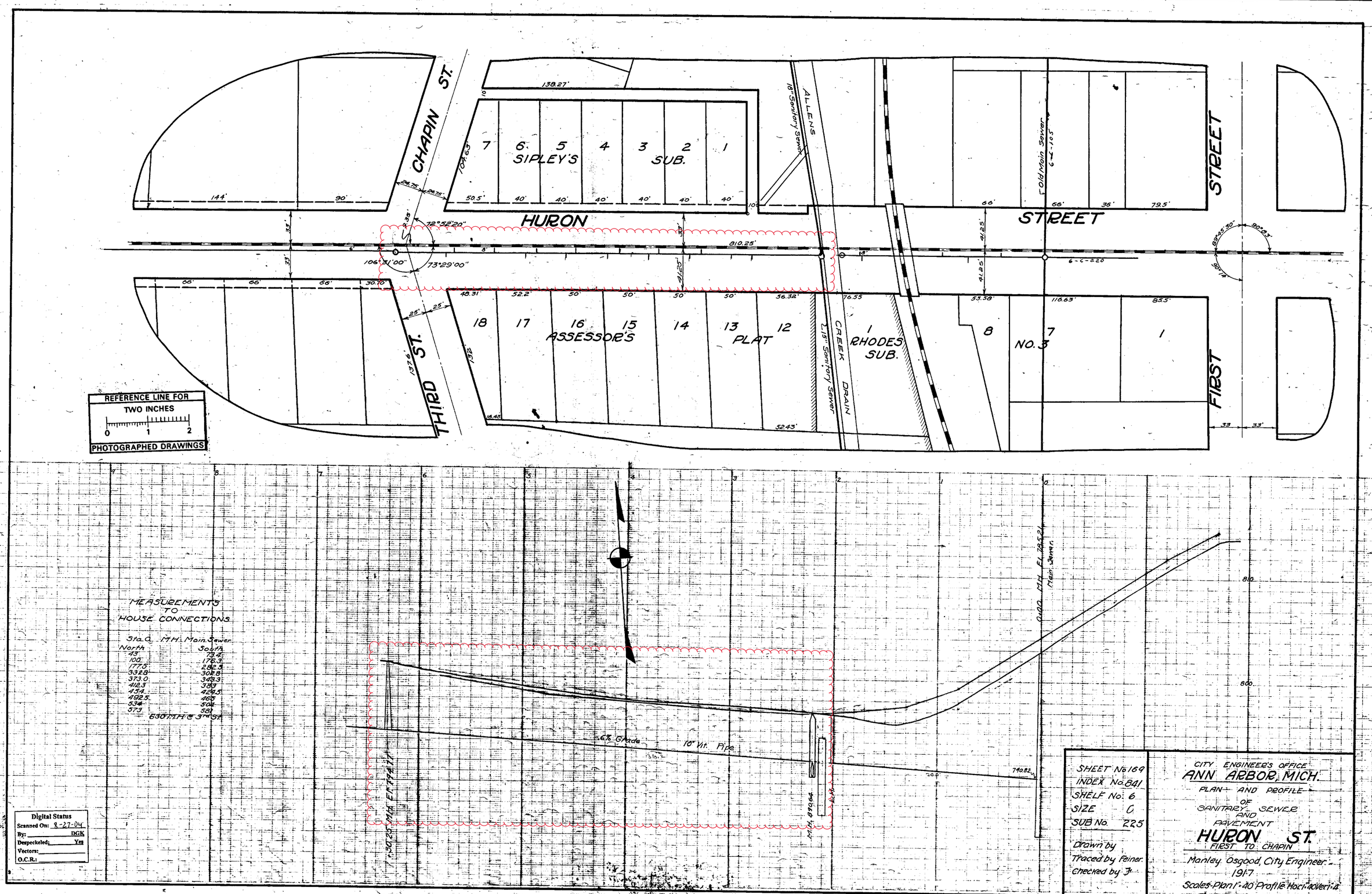
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms



CHAPIN ST.
THIRD ST.
HURON STREET
FIRST STREET
SIPLEY'S SUB.
ASSESSOR'S PLAT
RHODES SUB.
NO. 3
ALLENS CREEK DRAIN
18" Sanitary Sewer
15" Sanitary Sewer
Old Main Sewer
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
MEASUREMENTS TO HOUSE CONNECTIONS
Sta. 0 M.H. Main Sewer
North South
43 73.4
100 176.3
177.5 282.3
332.8 302.8
373.0 343.3
412.3 383
454 424.5
492.5 465
534 504
573 581
630 M.H. @ 3rd St.
6% Grade
10" Vit. Pipe
0.00 M.H. El. 785.21 Main Sewer
SHEET No. 169
INDEX No. 841
SHELF No. 6
SIZE C
SUB No. 225
Drawn by
Traced by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER AND PAVEMENT
HURON ST.
FIRST TO CHAPIN
Manley Osgood, City Engineer
1917
Scales-Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'
Digital Status
Scanned On: 8-27-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

W Washington St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

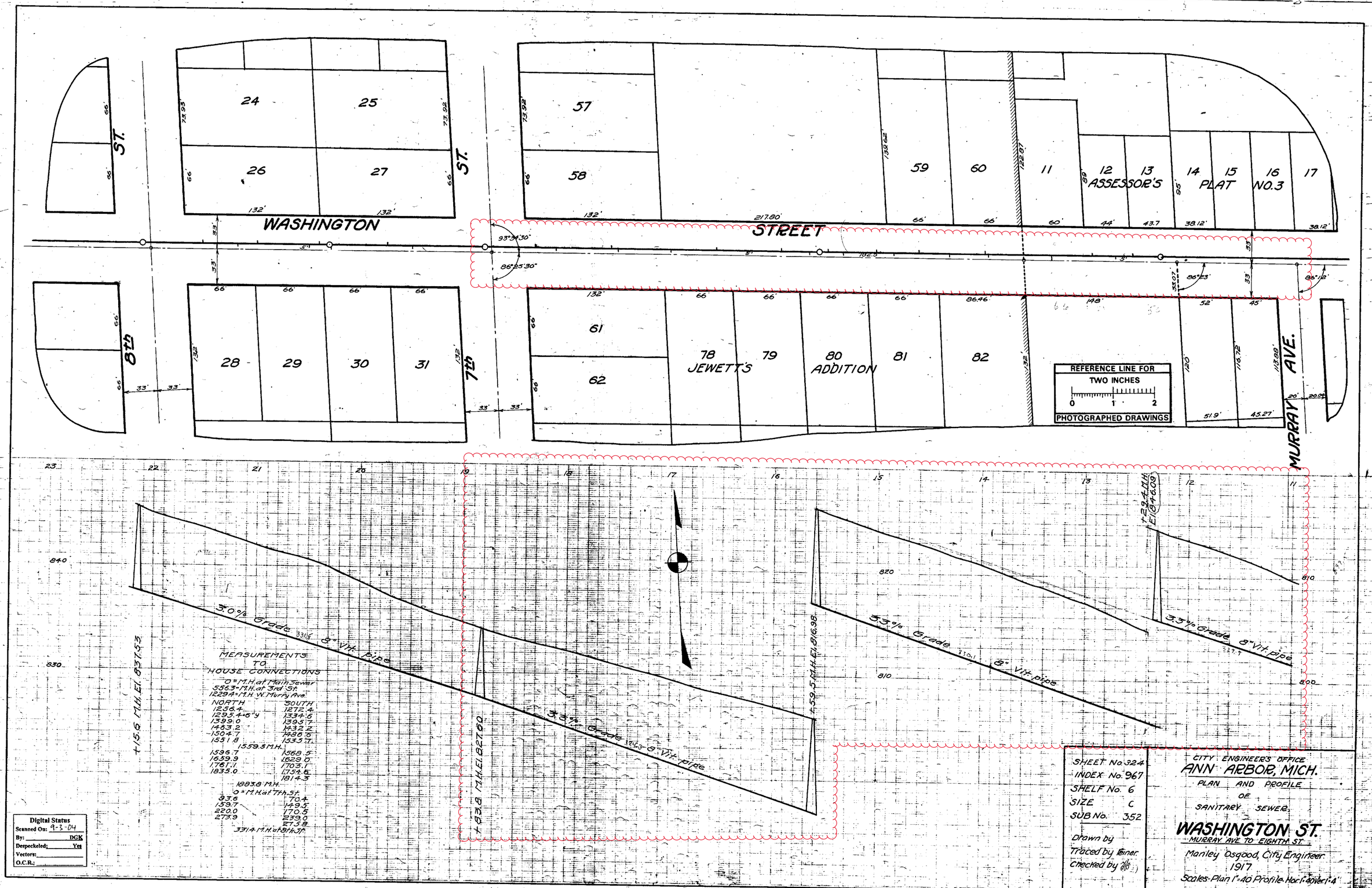
71-XXXXX (Manhole ID)

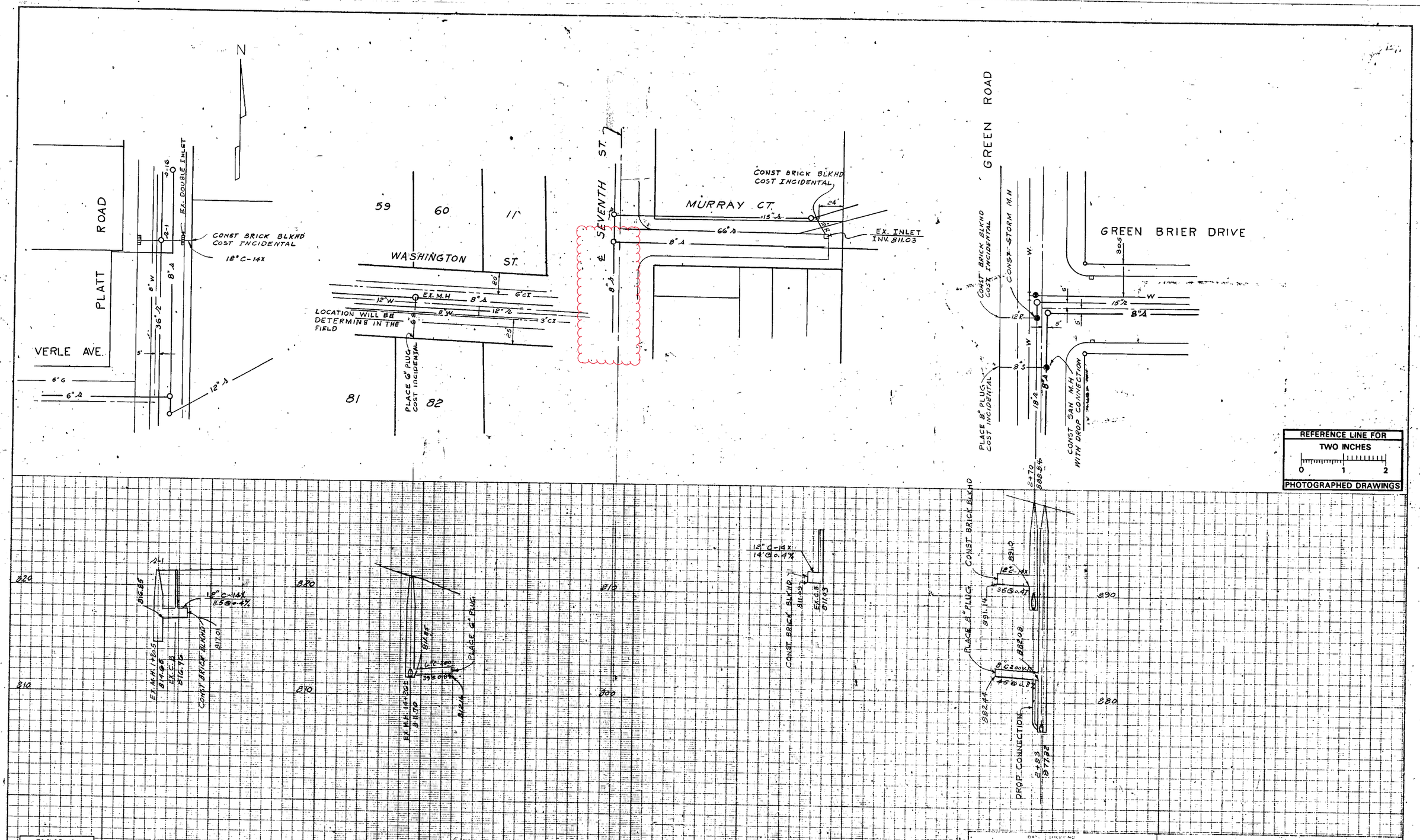
1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms


WASHINGTON STREET
MURRAY AVE.
8th ST.
7th ST.
ASSESSOR'S PLAT NO.3
JEWETT'S ADDITION
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
3.0% Grade 8" Vit. pipe
3.3% Grade 8" Vit. pipe
3.3% Grade 8" Vit. pipe
3.3% Grade 8" Vit. pipe
+15.6 M.H. El. 837.53
+83.8 M.H. El. 827.60
+59.5 M.H. El. 816.98
+29.4 M.H. El. 846.09
MEASUREMENTS TO HOUSE CONNECTIONS
0 = M.H. at Main Sewer
556.3 = M.H. at 3rd St.
1229.4 = M.H. W. Murry Ave.
NORTH SOUTH
1256.4 1272.4
1295.4+6"y 1334.6
1399.0 1395.7
1463.2 1432.2
1504.7 1486.6
1551.8 1535.7
1559.5 M.H.
1596.7 1568.5
1659.9 1629.0
1761.1 1703.1
1835.0 1754.6
1814.3
1883.8 M.H.
0 = M.H. at 7th St.
83.6 70.4
159.7 149.5
220.0 170.5
273.9 239.0
275.8
331.4 M.H. at 8th St.
SHEET No. 324
INDEX No. 967
SHELF No. 6
SIZE C
SUB No. 352
Drawn by
Traced by Reiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF SANITARY SEWER.
WASHINGTON ST.
MURRAY AVE TO EIGHTH ST.
Manley Osgood, City Engineer
1917
Scales-Plan 1"=40 Profile-Hor. 1"=40 Ver. 1"=4'
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:



Digital Status
Scanned On: 6-15-05
By: DGK
Despeckled: YES
Vectors:
O.C.R.:

LEGEND:

UNDERGROUND UTILITIES	EXISTING SANITARY	EXISTING STORM	EXISTING GAS
	PROPOSED SANITARY	PROPOSED STORM	EXISTING WATER
PROFILES	CENTER LINE	RIGHT PROPERTY LINE	
	LEFT PROPERTY LINE		

REFERENCES: BENCH MARK — PROFILES BY — DRAWINGS — FIELD BOOK

DR BY — TR BY — CH BY — REV BY — DATE — SHEET NO — INDEX NO — SHEET NO

6-C-4478 PUBLIC HOUSING SITE

SCALE: HORIZONTAL 1"=40' VERTICAL 1"=4'

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR MICHIGAN

JOB — DIST
JOB — DIST
JOB — DIST
JOB — DIST

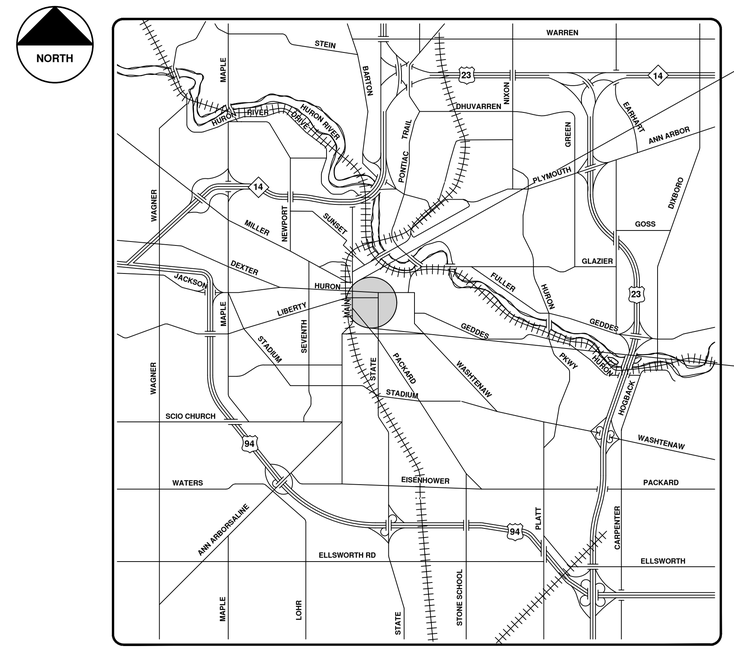
PREPARED BY A.K.

APPROVED BY

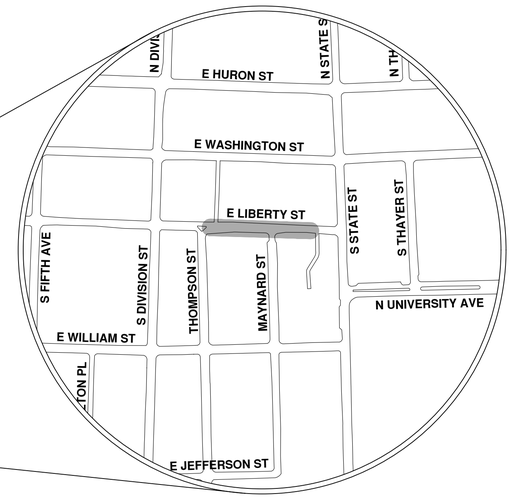
2021 SEWER LINING PROJECT

GROUP 7 - SANITARY

GROUP - S NIT R	
SHEET NUMBER	SHEET TITLE
2	GROUP COVER SHEET
2 - 2	E LIBERT ST



VICINITY MAP



CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

NO	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-247

SHEET No. 247 OF 362

ENGINEERING
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ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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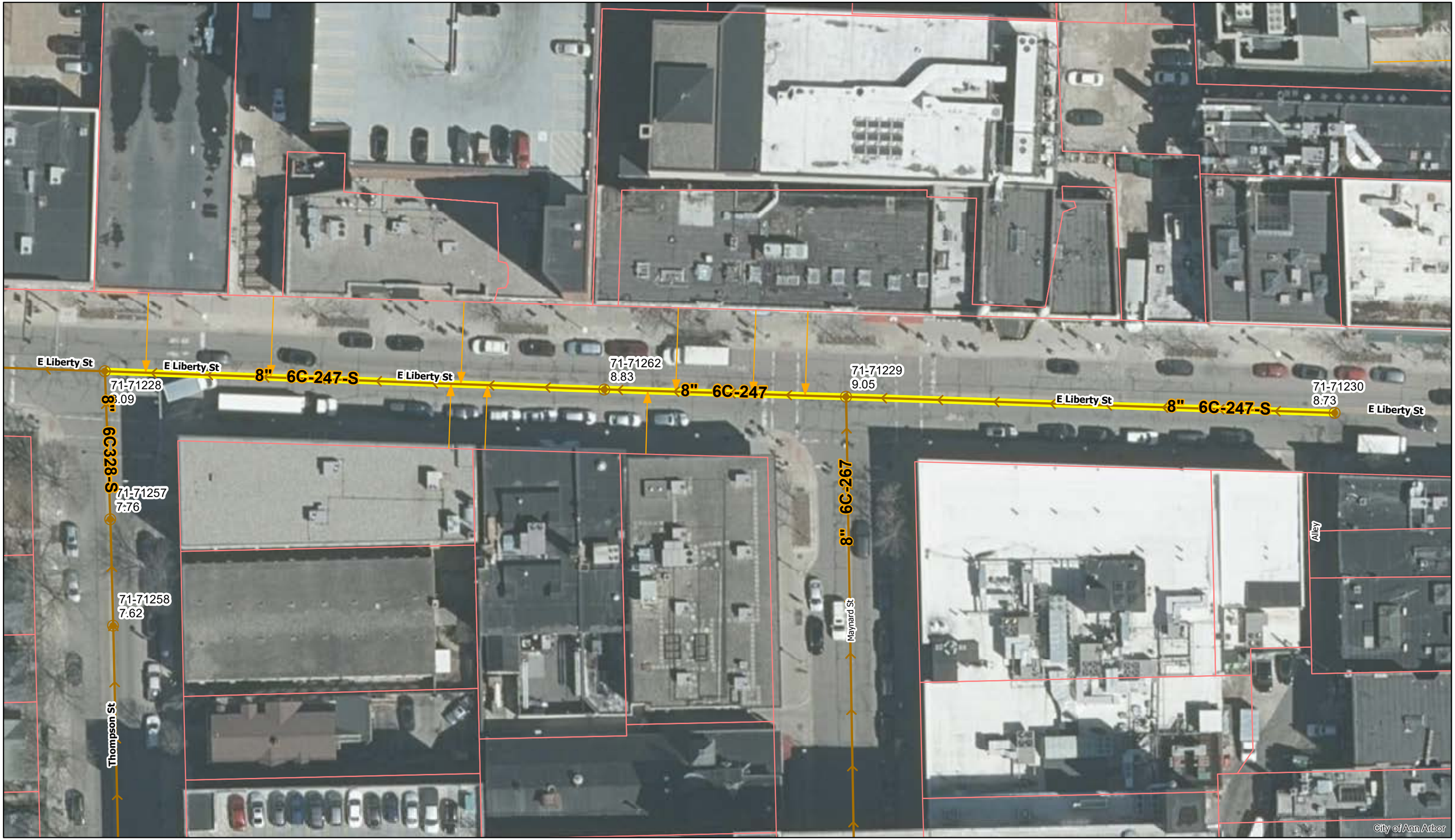
R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:35 PM



E Liberty St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

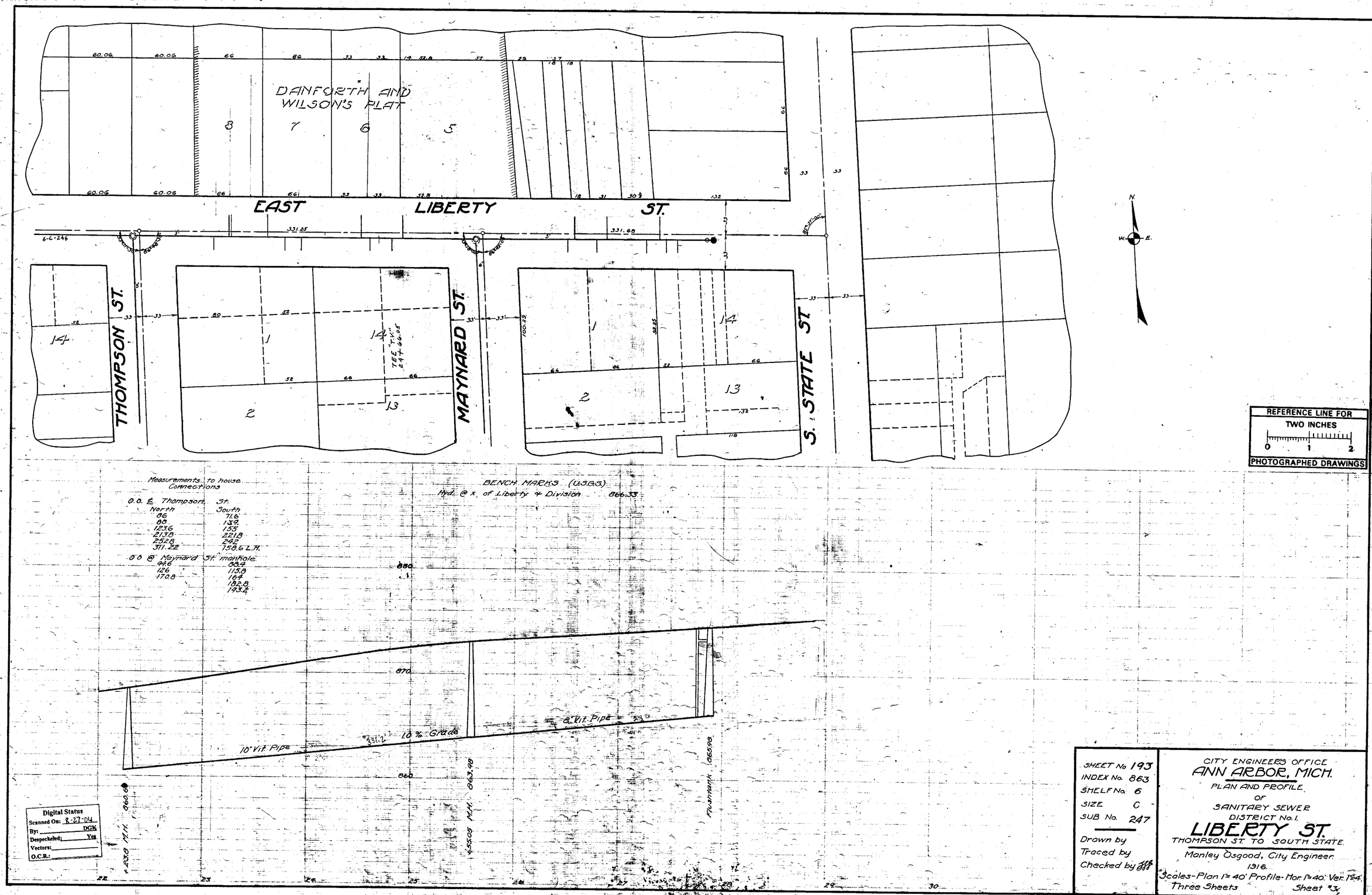
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

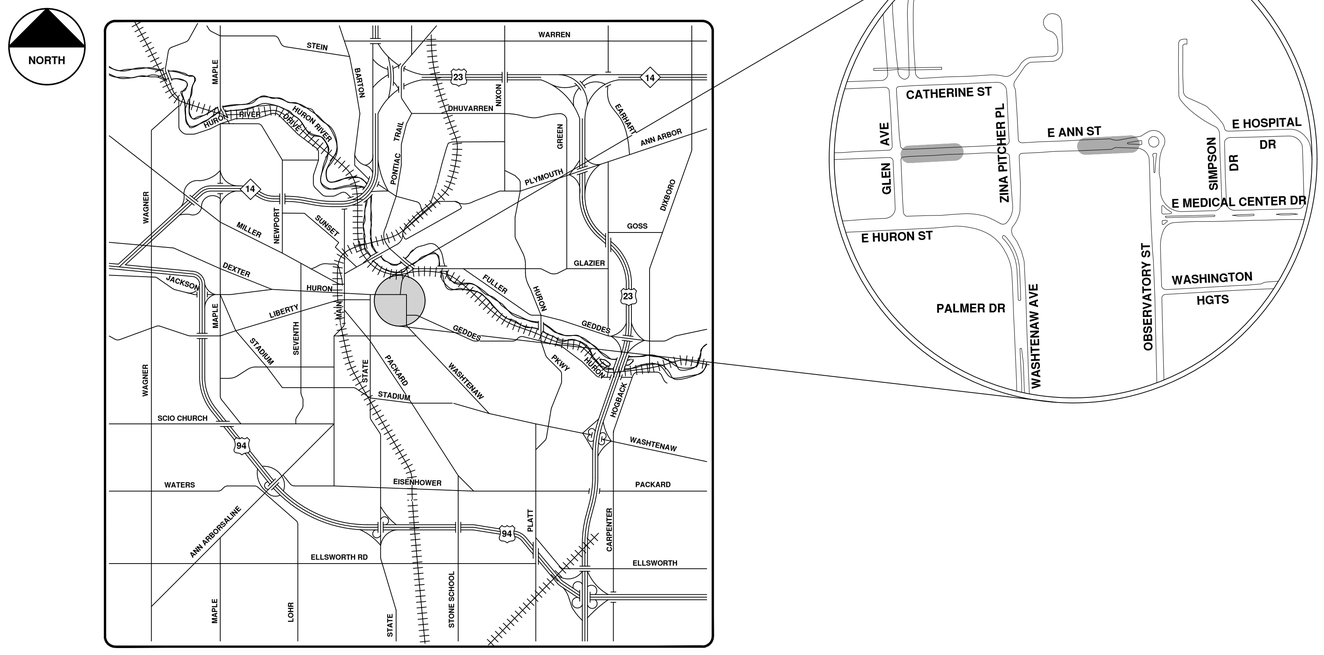
For terms and conditions please visit www.a2gov.org/terms


DANFORTH AND WILSON'S PLAT
EAST LIBERTY ST.
THOMPSON ST.
MAYNARD ST.
S. STATE ST.
TEE "T.V." 24+66.05
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
Measurements to house Connections
O.O. ℄ Thompson St.
North 86 88 123.6 213.8 252.8 311.22
South 71.6 139 155 221.8 242 158.6 L.H.
O.O. @ Maynard St. manhole
94.6 126 170.8
88.4 115.8 164 182.8 193.2
BENCH MARKS (U.S.G.S.)
Hyd. @ x of Liberty & Division 866.33
10" Vit. Pipe
10% Grade
8" Vit. Pipe
+23.8 M.H. 860.60
+55.05 M.H. 863.98
Flushtank 865.98
Digital Status
Scanned On: 8-27-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No. 193
INDEX No. 863
SHELF No. 6
SIZE C
SUB No. 247
Drawn by
Traced by
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT No. 1.
LIBERTY ST.
THOMPSON ST. TO SOUTH STATE.
Manley Osgood, City Engineer.
1916.
Scales-Plan 1"=40' Profile-Hor. 1"=40' Ver. 1"=4'
Three Sheets
Sheet #3

2021 SEWER LINING PROJECT

GROUP 8 - SANITARY

GROUP - S NIT R	
SHEET NUMBER	SHEET TITLE
2 0	GROUP COVER SHEET
2 1 - 2 2	E NN OBSERV TOR ST
2 3 - 2	E NN GLEN VE



VICINITY MAP

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-250

SHEET No. 250 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:36:39 PM

E Ann & Observatory St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

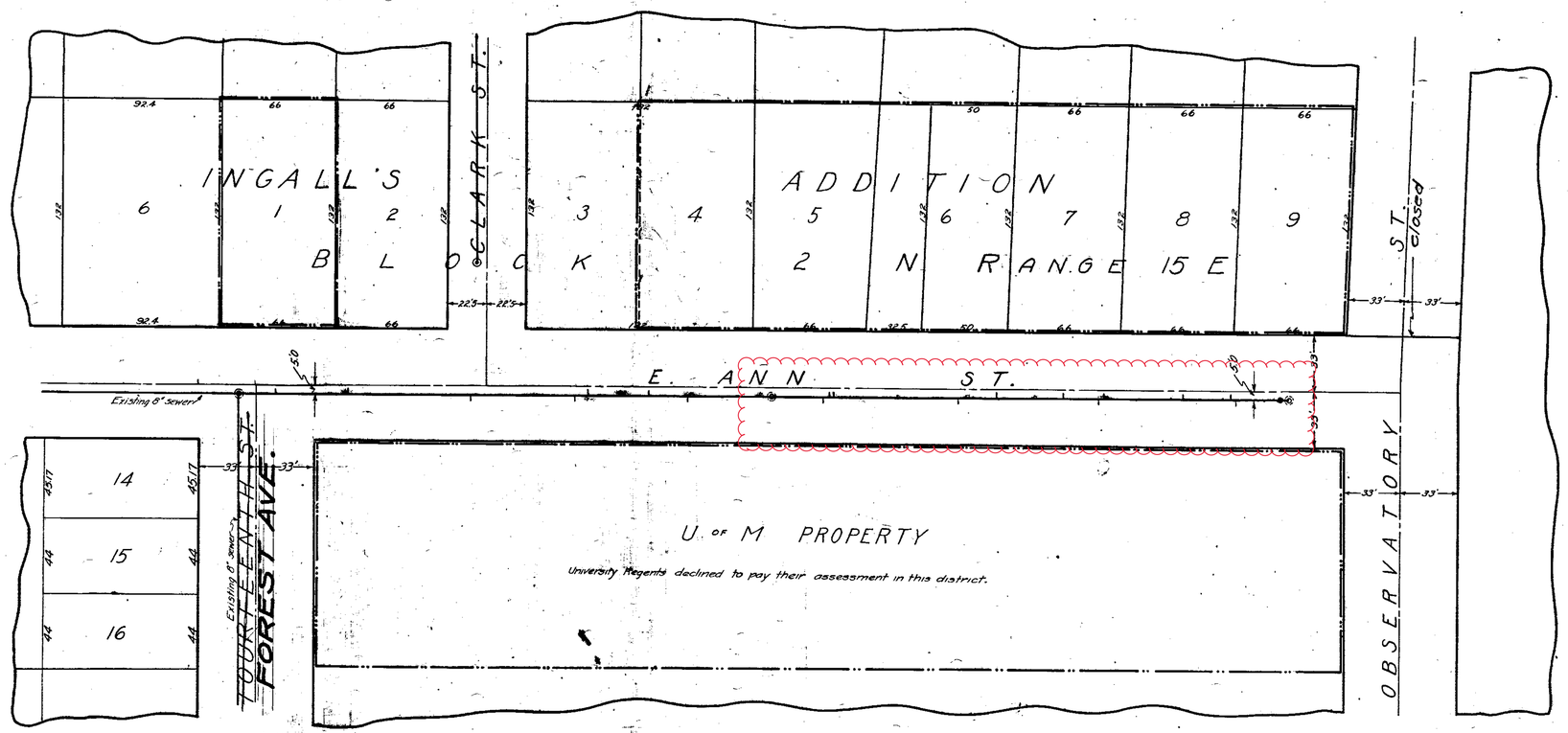
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

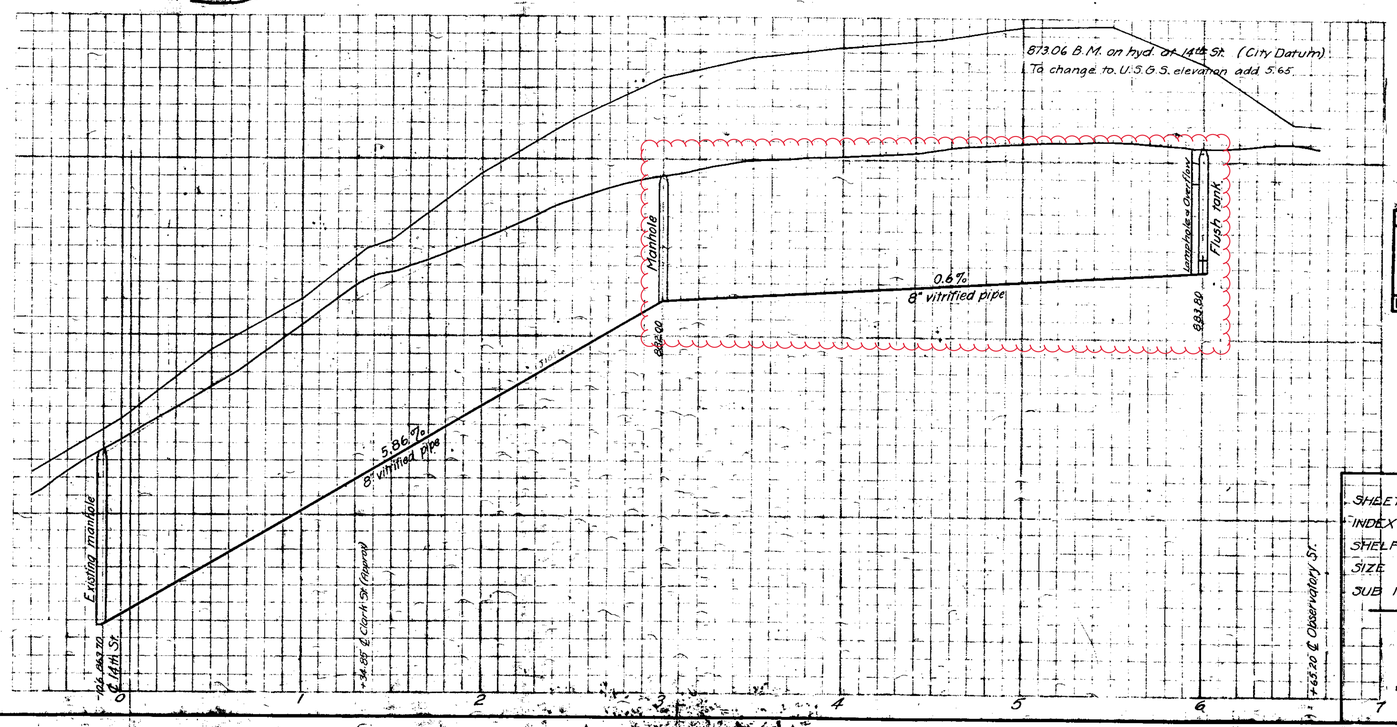
For terms and conditions please visit www.a2gov.org/terms



Measurements to house connections
•0 = M.H. at 14th St.
21.4 135.4
63.8 195.7
203.7 261.6
238.7
310.7 Manhole
344.1 339.8
346.1 418.9
441.3 500.4
480.6 580.6
504.4
550.6
578.6
605.2 Lamphole
610.1 Flushtank

BILL OF MATERIAL

574 lin. ft. 8" tile
20 - 8" branches
1 Manhole
1 Flushtank using old siphon
1 Lighthole cover
340 lin. ft. excavation 6 to 8 ft.
200 " " " 8 to 10 ft.
70 " " " 10 to 12 ft.



REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of sewer
District boundary line

SHEET No.	26
INDEX No.	483
SHELF No.	6
SIZE	C
SUB No.	41

✓ M.Q.

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH
PLAN AND PROFILE
OF
SANITARY SEWER
DISTRICT No. 59
ANN STREET
FROM CLARK ST. TO OBSERVATORY ST.
Manley Osgood, City Engineer
1913-8-4
SCALES: Plan-1"=40; Profile-Hor. 1"=40', Vert. 1"=4'
One Sheet Sheet No. 1

Digital Status
Scanned On: 8-25-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Corrected from final measurements 1914-1-14 J.J.K.

E Ann & Glen Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

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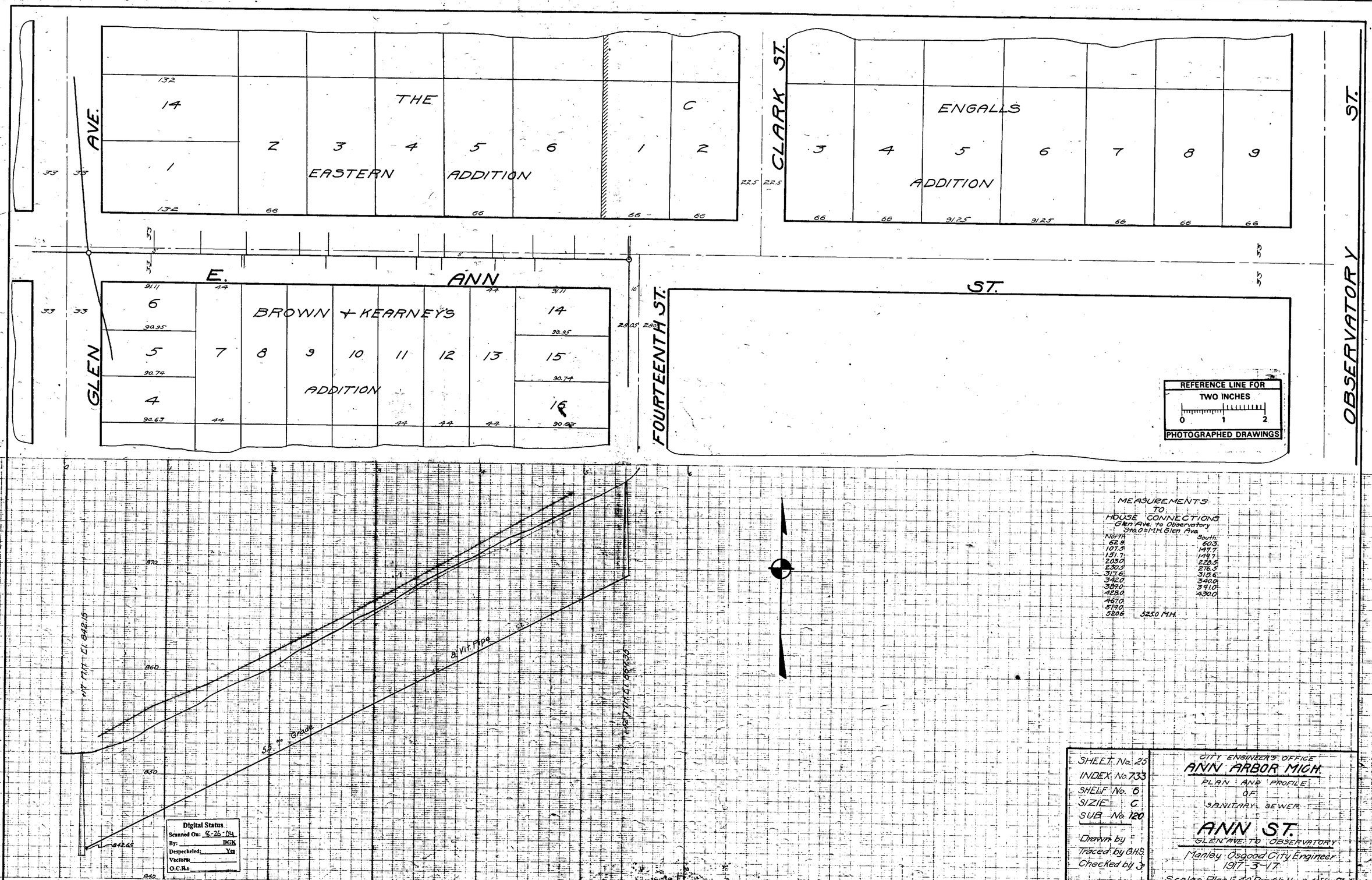


MEASUREMENTS TO HOUSE CONNECTIONS
Glen Ave. to Observatory
Sta. 0 = M.H. Glen Ave.

North	South
62.9	60.3
107.5	147.7
151.7	149.7
203.0	228.5
230.5	276.5
317.6	315.6
342.0	340.0
389.0	391.0
428.0	430.0
467.0	
519.0	
520.6	525.0 M.H.

SHEET No. 25
INDEX No. 733
SHELF No. 6
SIZIE C
SUB No. 120

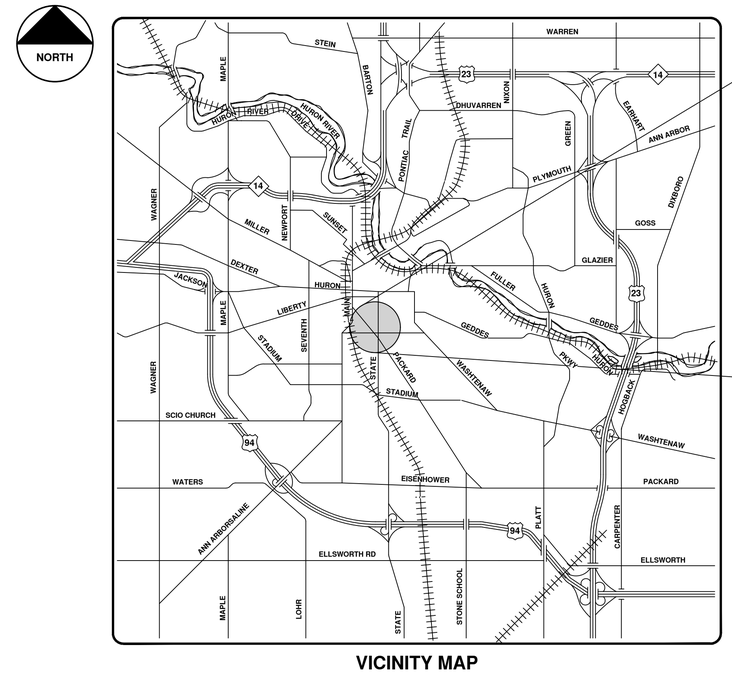
Drawn by
Traced by G.H.S.
Checked by J.

CITY ENGINEER'S OFFICE
ANN ARBOR MICH.
PLAN AND PROFILE OF SANITARY SEWER
ANN ST.
GLEN AVE. TO OBSERVATORY
Manley Osgood City Engineer
1917-3-17
Scales Plan 1" = 40' Profile Hor. 1" = 40' Vert. 1" = 4'

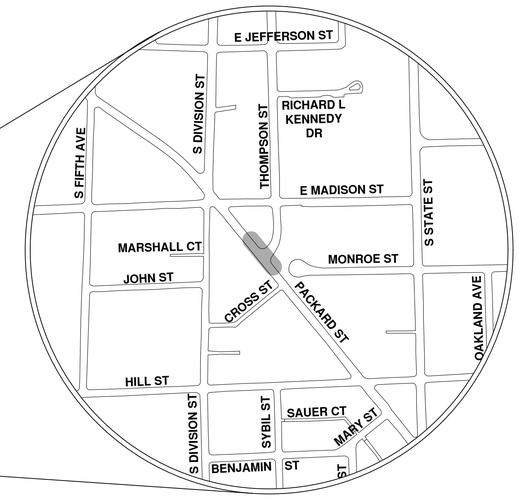
2021 SEWER LINING PROJECT

GROUP 9 - SANITARY

GROUP - S NIT R	
SHEET NUMBER	SHEET TITLE
2	GROUP COVER SHEET
2 6 - 2	P CK RD ST



VICINITY MAP



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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-255

SHEET No. 255 OF 362

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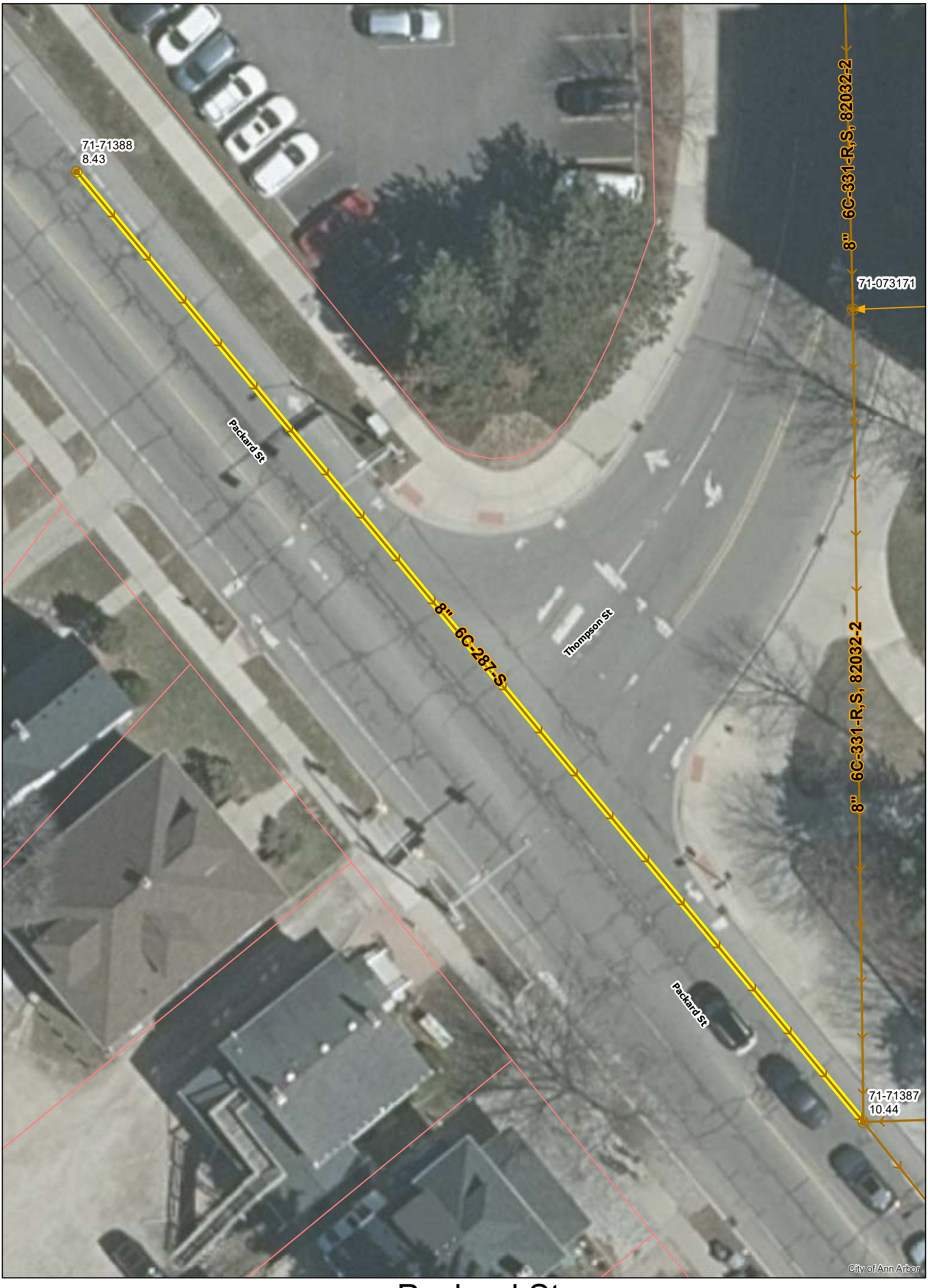

Packard St.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

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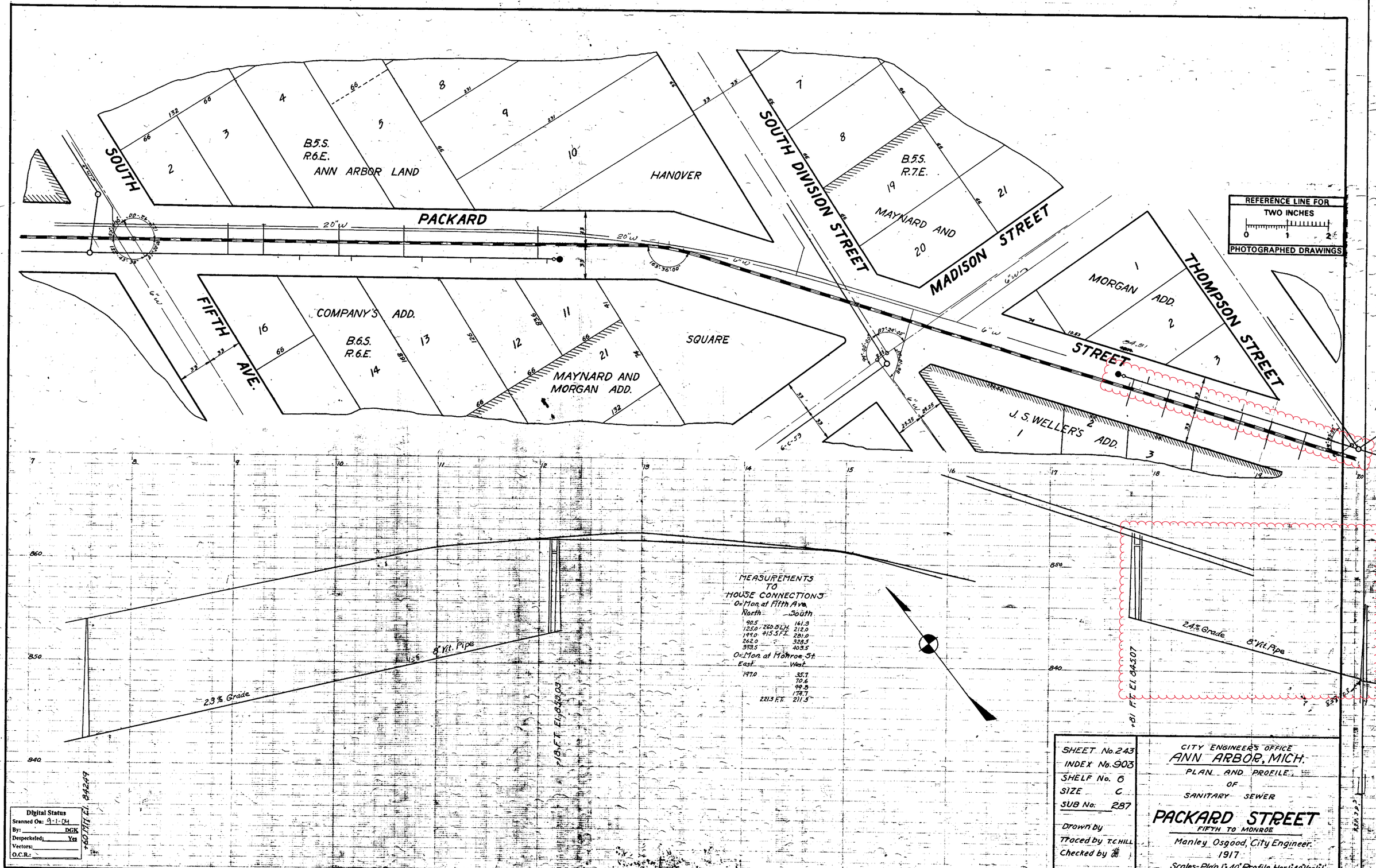


Digital Status
Scanned On: 9-1-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

SHEET No. 243
INDEX No. 903
SHELF No. 6
SIZE C
SUB No. 287
Drawn by
Traced by T.C. HILL
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER

PACKARD STREET

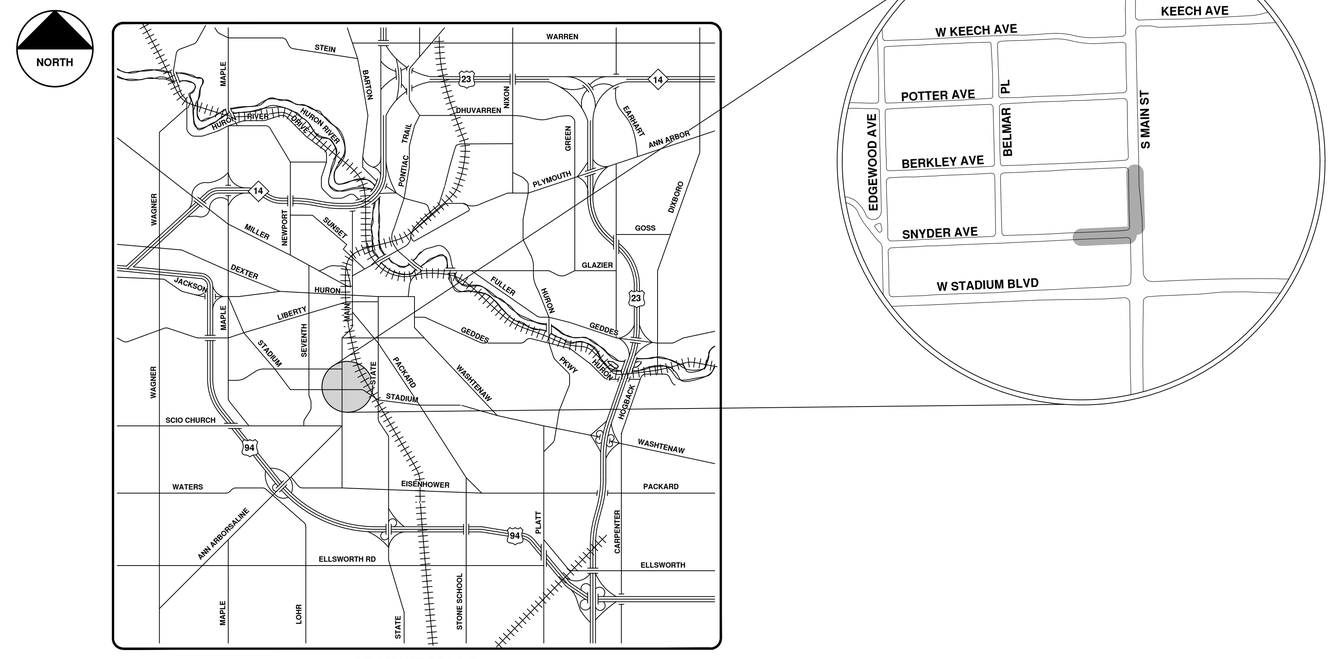
FIFTH TO MONROE

Manley Osgood, City Engineer.
1917
Scales-Plan 1"=40' Profile Hor 1"=40' Ver 1"=1'

2021 SEWER LINING PROJECT

GROUP 10 - SANITARY

GROUP 10 - S NIT R	
SHEET NUMBER	SHEET TITLE
2	GROUP 10 COVER SHEET
2 - 260	S M IN ST
261 - 262	SN DER VE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-258

SHEET No. 258 OF 362

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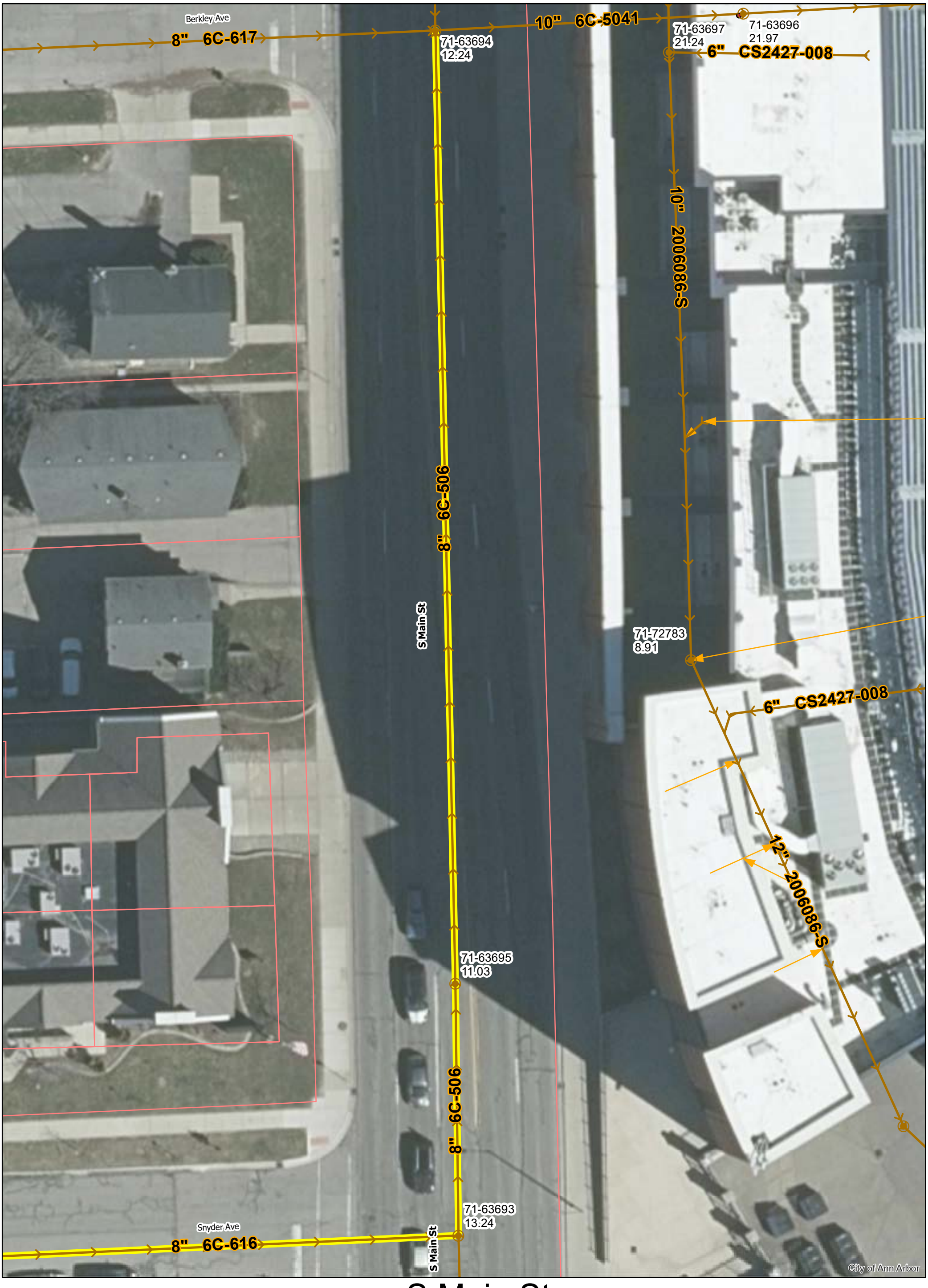

S Main St.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

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S. MAIN ST.

FISHER AVE.

BERKLEY AVE.

BLVD. DR.

U of M STADIUM

21 | 20 | 19 | 18 — 55 | 55 | 55 | 55 — 33 | 33

17 | 16 | 15 | 1 | 2 | 3 — 45 | 45 | 42.07 | 38.37 | 44 | 44

4 | 5 | 6 — 44 | 44 | 44

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Berkley

Snyder

C.L.F.Y.

Measurement to House Connections

East	West
0+00 M.H. S. Main St and Berkley Ave.	
0+67.2	0+69.2
1+09.3	1+07.8
1+41.3	1+43.3
1+90.5	1+88.5
2+37.3	2+35.3
2+49.7 M.H.	
2+88.5	2+90.5
3+39.7	3+34.5
4+47.0	3+93.2
	4+23.5
5+13.4 F.T. 47 Bldgs.	

Note—all connections extend to Curb. 12' on East 22' on West

Measurement to House Connections

East	West
0+00 M.H. S. Main St and Berkley Ave. in M.H.	
0+50.5	0+00
0+93.5	0+52.5
1+38.6	1+95.3
1+87.5	1+36.6
2+36.8	1+89.5
2+76.3 M.H.	2+38.8
2+88.7	2+90.7
3+39.0	3+41.0
4+02.2	4+12.3
4+44.2	4+46.2
5+00.3	5+38.8
5+56.6 F.T.	

Note—all connection extend to Curb. 12' on east, 22' on West

900 890 880 870

6 5 4 3 2 1 0+00 1 2 3 4 5 6

B.B.225

F.T. Sta. 5+13.4 0.

261.7 8" Vit. Pipe 30.4 %

244.7

B.B.200

M.H. Sta. 2+49.7

B.B.200

M.H. Sta. 0+00

Sag 876

8" Vit. Pipe 0.84 % 279.3

B.B.280

M.H. Sta 2+76.3

250.2 8" Vit. Pipe 2.95 %

B.B.280

F.T. Sta. 5+56.6

Digital Status
Scanned On: 2-17-05
By: DGK
Despeckeled: Yes
Vectorm:
O.C.R.:

INDEX No. 1375
SHELF 6
SIZE C
SUB No. 506

Drawn by
Traced by
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
S. MAIN ST.
FISHER AVE. TO BLVD. DRIVE.
Geo. H. Sandenburgh, City Engineer
1924-1-18
Scales Plan 1"= 40' Profile, Vert. 1"= 4'

Snyder Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

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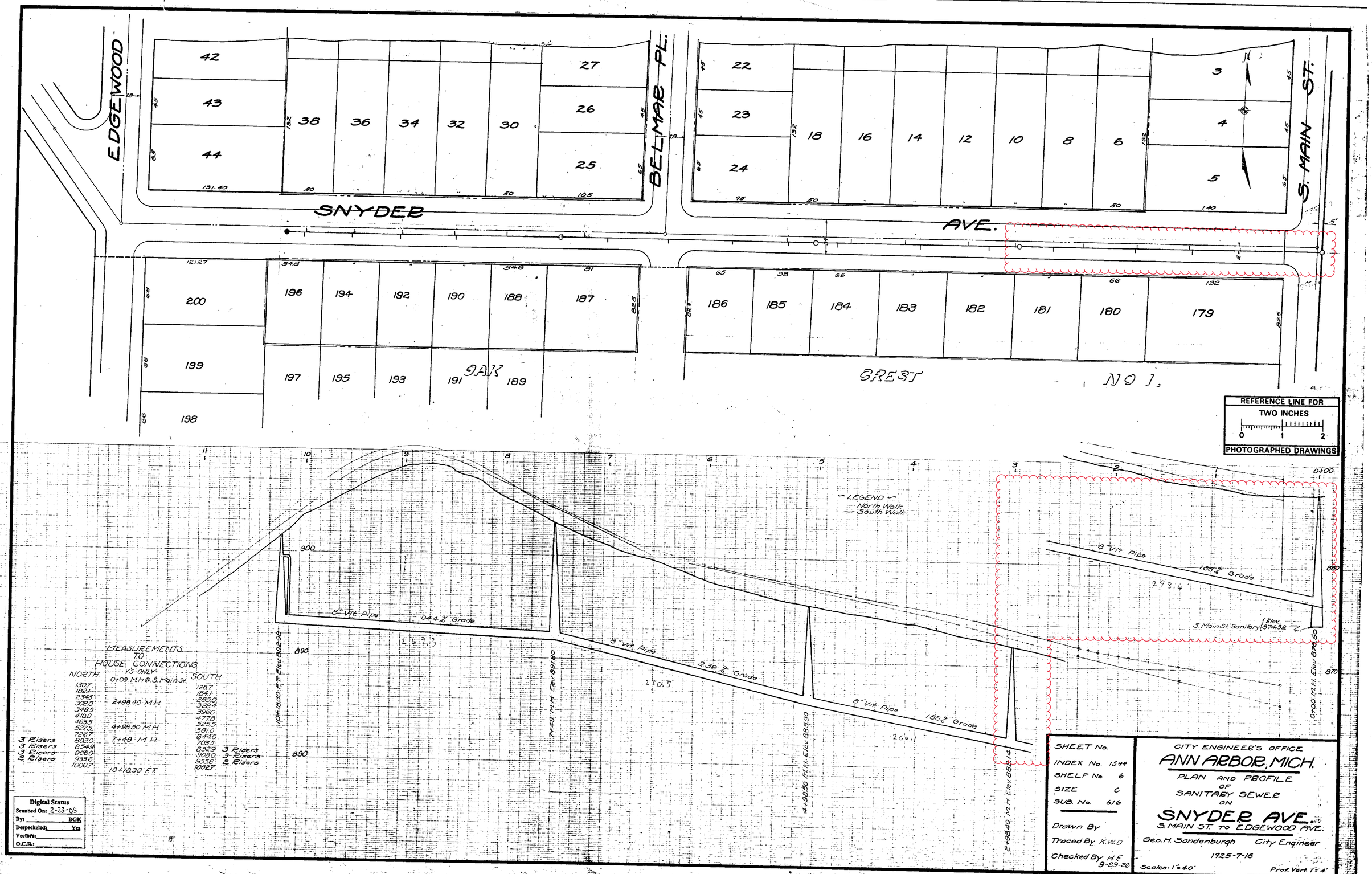
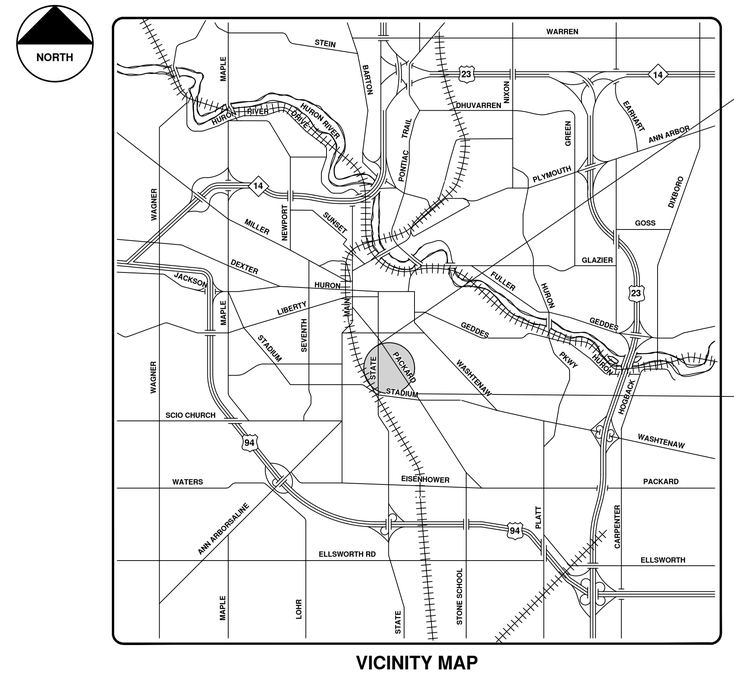

EDGEWOOD
SNYDER
AVE.
BELMAR PL.
S. MAIN ST.
OAK
CREST
NO 1.
42
43
44
38
36
34
32
30
27
26
25
22
23
24
18
16
14
12
10
8
6
3
4
5
200
199
198
196
194
192
190
188
187
197
195
193
191
189
186
185
184
183
182
181
180
179
REFERENCE LINE FOR
TWO INCHES
0
1
2
PHOTOGRAPHED DRAWINGS
LEGEND
North Walk
South Walk
8" Vit. Pipe
0.44% Grade
2.36% Grade
1.88% Grade
S. Main St. Sanitary Elev. 874.52
10+18.30 FT. Elev. 892.98
7+49 M.H. Elev. 891.80
4+98.50 M.H. Elev. 885.90
2+98.40 M.H. Elev. 882.14
0+00 M.H. Elev. 876.50
MEASUREMENTS
TO
HOUSE CONNECTIONS
YS ONLY
NORTH
SOUTH
0+00 M.H. @ S. Main St.
2+98.40 M.H.
4+98.50 M.H.
7+49 M.H.
10+18.30 FT.
3 Risers
3 Risers
3 Risers
2 Risers
3 Risers
3 Risers
2 Risers
Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No.
INDEX No. 1544
SHELF No. 6
SIZE C
SUB. No. 616
Drawn By
Traced By K.W.D
Checked By H.F. 9-29-26
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
ON
SNYDER AVE.
S. MAIN ST. TO EDGEWOOD AVE.
Geo. H. Sandenburgh City Engineer
1925-7-16
Scales: 1"=40'
Prof. Vert. 1"=4'

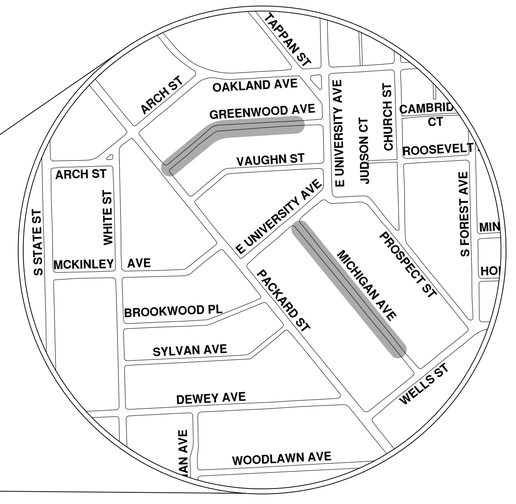
2021 SEWER LINING PROJECT

GROUP 11 - SANITARY

GROUP 11 - S NIT R	
SHEET NUMBER	SHEET TITLE
263	GROUP 11 COVER SHEET
26 - 266	GREEN OOD VE
26 - 26	MICHIG N VE



VICINITY MAP



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PUBLIC SERVICES
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-263

SHEET No. 263 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:36:54 PM

Greenwood Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms

71-71513
9.11

8" 6C206-S

15" 6C-289,2000045-UT1

Packard St

8" 6C-206

Greenwood Ave

15" 6C-289

Packard St

71-71510
8.56

Vaughn St

8" 6C121-S

Vaughn St

8" 6C-121

City of Ann Arbor

Greenwood Ave.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

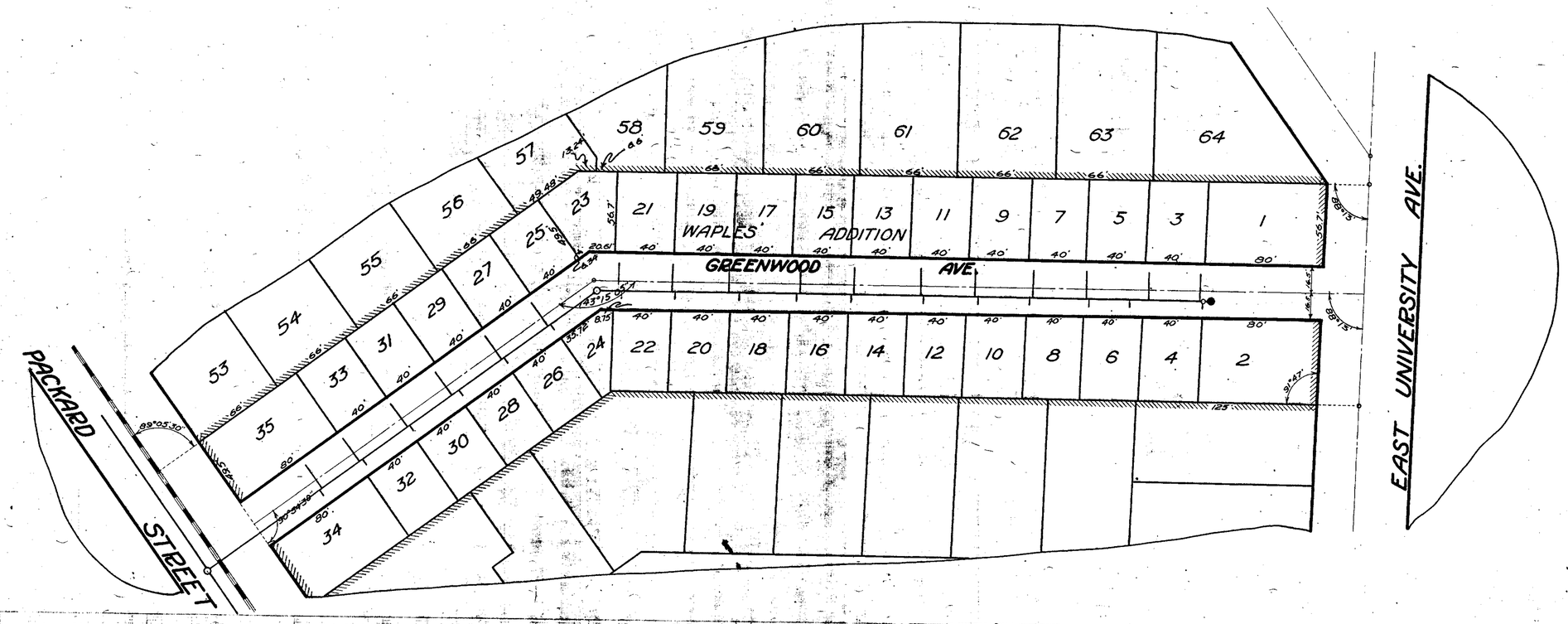
71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms



SHEET No. 145
INDEX No. B22
SHELF No. 6
SIZE C
SUB No. 206

Drawn by
Traced by Feiner
Checked by JH

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER

GREENWOOD AVE.

PACKARD ST. TO E. UNIV. AVE.

Manley Osgood, City Engineer.
1917
Scales-Plan 1" = 40' Profile Hor. 1" = 40' Ver. 1" = 4'

Michigan Ave.

N

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

For terms and conditions please visit www.a2gov.org/terms

EAST UNIVERSITY AVE.

MICHIGAN AVE.

MILLER'S ADDITION

WELLS STREET

51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35

52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68

59 60 61 62

132.05' 132' 77.14' 50' 6' 33' 61.40' 50' 50' 66' 50' 132' 50' 132' 33' 33' 33' 61.17' 60' 30' 30' 30' 30'

0 1 2 3 4 5 6 7 8 9

1+14.5 M.H. El. 830.38

168% Grade 8" Vit. pipe

831.17

1+09.4 M.H.

1+25 M.H. El. 838.30

30% Grade 8" Vit. Pipe

140

840.40

6+85 M.H. El. 839.06

7+25 FT. El. 841.50

REFERENCE LINE FOR TWO INCHES

0 1 2

PHOTOGRAPHED DRAWINGS

MEASUREMENTS TO HOUSE CONNECTIONS

E. University Av. To Wells St.

Sta 0 = 17 H at E. Univ.

NORTH	SOUTH
51.8	53.8
122.7	124.7
186.5	188.5
1943 = L.H.	
235.5	215.5
333.0	265.0
387.8	314.3
408.4 = M.H.	
415.6	369.8
468.0	417.6
513.6	466.0
561.8	512.1
613.7	563.8
636.2 = L.H.	
665.5	611.7
710.5	663.5
765.0	712.5
799.5	747.0
	803.0
804.7 = L.H.	
809.8 = F.T.	

Digital Status
Scanned On: 9-1-04
By: DGK
Despeckled: Yes
Vectors:
O.C.R.:

SHEET No. 216
INDEX No. 885
SHELF No. 6
SIZE C
SUB No. 269

Drawn by
Traced by Feiner
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.

PLAN AND PROFILE
OF
SANITARY SEWER

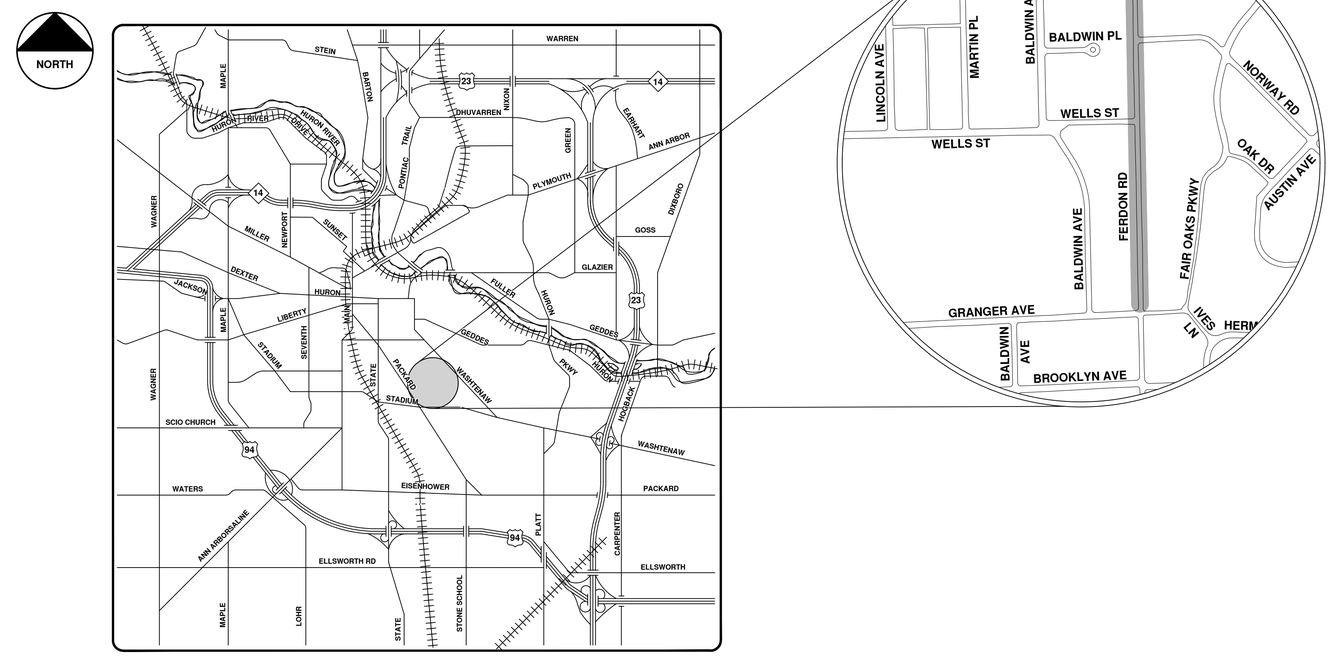
MICHIGAN AVE.
EAST UNIV. AVE. TO WELLS ST.

Manley Osgood, City Engineer.
1917
Scales Plan 1" = 40' Profile Hor. 1" = 40 Ver. 1" = 4

2021 SEWER LINING PROJECT

GROUP 12 - SANITARY

GROUP 12 - S NIT R	
SHEET NUMBER	SHEET TITLE
26	GROUP 12 COVER SHEET
2 0 - 2 3	ERDON RD



VICINITY MAP

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
NO.	DESCRIPTION	DATE	DRAWN	CHECKED
00				
REV.				

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-269

SHEET No. 269 OF 362

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:36:59 PM

71-69048
7.75

Ferdon Rd

8" 6C-168

71-69049
7.25

8" 6C-65

Norway Rd

Ferdon Rd

71-69062
8.57

Baldwin Pl

8" 6C-168

71-69050
6.91

8" 6C-167

71-69057
8.19

8" 6C-94

71-69056
6.78

Wells St

Ferdon Rd

City of Ann Arbor

Ferdon Rd.

N

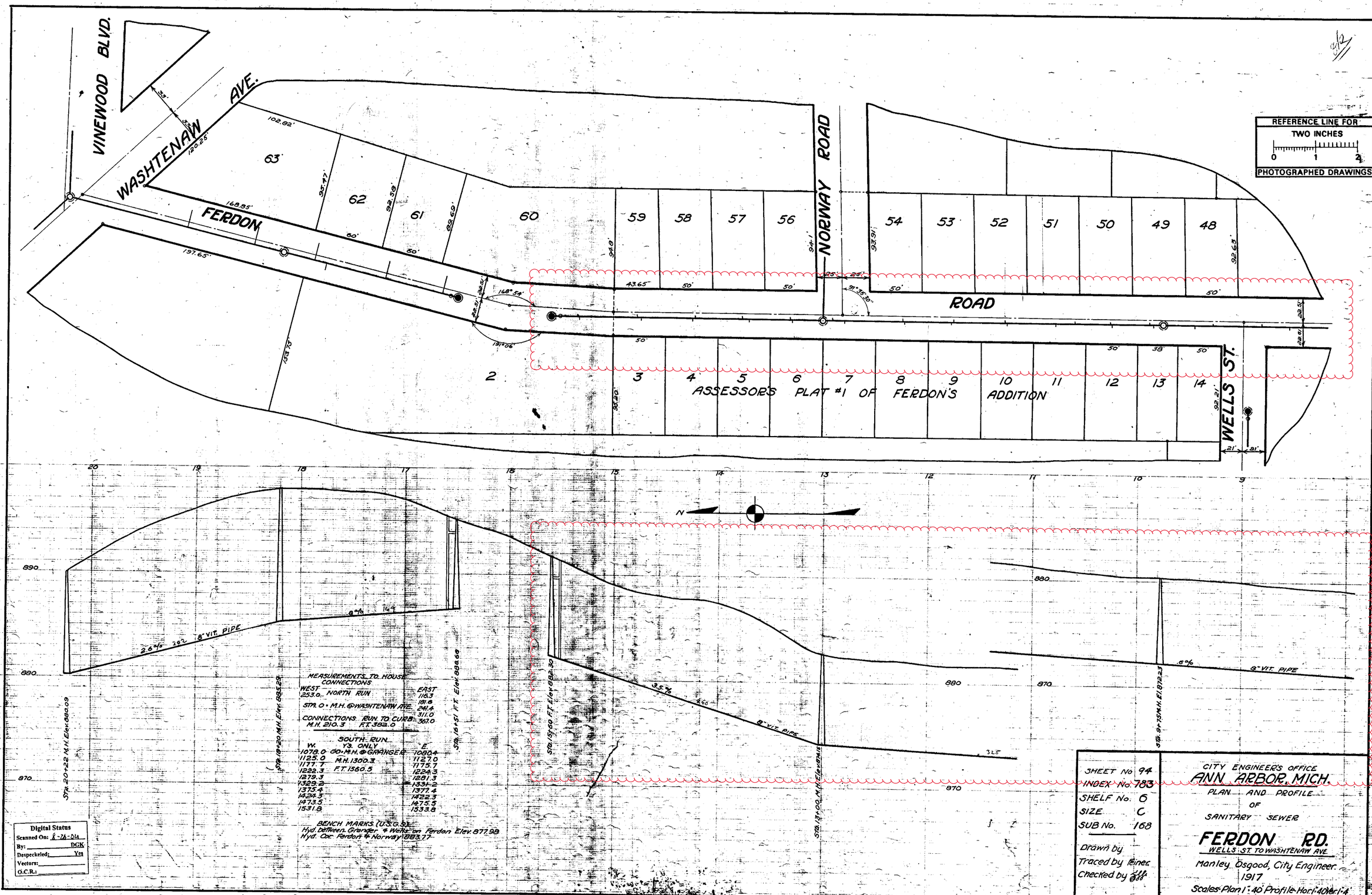
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

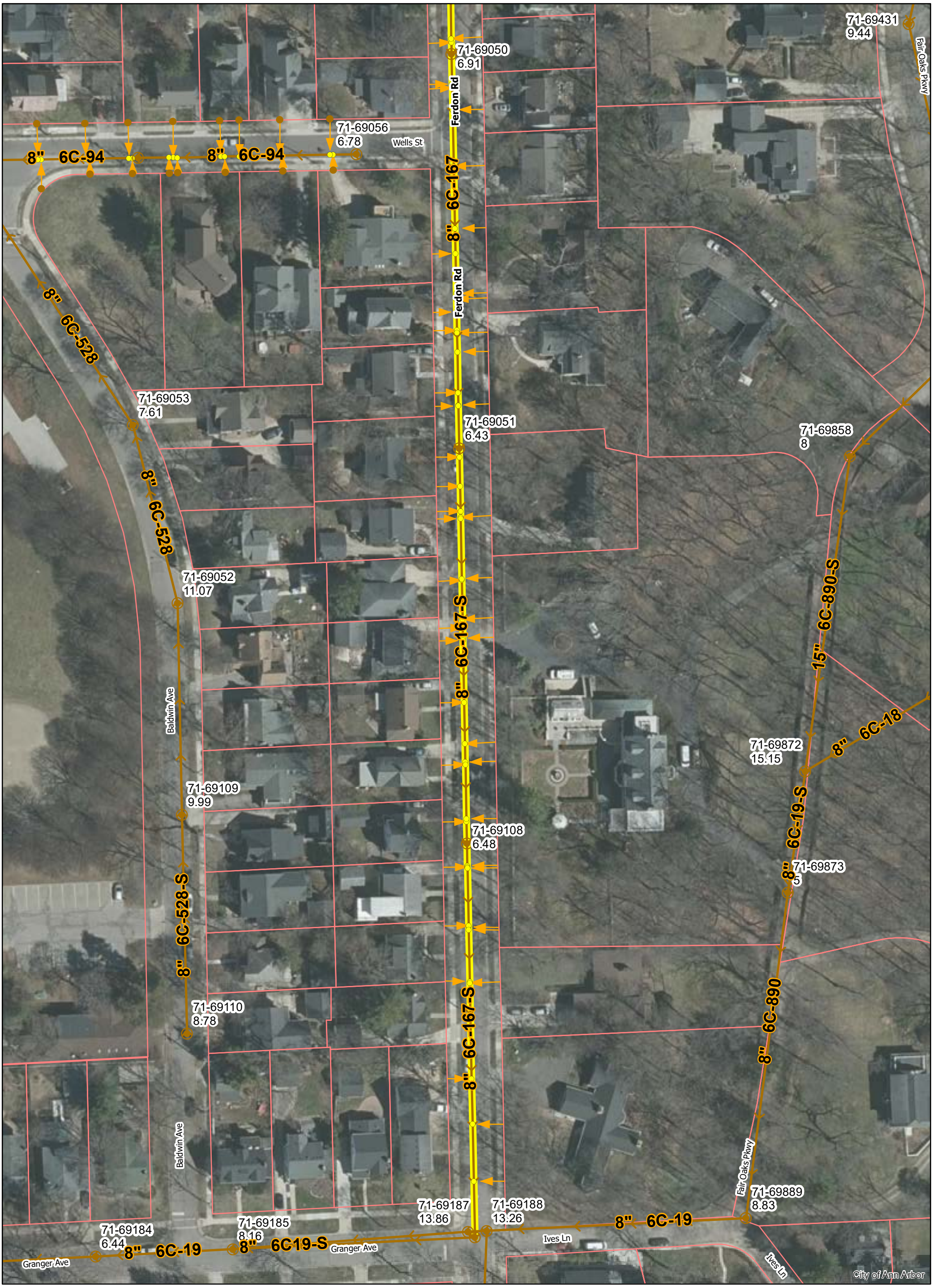
0 25 50 100 150 200 Feet

For terms and conditions please visit www.a2gov.org/terms



VINEWOOD BLVD.
WASHTENAW AVE.
FERDON
NORWAY ROAD
ROAD
WELLS ST.
REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
63 62 61 60 59 58 57 56 54 53 52 51 50 49 48
2 3 4 5 6 7 8 9 10 11 12 13 14
ASSESSOR'S PLAT #1 OF FERDON'S ADDITION
N
8" VIT. PIPE
2.6%
3.5%
.6%
MEASUREMENTS TO HOUSE CONNECTIONS
WEST NORTH RUN
EAST
253.0 116.3
181.6
STA. 0 = M.H. @ WASHTENAW AVE. 241.4
311.0
CONNECTIONS RUN TO CURB 367.0
M.H. 210.3 F.T. 382.0
SOUTH RUN
W. YS. ONLY E.
1078.0 00 = M.H. @ GRANGER 1080.4
1125.0 M.H. 1300.3 1127.0
1177.7 F.T. 1560.5 1175.7
1222.3 1224.3
1279.3 1281.3
1329.2 1331.2
1375.4 1377.4
1424.3 1422.3
1473.5 1475.5
1531.8 1533.8
BENCH MARKS (U.S.G.S.)
Hyd. between Granger & Wells on Ferdon Elev. 877.98
Hyd. Cor. Ferdon & Norway 883.77
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No. 94
INDEX No. 783
SHELF No. 6
SIZE C
SUB No. 168
Drawn by
Traced by Reiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
FERDON RD.
WELLS ST. TO WASHTENAW AVE.
Manley Osgood, City Engineer.
1917
Scales Plan 1" = 40' Profile Hor. 1" = 40' Ver. 1" = 4'

Ferdon Rd.



N

CITY OF ANN ARBOR MICHIGAN

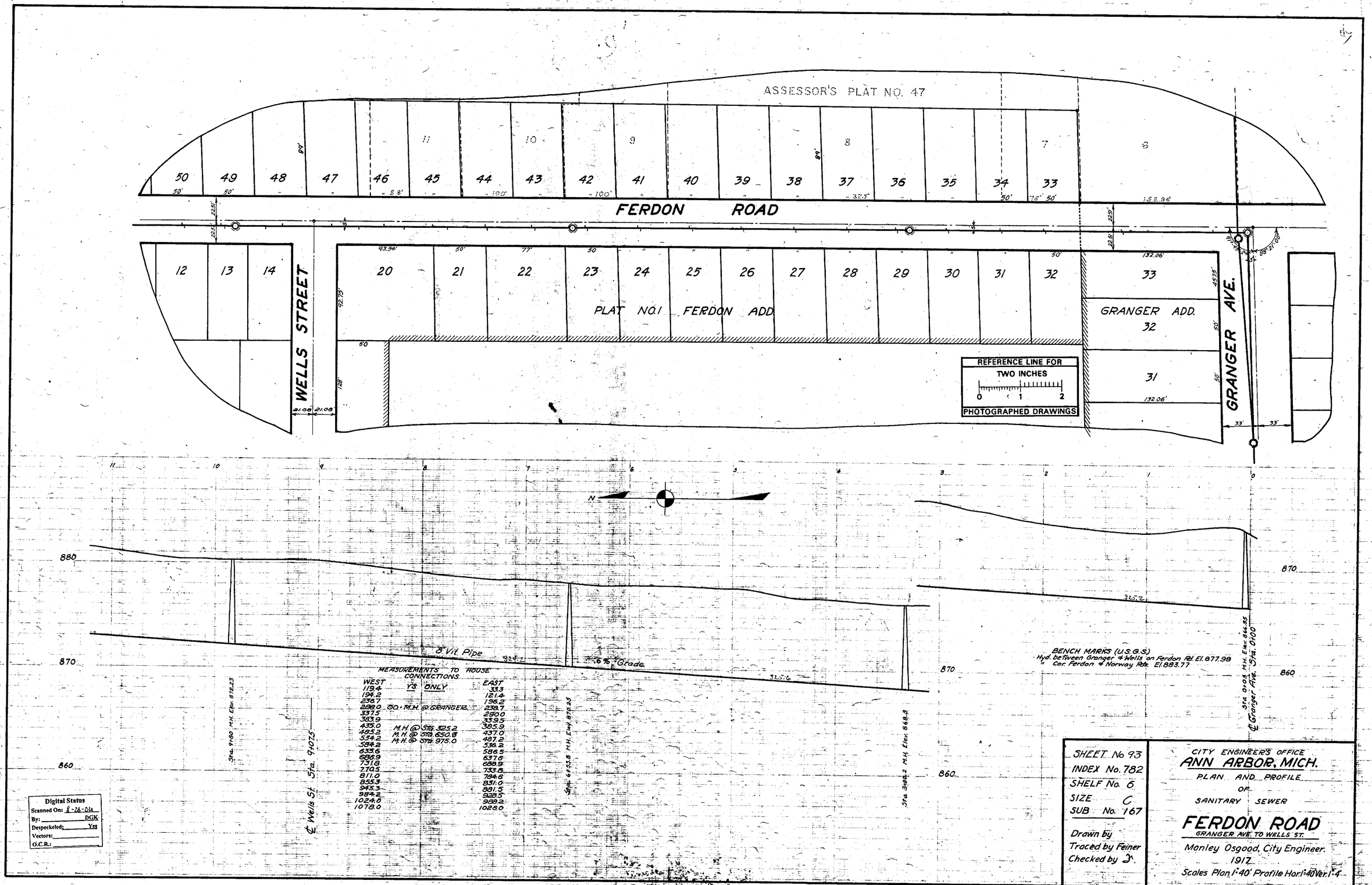
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 35 70 140 210 280 Feet

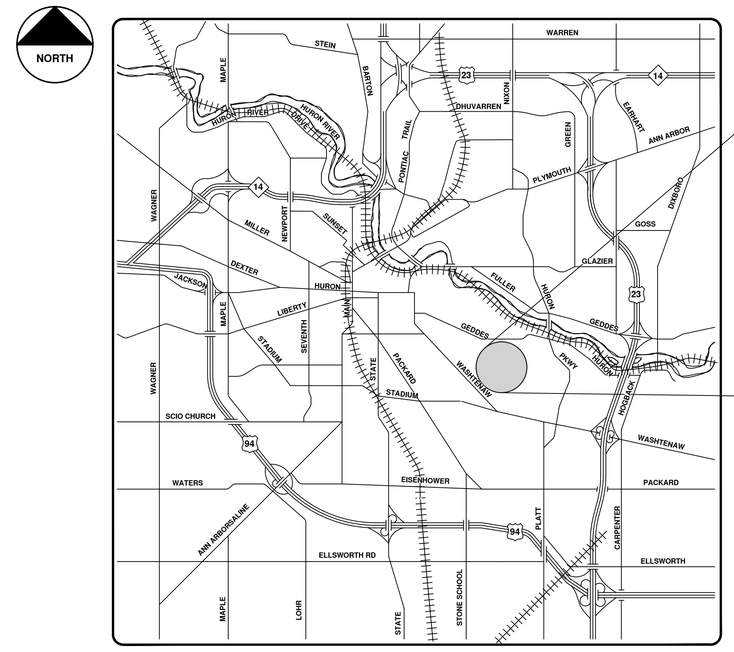
For terms and conditions please visit www.a2gov.org/terms


ASSESSOR'S PLAT NO. 47
FERDON ROAD
WELLS STREET
GRANGER AVE.
PLAT NO.1 FERDON ADD.
GRANGER ADD.
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
8" Vit. Pipe
6% Grade
BENCH MARKS (U.S.G.S.)
Hyd. between Granger & Wells on Ferdon Rd. El. 877.98
" Cor. Ferdon & Norway Rds. El. 883.77
℄ Wells St. Sta. 9+07.5
℄ Granger Ave. Sta. 0+00
Sta. 9+80 M.H. Elev. 872.23
Sta. 6+55.8 M.H. Elev. 870.25
Sta. 3+82.2 M.H. Elev. 868.3
Sta. 0+05 M.H. Elev. 866.35
MEASUREMENTS TO HOUSE CONNECTIONS
WEST YS ONLY EAST
119.4 33.3
194.2 121.4
236.7 196.2
288.0 ⊙⊙ M.H. @ GRANGER 238.7
337.5 290.0
383.9 339.5
435.0 M.H. @ Sta. 325.2 385.9
485.2 M.H. @ Sta. 650.8 437.0
534.2 M.H. @ Sta. 975.0 487.2
584.2 536.2
635.6 586.5
686.9 637.6
731.8 688.9
770.5 733.8
811.0 784.6
855.3 831.0
945.3 881.5
984.2 928.5
1024.0 988.2
1078.0 1026.0
Digital Status
Scanned On: 8-26-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No 93
INDEX No. 782
SHELF No. 6
SIZE C
SUB No. 167
Drawn by
Traced by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
SANITARY SEWER
FERDON ROAD
GRANGER AVE. TO WELLS ST.
Manley Osgood, City Engineer.
1917
Scales Plan 1"=40' Profile Hor. 1"=40' Ver. 1"=4'

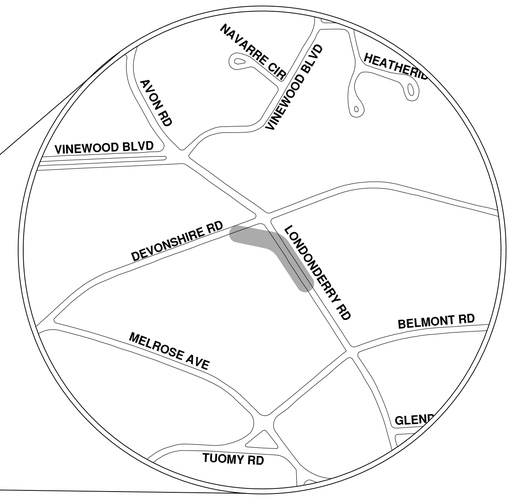
2021 SEWER LINING PROJECT

GROUP 13 - SANITARY

GROUP 13 - S NIT R	
SHEET NUMBER	SHEET TITLE
2	GROUP 13 COVER SHEET
2 - 2	CROSSLOT DEVONSHIRE RD



VICINITY MAP



R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:37:04 PM

Know what's below. Call before you dig. 811

NO	BID SET	9-22-21	ARG	IVK
NO.	DESCRIPTION	DATE	DRAWN	CHECKED

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PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-274

SHEET No. 274 OF 362

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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Crosslot Devonshire Rd.

Manholes
Proposed Lining
Sanitary Main
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms

NOTE:
LOCATION OF GAS & WATER ARE APPROXIMATE

N 31°-53'-30" W

EXIST. M.H.

1984 PAVING

PRESENT CONTOUR

LIMIT 1984 PAVING

740 L.F. 6" WRAPPED EDGE DRAIN

1 1/2" OVERLAY 1984 RESURFACING

LONDONDERRY ROAD

DEVONSHIRE RD.

BELMONT RD.

1984 PAVING LIMIT

SEE 6-C-1076

24" R.C.

4" GAS

6" W

12" R.C.

6" C

30" C & G

20'

40.0

192.52

100.0

110.0

110.0

80.0

134.55

125.45

747.32

25

24

23

22

20

18

13

12

34

26

27

21

19

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

NOTE :
BANKRUN GRAVEL BACKFILL SHOULD BE THROUGHLY COMPACTED BY MACHANE TAMPING IN SUCCESSIVE LAYERS, NOT MORE THAN 6 INCHES IN DEPTH.

SEE NOTES ON 6-C-2048

Book 742 P-19-21

890
880
870
860
850

San. Sewer Sta 0+00
Curb & Gutter Sta. 1

House Connections
W E
0+00 M.H. on Devonshire
2+34.2 } M.H. on Londonderry
0+00 }
0+87
2+00
2+74.5 M.H.
3+02
4+14.5
5+10.5
6+12 M.H.
7+66.8 M.H.

Sta 0+00 1 2 2+34.2 3 4 5 6 EXIST. M.H. 2A 7 8 7+66

+40 PVC 872.10
+90 PVT 874.31
+50 PVC 876.15
+90 PVI 877.37
+30 PVT 877.93
+10 PVC 879.98
+40 PVI 880.32
+70 PVT 881.32
+30 683.14

1.14 %
3.08 %
3.04 %
1.48 %
3.38 %
0.30 %
0.32 %

8" Vit. Pipe
5' STUB
12"

M.H. 2+74.5, 866.40
M.H. 6+12 871.37
M.H. 7+66.8 871.86

C & Devonshire C & G 0+00
+30 860.51
+30 855.85
MH 0+00 856.30
12" C.I. 14 Long Pipe @ 2.24%
M.H. 2+74.2 857.10

DIGITAL STATUS
SCANNED ON: 1/8/04
BY: LJH
DESPECKLED: YES
VECTORS:
O.C.R.:

EDGEDRAIN
8" MIN. - 48" MAX.
8"
TYPICAL CROSS-SECTION
No Scale

STORM AS-BUILT 4/2004 MLL
REVISED 1-30-2004 ENGINEERING

JOB # 2157 R - DIST. # 22
APPROVED BY :

C & G Job M. H. 1728
Dist. No. 2345
Job No. 12995

Sheet No. 1	City Engineers Office
Index No. 2480	ANN ARBOR, MICH.
Shelf No. 6	Plan and Profile
Size No. C	of
Sub No. 947	Sanitary Sewers
Drawn by Ruschman	LONDONDERRY RD.
Traced by	Devonshire to [illegible]
Checked by	Geo. H. Sandenburgh City Engineer 1948
	Scales: Hor. 1" = 40 Vert. 1" = 4

Londonderry Rd.

N

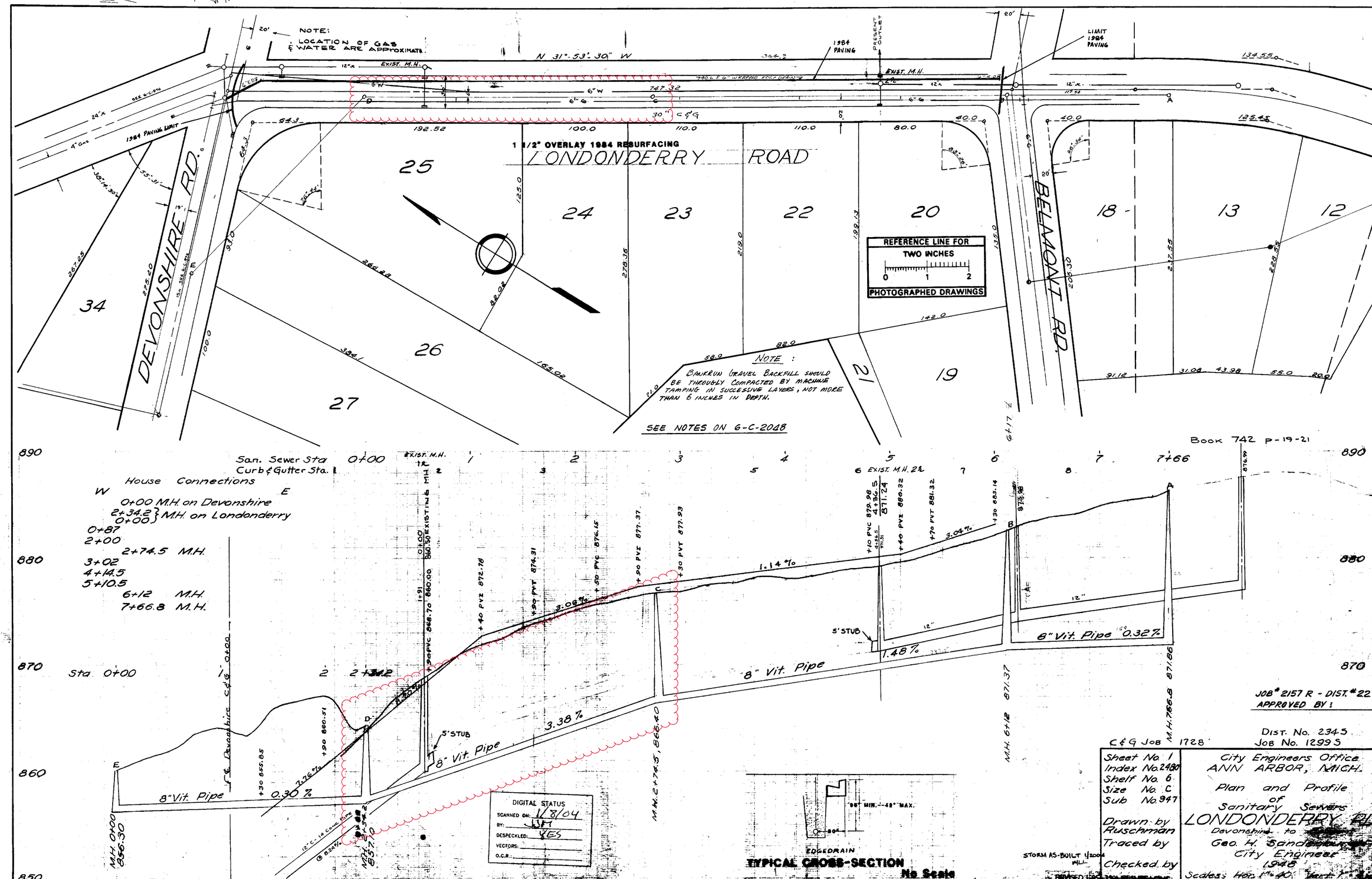
Manholes
Sanitary Main
Proposed Lining

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

For terms and conditions please visit www.a2gov.org/terms

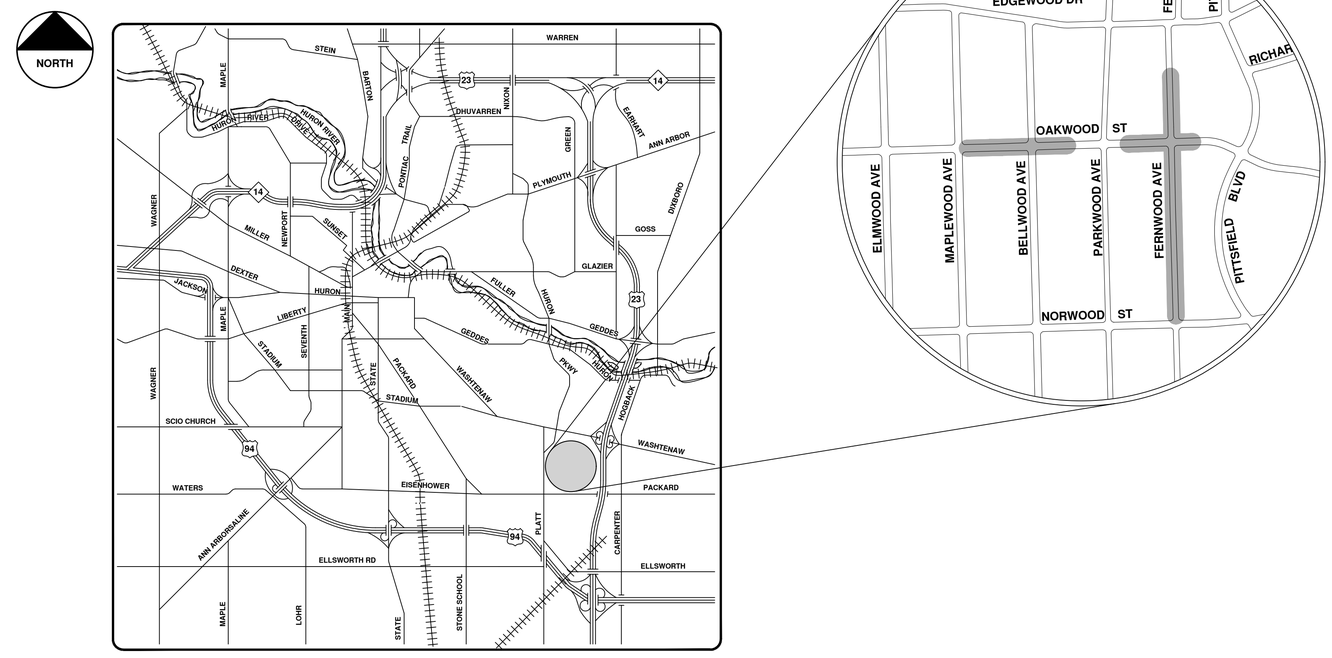


NOTE:
LOCATION OF GAS & WATER ARE APPROXIMATE.
N 31°-53'-30" W
EXIST. M.H.
1984 PAVING
PRESENT OUTLET
LIMIT 1984 PAVING
1 1/2" OVERLAY 1984 RESURFACING
LONDONDERRY ROAD
DEVONSHIRE RD.
BELMONT RD.
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
NOTE:
BANKRUN GRAVEL BACKFILL SHOULD BE THROUGHLY COMPACTED BY MACHINE TAMPING IN SUCCESSIVE LAYERS, NOT MORE THAN 6 INCHES IN DEPTH.
SEE NOTES ON 6-C-2048
Book 742 p-19-21
San. Sewer Sta 0+00
Curb & Gutter Sta. 1
House Connections
W E
0+00 M.H. on Devonshire
2+34.2 } M.H. on Londonderry
0+00
0+87
2+00
2+74.5 M.H.
3+02
4+14.5
5+10.5
6+12 M.H.
7+66.8 M.H.
Sta 0+00
8" Vit. Pipe 0.30 %
8" Vit. Pipe 3.38 %
8" Vit. Pipe 1.48 %
8" Vit. Pipe 0.32 %
1.14 %
3.04 %
3.06 %
5' STUB
M.H. 0+00 856.30
M.H. 2+74.5, 866.40
M.H. 6+12 871.37
M.H. 7+66.8 871.86
DIGITAL STATUS
SCANNED ON: 1/8/04
BY: JJH
DESPECKLED: YES
VECTORS:
O.C.R.:
EDGEDRAIN
TYPICAL CROSS-SECTION
No Scale
JOB # 2157 R - DIST. # 22
APPROVED BY:
DIST. No. 2345
JOB No. 1299 S
C & G JOB 1728
Sheet No. 1
Index No. 2480
Shelf No. 6
Size No. C
Sub No. 947
Drawn by Ruschman
Traced by
Checked by
City Engineers Office
ANN ARBOR, MICH.
Plan and Profile of Sanitary Sewers
LONDONDERRY RD.
Devonshire to
Geo. H. Sandenburgh
City Engineer
1948
Scales: Hor. 1" = 40'
STORM AS-BUILT 1/2004

2021 SEWER LINING PROJECT

GROUP 14 - SANITARY

GROUP 1 - S NIT R	
SHEET NUMBER	SHEET TITLE
2	GROUP 1 COVER SHEET
2 0 - 2 2	ERN OOD VE
2 3 - 2 6	O K OOD ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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NO	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-279

SHEET No. 279 OF 362

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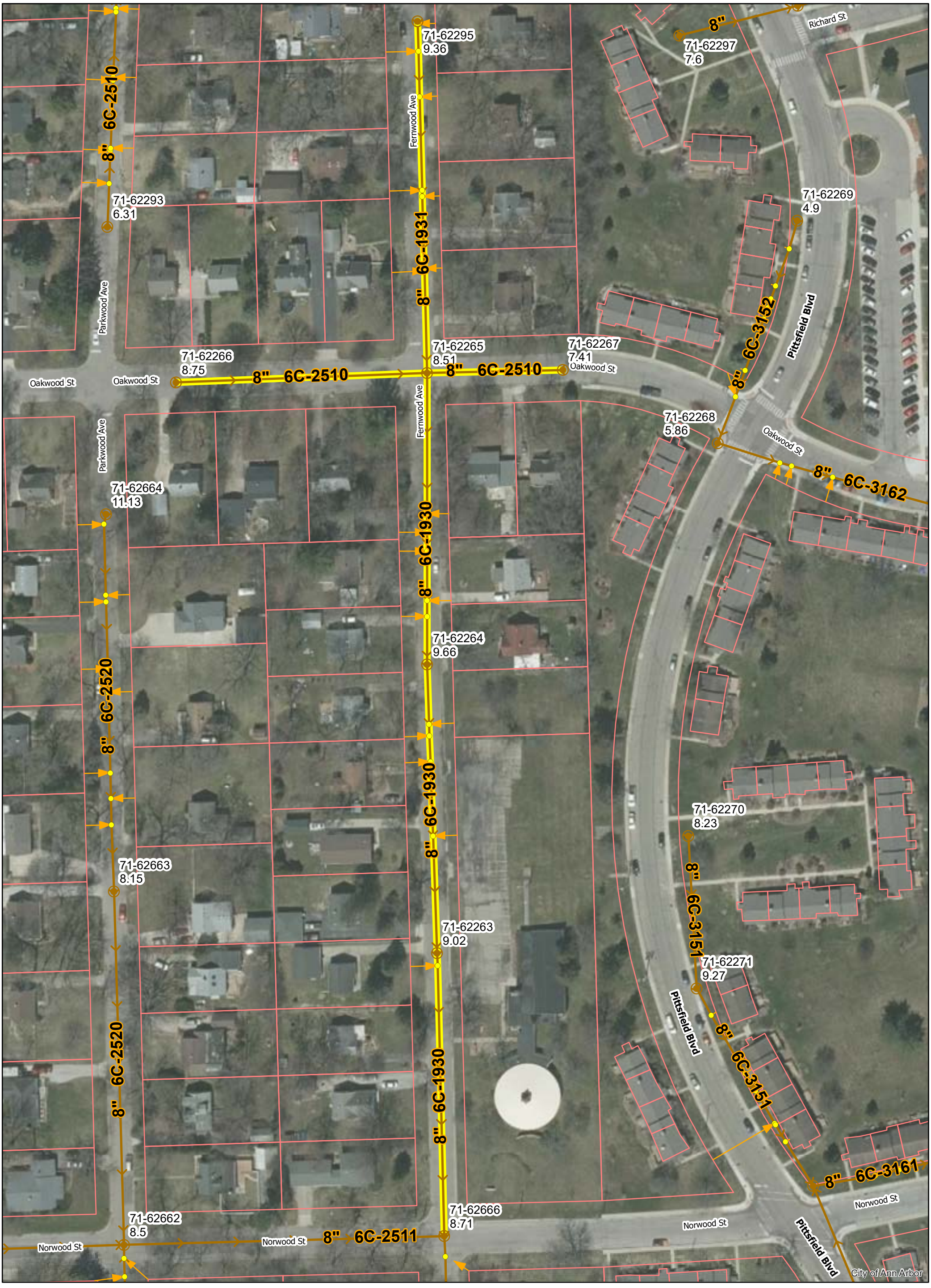
R:\2021006 Sewer Lining 2021\Plan Production\2021006CovSan.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:37:09 PM

Fernwood Ave



N

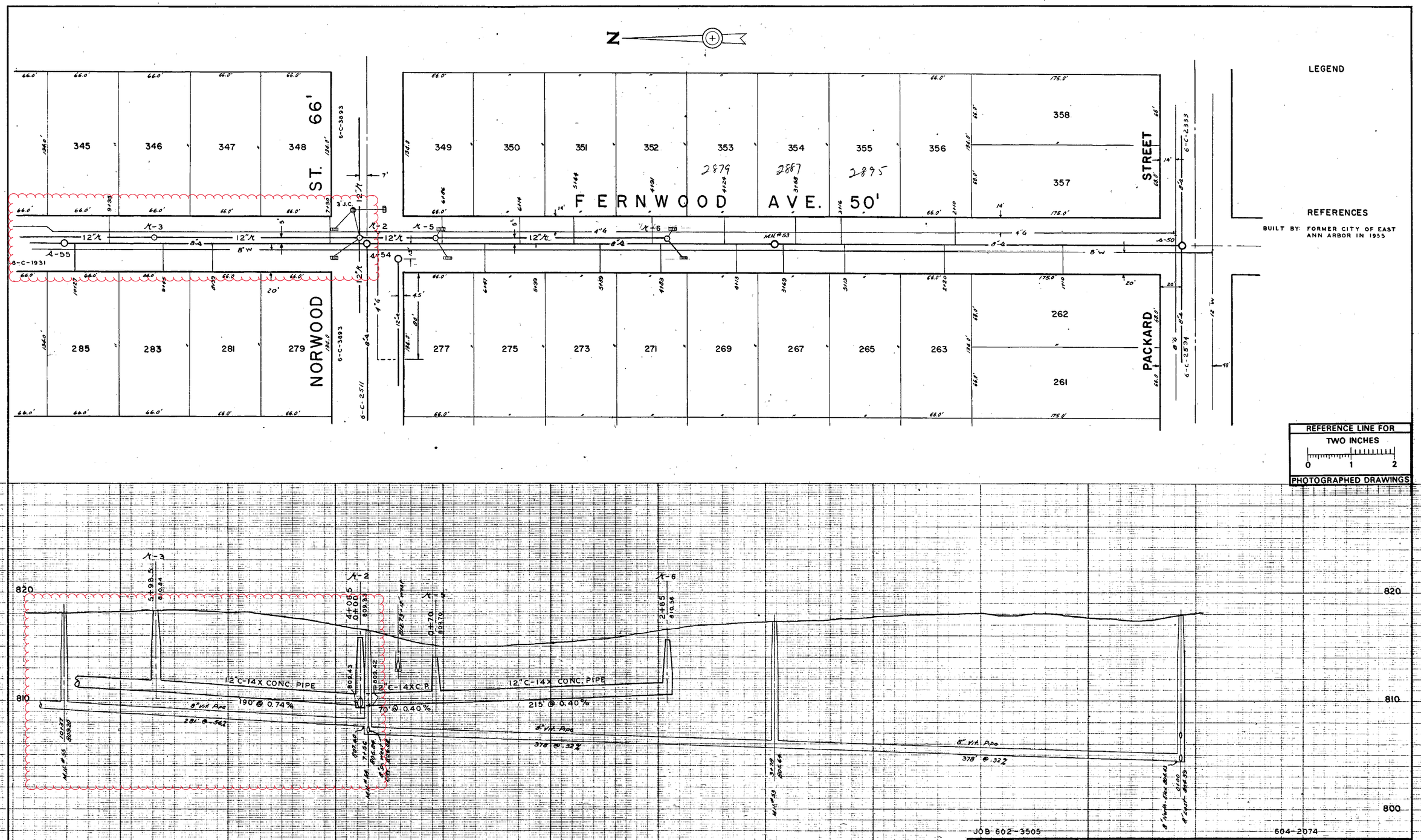
Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 40 80 160 240 320 Feet

For terms and conditions please visit www.a2gov.org/terms



JOB 602-3505

604-2074

DR. BY	M.N.G.	DATE 6-11-57	SHEET NO.
TR. BY			INDEX NO. 3741
CH. BY			SHELF NO.
REVISIONS STORM C.F.S. 9/69			6-C-1930
			SCALE: HORIZONTAL VERTICAL

SANITARY SEWER & Storm Sewer

FERNWOOD AVE.

PACKARD STREET TO 300' N. OF NORWOOD

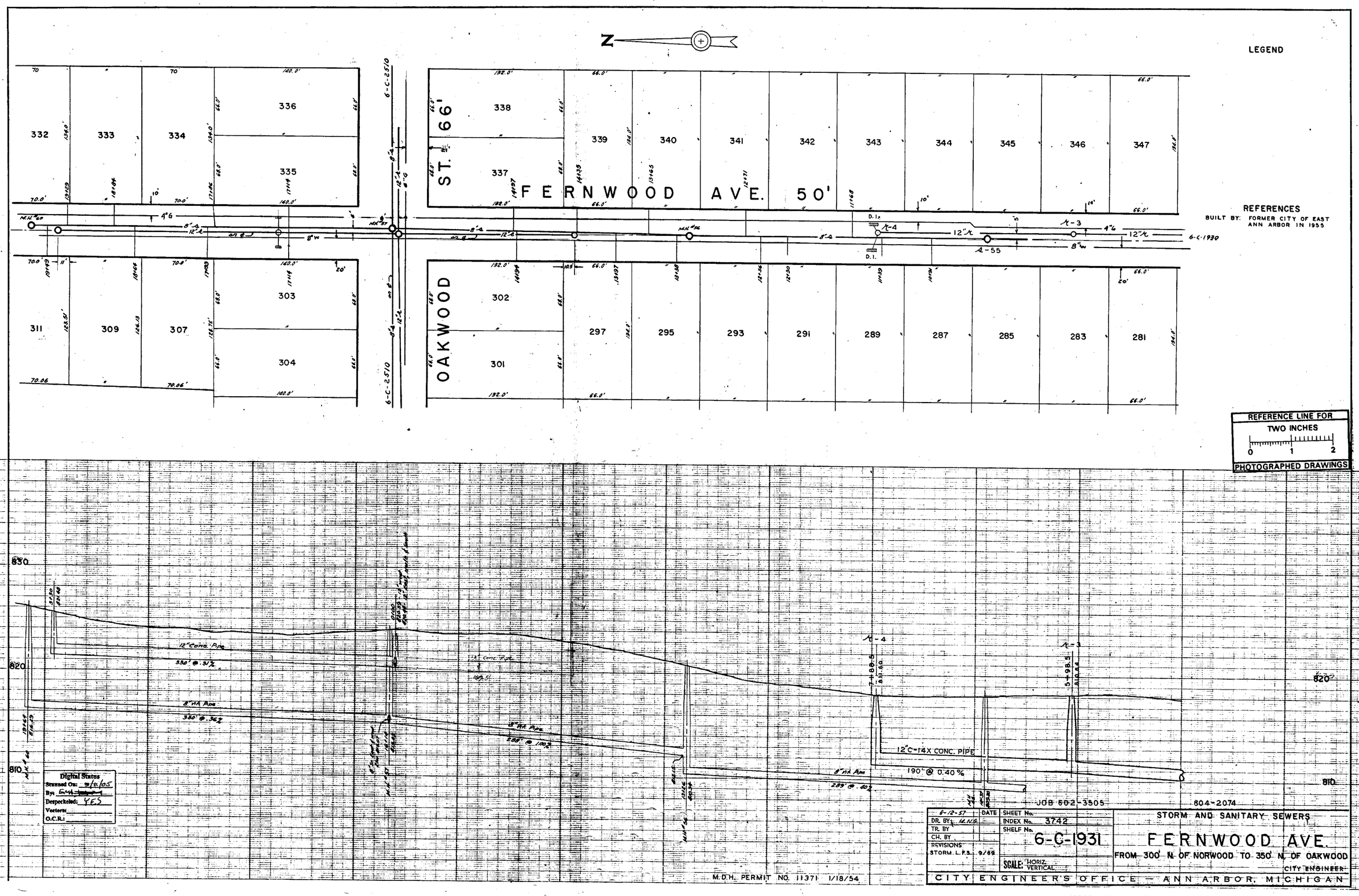
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN

M.D.H. PERMIT NO. 11371 1/18/54

PREPARED BY McNAMEE, PORTER & SEELEY

Digital Status
Scanned On: 5/11/05
By: EMA
Despeckeled: YES
Vectors:
O.C.R.:



LEGEND
REFERENCES
BUILT BY: FORMER CITY OF EAST ANN ARBOR IN 1955
FERNWOOD AVE. 50'
ST. 66'
OAKWOOD
332
333
334
336
335
338
337
339
340
341
342
343
344
345
346
347
311
309
307
303
304
302
301
297
295
293
291
289
287
285
283
281
6-C-2510
6-C-1930
REFERENCE LINE FOR
TWO INCHES
0
1
2
PHOTOGRAPHED DRAWINGS
12" Conc. Pipe
330' @ .31%
8" Vit. Pipe
350' @ .36%
8" Vit. Pipe
288' @ 1.00%
12" C-14X CONC. PIPE
190' @ 0.40%
8" Vit. Pipe
289' @ .40%
830
820
810
Digital Status
Scanned On: 9/11/05
By: GMA
Despeckeled: YES
Vectors:
O.C.R.:
JOB 602-3505
604-2074
6-12-57
DATE
DR. BY: M.N.G.
TR. BY
CH. BY
REVISIONS
STORM L.F.S. 9/69
SHEET No.
INDEX No. 3742
SHELF No.
6-C-1931
SCALE: HORIZ. VERTICAL
STORM AND SANITARY SEWERS
FERNWOOD AVE.
FROM 300' N. OF NORWOOD TO 350' N. OF OAKWOOD
CITY ENGINEER
CITY ENGINEER'S OFFICE — ANN ARBOR, MICHIGAN
M.D.H. PERMIT NO. 11371 1/18/54
PREPARED BY McNAMEE, PORTER & SEELEY

Oakwood St.

Manholes
Sanitary Main
Proposed Lining
Sanitary Lateral

71-XXXXX (Manhole ID)

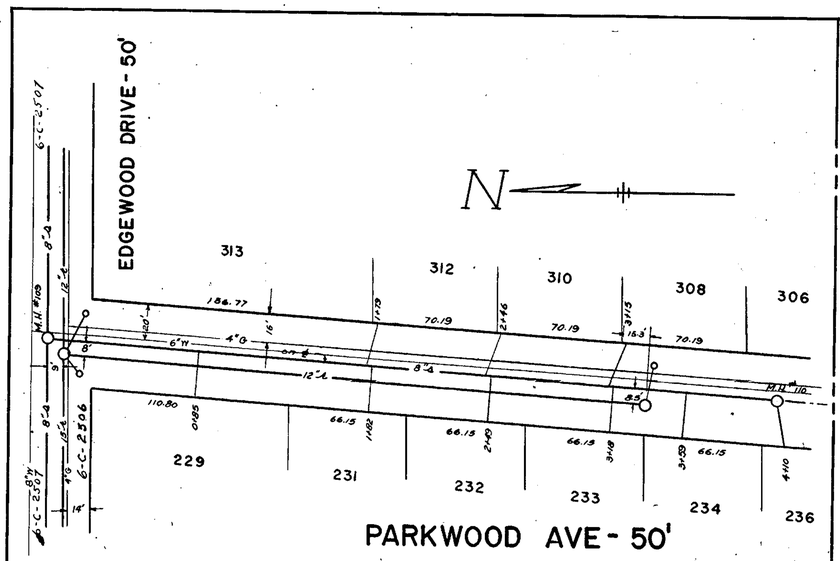
1.00 (Manhole Depth)

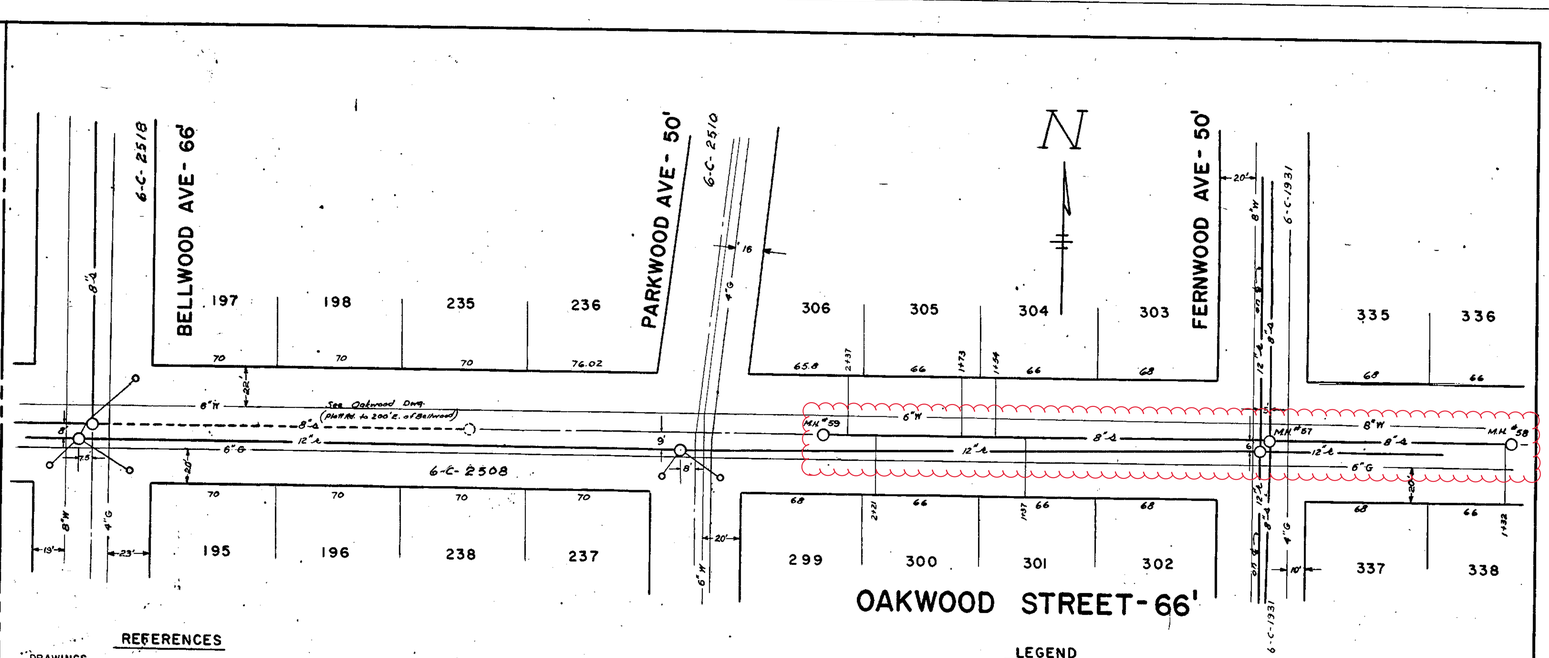
0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms

FREDERICK POST CO. 907 200 5-58





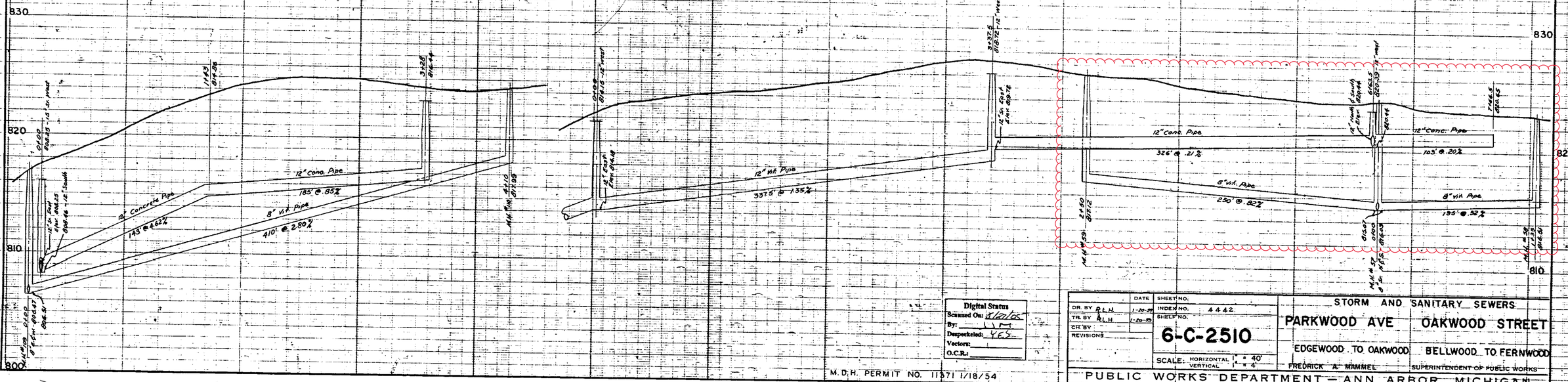
REFERENCES

DRAWINGS
PROFILE
BENCH MARKS
SAN. BUILT BY FORMER CITY OF EAST ANN ARBOR IN 1955

LEGEND

- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- GAS LINE
- WATER LINE

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS



Digital Status
Scanned On: 4/14/05
By: LLM
Despeckled: YES
Vectors:
O.C.R.:

M.D.H. PERMIT NO. 11371 1/18/54

	DATE	SHEET NO.	
DR. BY A.L.H.	1-20-55	INDEX NO.	4 & 4.2.
TR. BY A.L.H.	1-20-55	SHEET NO.	
CH. BY		6-C-2510	
REVISIONS		SCALE: HORIZONTAL 1" = 40' VERTICAL 1" = 4'	

STORM AND SANITARY SEWERS
PARKWOOD AVE OAKWOOD STREET
EDGEWOOD TO OAKWOOD BELLWOOD TO FERNWOOD
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS
PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

PREPARED BY McNAMEE, PORTER & SEELEY

Oakwood St.

Manholes
Proposed Lining
Sanitary Main
Sanitary Lateral

71-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 15 30 60 90 120 Feet

N

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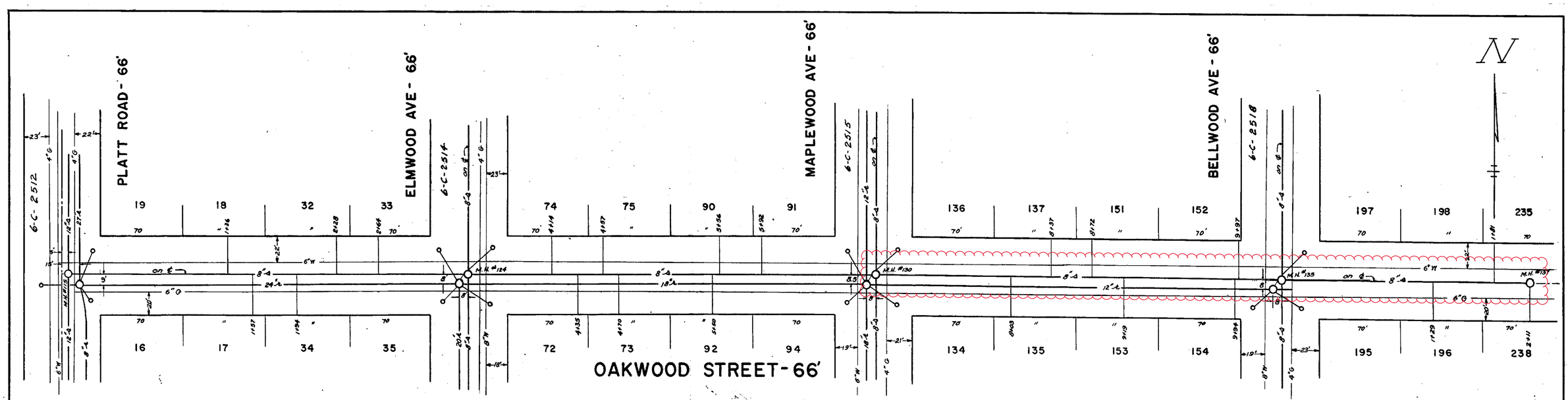
FREDERICK POST CO. 1967 200 5-58

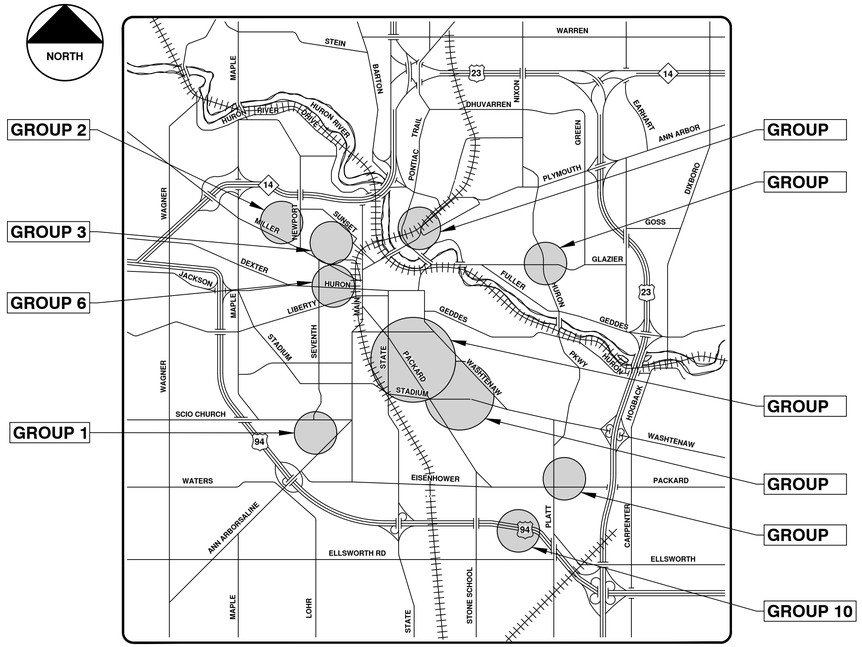

PLATT ROAD - 66'
ELMWOOD AVE - 66'
MAPLEWOOD AVE - 66'
BELLWOOD AVE - 66'
OAKWOOD STREET - 66'
6-C-2512
6-C-2514
6-C-2515
6-C-2518
N
19
18
32
33
74
75
90
91
136
137
151
152
197
198
235
16
17
34
35
72
73
92
94
134
135
153
154
195
196
238
M.H. #134
M.H. #130
M.H. #135
M.H. #131
8"S
6"W
6"G
24"R
18"R
12"R
8"S
6"W
6"G
8"S
6"W
6"G
8"S
6"W
6"G

CITY OF ANN ARBOR
ENGINEERING

2021 SEWER LINING PROJECT

BID No. ITB 4693, FILE No. 2021006

SHEET NUMBER	SHEET TITLE
2	OVER LL STORM COVER SHEET
	GROUP 1 - STORM
2	GROUP 1 COVER SHEET
2 -2 0	S SEVENTH ST L NS
	GROUP 2 - STORM
2 1	GROUP 2 COVER SHEET
2 2 - 2 3	1 MILLER VE
	GROUP 3 - STORM
2	GROUP 3 COVER SHEET
2 -2 6	GOTT ST
	GROUP - STORM
2	GROUP COVER SHEET
2 -300	BRO D ST CROSSLOT
	GROUP - STORM
301	GROUP COVER SHEET
302 - 303	HURON PK
30 - 306	HURON PK S GR DR
	GROUP 6 - STORM
30	GROUP 6 COVER SHEET
30 - 310	HURON ST S IRST ST
311 - 312	HURON ST THIRD ST
313 - 31	HURON ST S SEVENTH ST
31 - 31	HURON ST EIGHTH ST
320 - 321	KINGSLE ST
322 - 32	LIBERT ST
326 - 32	SHINGTON ST
	GROUP - STORM
330	GROUP COVER SHEET
331 - 332	B LD IN VE
333 - 33	CHURCH ST
336 - 33	E HOOVER VE
33 - 33	E UNIVERSIT VE
3 0 - 3 1	HILL ST
3 2 - 3 3	KEECH VE
3 -3	S ST TE ST
3 6 - 3	S UNIVERSIT VE
	GROUP - STORM
3	GROUP COVER SHEET
3 0 - 3 2	BROCKM N BLVD
3 3 - 3	ERDON RD
3 -3 6	HENR ST
	GROUP - STORM
3	GROUP COVER SHEET
3 -3	ELM OOD VE
	GROUP 10 - STORM
360	GROUP 10 COVER SHEET
361 - 362	HEMLOCK DR



VICINITY MAP

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, IT'S DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

PROJECT DESCRIPTION AND LIMITS

SCALE

DRAWING No. 2021006-287

SHEET No. 287 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:41:54 PM

2021 SEWER LINING PROJECT

GROUP 1 - STORM

GROUP 1 - STORM	
SHEET NUMBER	SHEET TITLE
2	GROUP 1 COVER SHEET
2 -2 0	S SEVENTH ST L NS

VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

CITY OF ANN ARBOR
PUBLIC SERVICES
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P.O. BOX 8647
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734-794-6410
www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-288

SHEET No. 288 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:02 PM

S Seventh St. & Lans Way

N

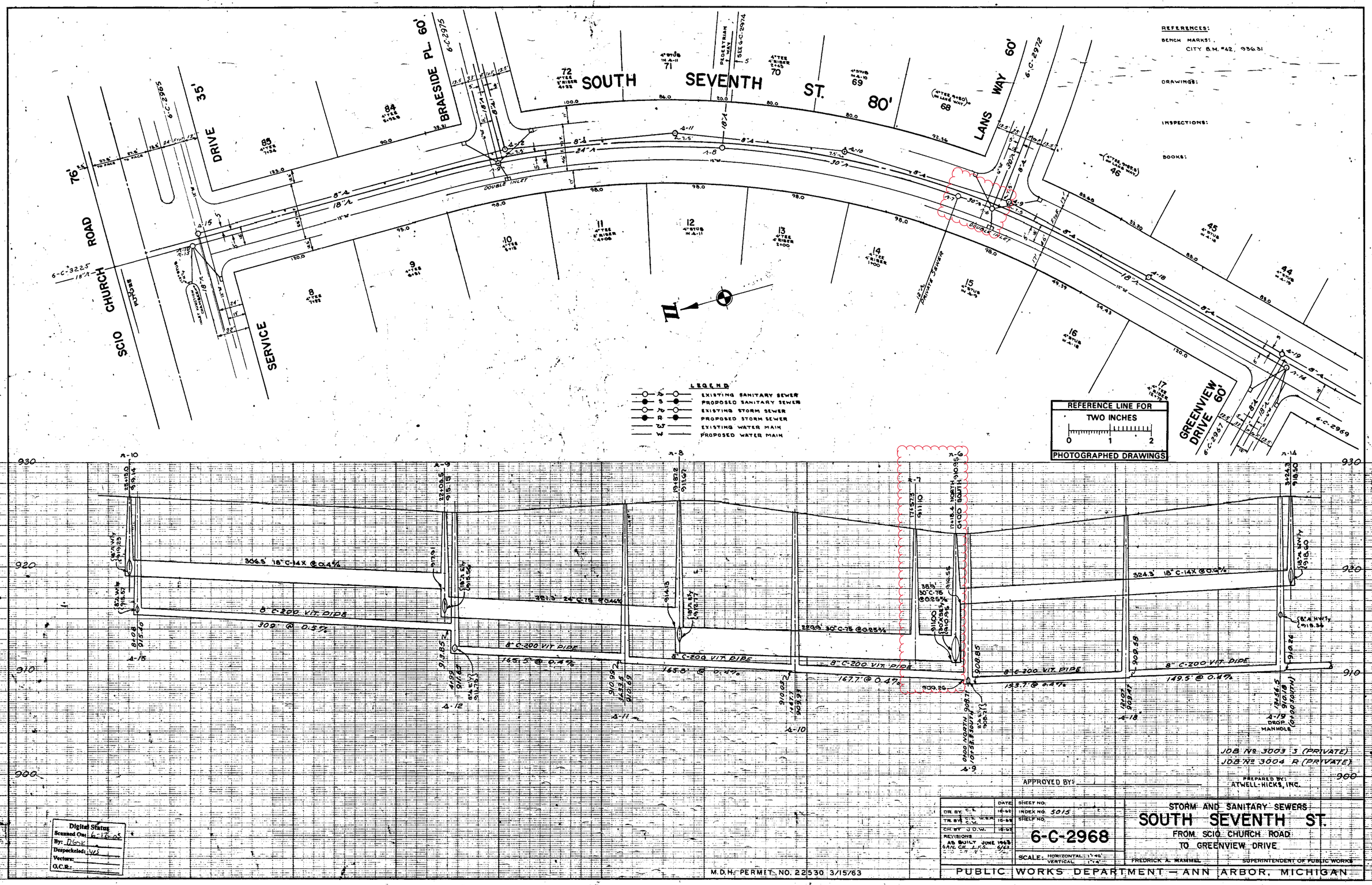
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 3.25 6.5 13 19.5 26 Feet

For terms and conditions please visit www.a2gov.org/terms



	DATE	SHEET NO.	
DR. BY C.S.	10-62	INDEX NO. 5015	STORM AND SANITARY SEWERS
TR. BY C.S. C.W.	10-62	SHEET NO.	SOUTH SEVENTH ST.
CH. BY J.D.W.	10-62	6-C-2968	FROM SCIO CHURCH ROAD
REVISIONS AS BUILT JUNE 1963			TO GREENVIEW DRIVE
SCALE: HORIZONTAL 1"=40' VERTICAL 1"=4'			FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

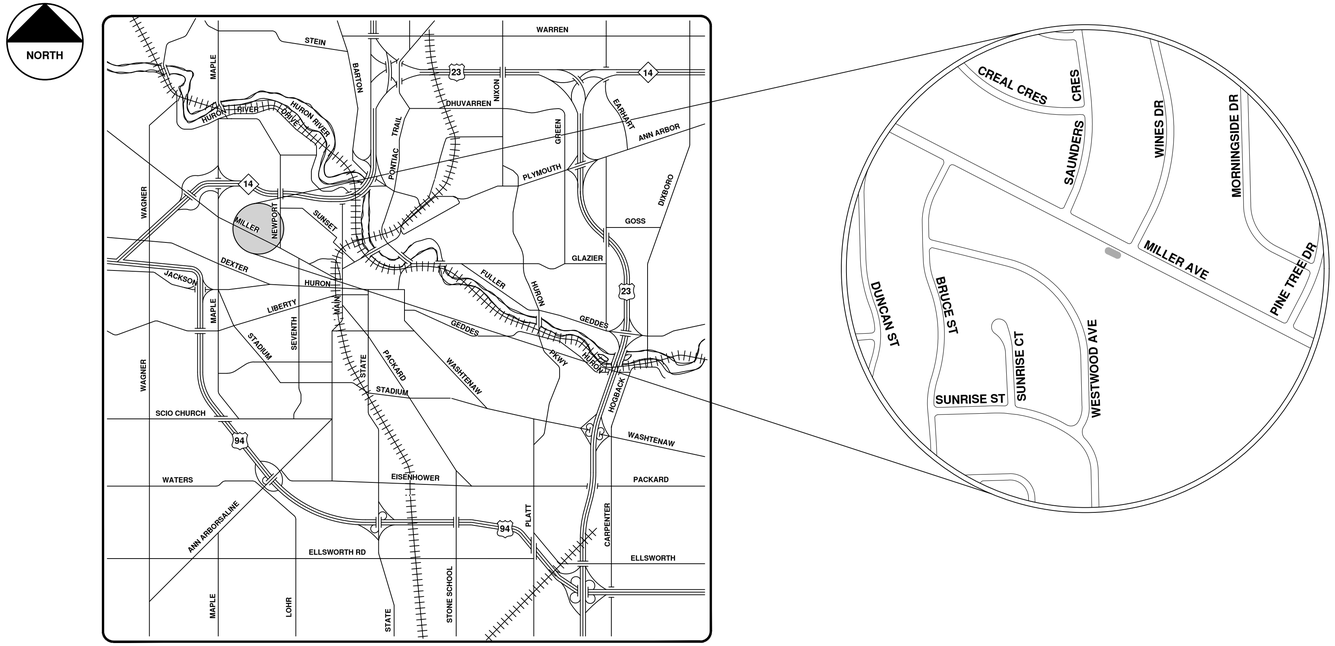
PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

Digital Status
Scanned On: 6-18-05
By: DGK
Despeckeled: YES
Vectors:
O.C.R.:

2021 SEWER LINING PROJECT

GROUP 2 - STORM

GROUP 2 - STORM	
SHEET NUMBER	SHEET TITLE
2 1	GROUP 2 COVER SHEET
2 2 - 2 3	1 MILLER VE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-291

SHEET No. 291 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:07 PM

1775 Miller Ave.

N

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

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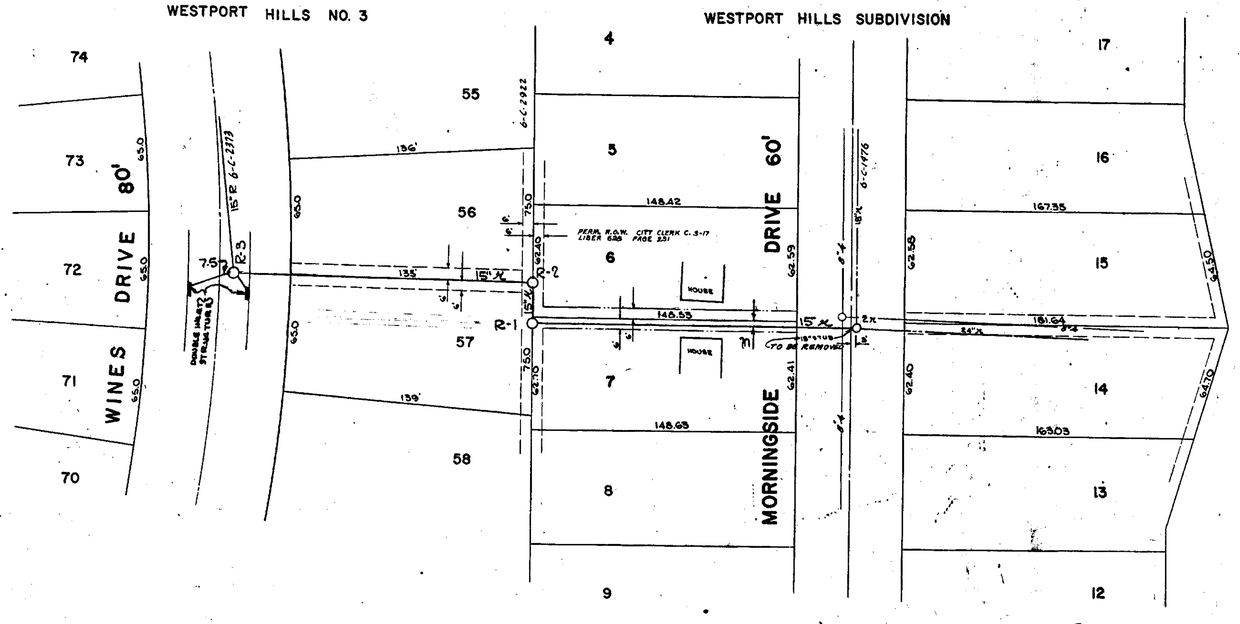
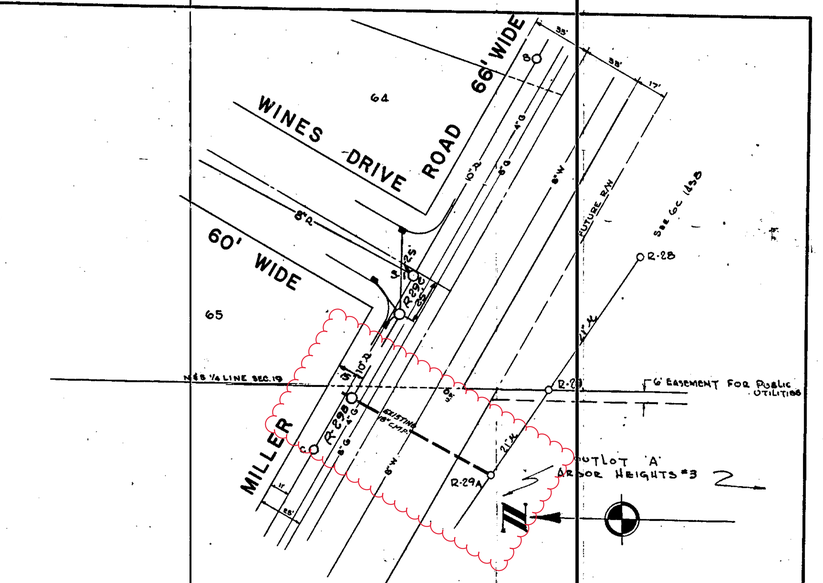
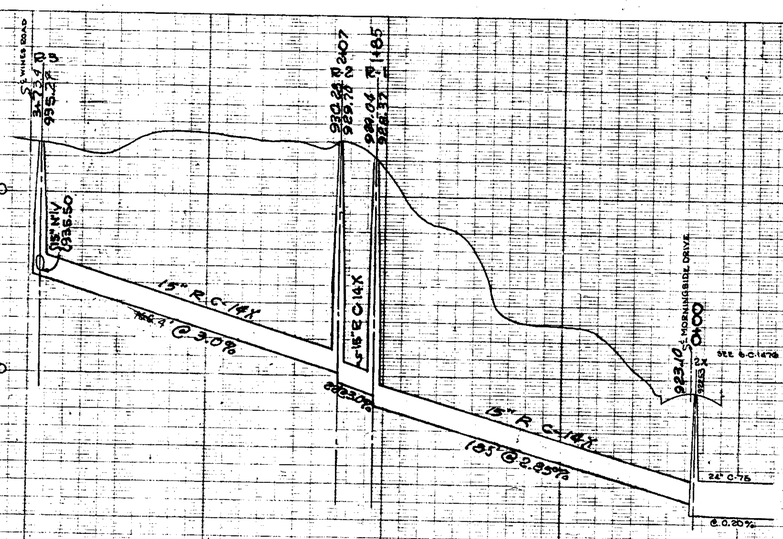
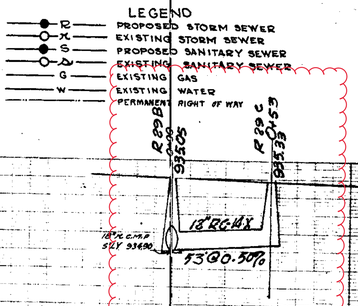
FREDERICK POST CO. 897 200 6-58









REFERENCES

BENCH MARKS

MORNINGSIDE DR. @ #1228 (E.SIDE, 100'S. OF WESTPORT ROAD) ELEV. 945.65
BOOK 659 PG. 51

DRAWINGS

6-C-1476
6-C-1385

INSPECTIONS

LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING WATER
- PERMANENT RIGHT OF WAY

REFERENCE LINE FOR TWO INCHES

0 1 2

PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 5/23/05
By: JJM
Despeckled: YES
Vectors:
O.C.R.:

JOB NO. 2676 S
JOB NO. 2677 R

APPROVED BY:

PREPARED BY ATWELL-HICKS, INC.

		DATE	SHEET NO.
DR. BY	C.S.	6/59	INDEX NO. 4247
TR. BY	C.S.	6/59	SHELF NO.
CH. BY			
REVISIONS			

6-C-2374

SCALE: HORIZONTAL 1" = 40'
VERTICAL 1" = 4'

STORM SEWER
CROSSLOTS
WINES DRIVE TO MORNINGSIDE DRIVE
MILLER RD. CROSSING
WINES DRIVE TO EAST LINE ARBOR HEIGHTS #3

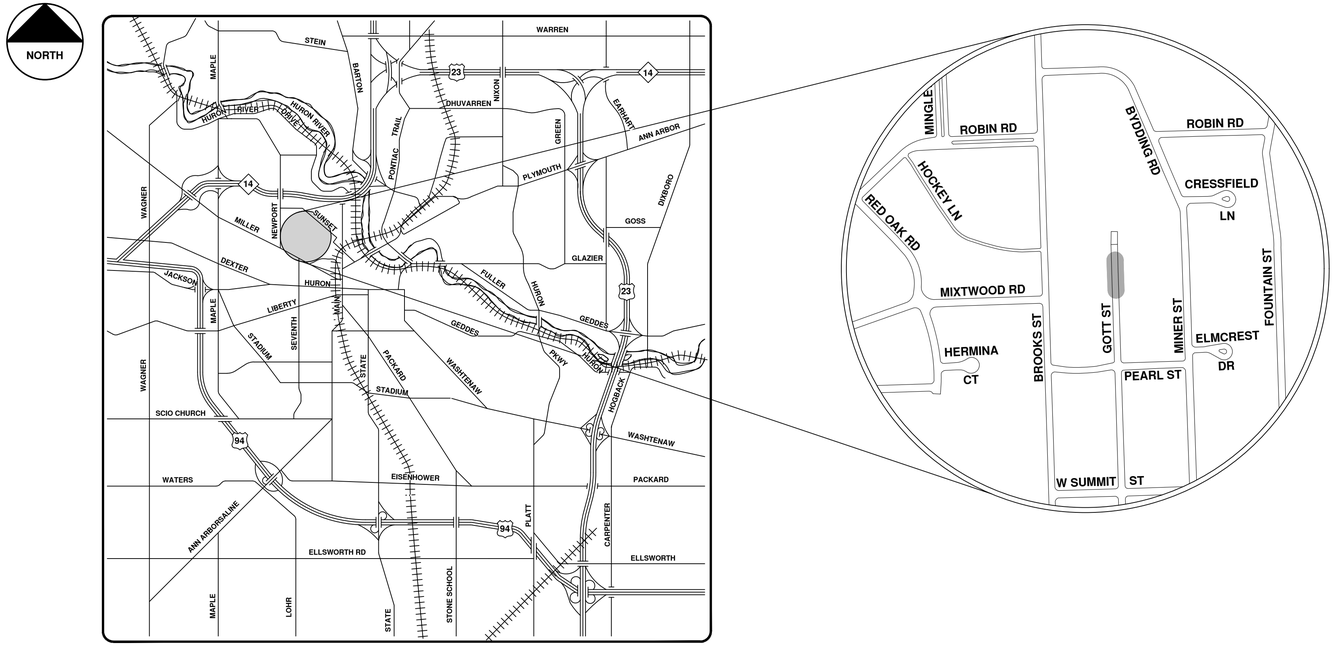
FREDRICK A. MAMMEL
SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

2021 SEWER LINING PROJECT

GROUP 3 - STORM

GROUP 3 - STORM	
SHEET NUMBER	SHEET TITLE
2	GROUP 3 COVER SHEET
2 - 2 6	GOTT ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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NO	BID SET	DESCRIPTION	9-22-21	DRAWN	CHECKED
REV.			DATE	ARG	IVK

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-294

SHEET No. 294 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:12 PM

Gott St.

N

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

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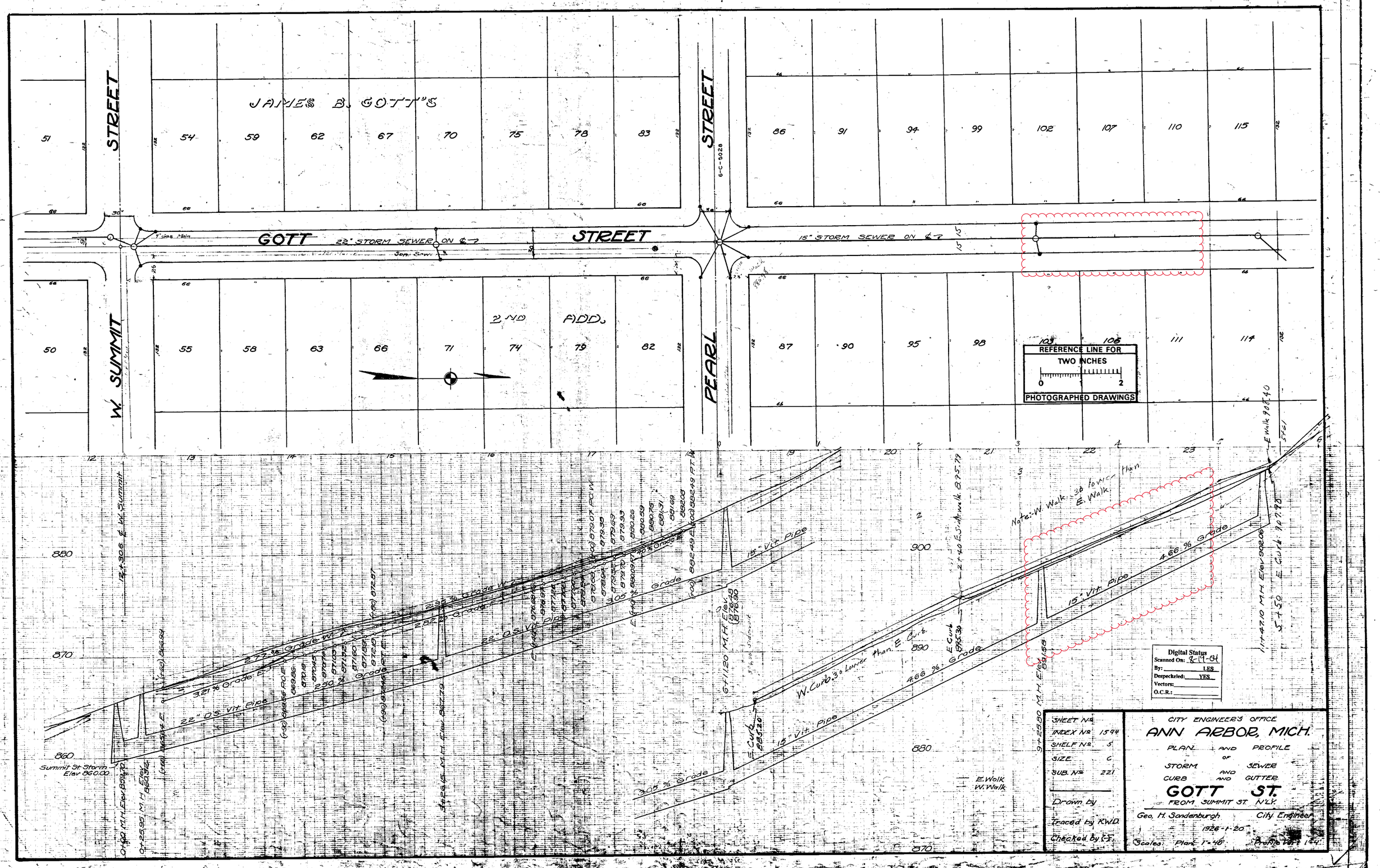
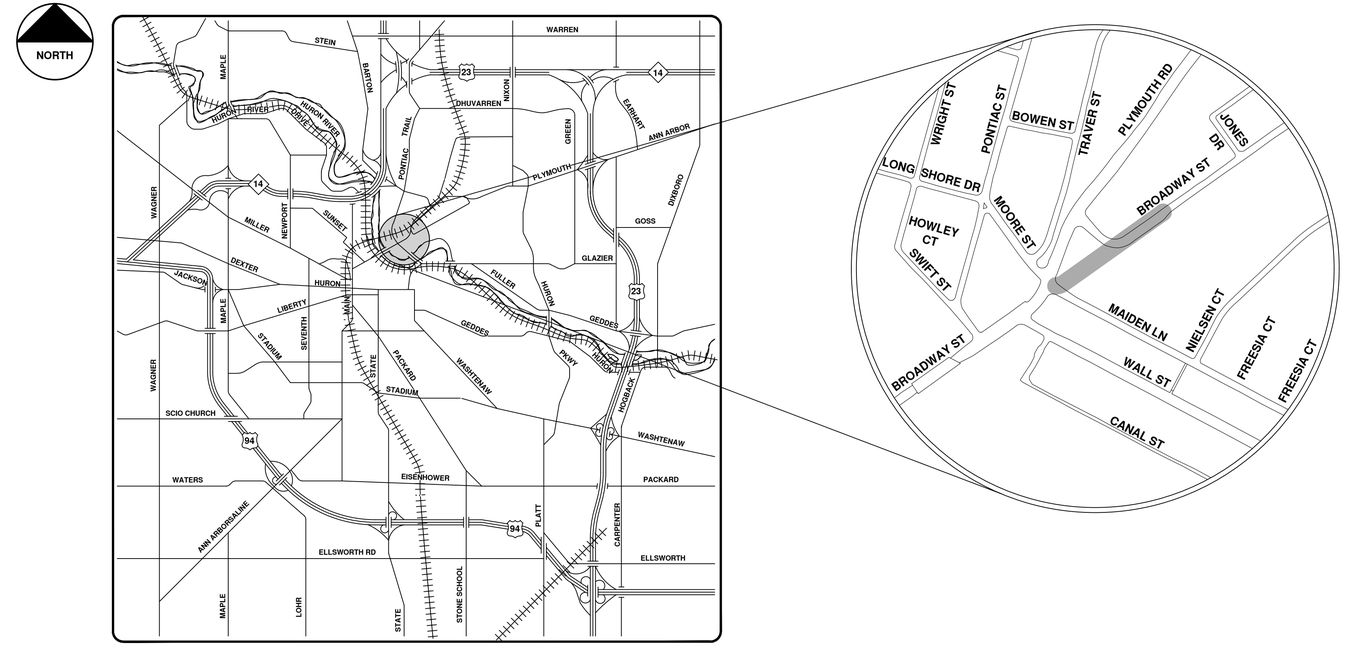


JAMES B. GOTT'S
W. SUMMIT STREET
PEARL STREET
GOTT STREET
22" STORM SEWER ON ℄
15" STORM SEWER ON ℄
2ND ADD.
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
Note: W. Walk 30 lower than E. Walk
W. Curb 30 lower than E. Curb
15" Vit. Pipe
22" D.S. Vit. Pipe
4.66 % Grade
3.05 % Grade
Summit St. Storm Elev 860.00
E. Walk
W. Walk
Digital Status
Scanned On: 8-19-04
By: LES
Despeckeled: YES
Vectors:
O.C.R.:
SHEET No.
INDEX No. 1594
SHELF No. 5
SIZE C
SUB. No. 221
Drawn by
Traced by K.W.D.
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE OF STORM SEWER AND CURB AND GUTTER
GOTT ST.
FROM SUMMIT ST. N'LY.
Geo. H. Sandenburgh City Engineer
1926-1-20
Scales Plan 1"=40' Profile Vert 1"=4'

2021 SEWER LINING PROJECT

GROUP 4 - STORM

GROUP - STORM	
SHEET NUMBER	SHEET TITLE
2	GROUP COVER SHEET
2 - 300	BRO D ST CROSSLOT



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
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ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

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00	BID SET	9-22-21	ARG	IVK

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-297

SHEET No. 297 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:17 PM

Broadway St. & Crosslot

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

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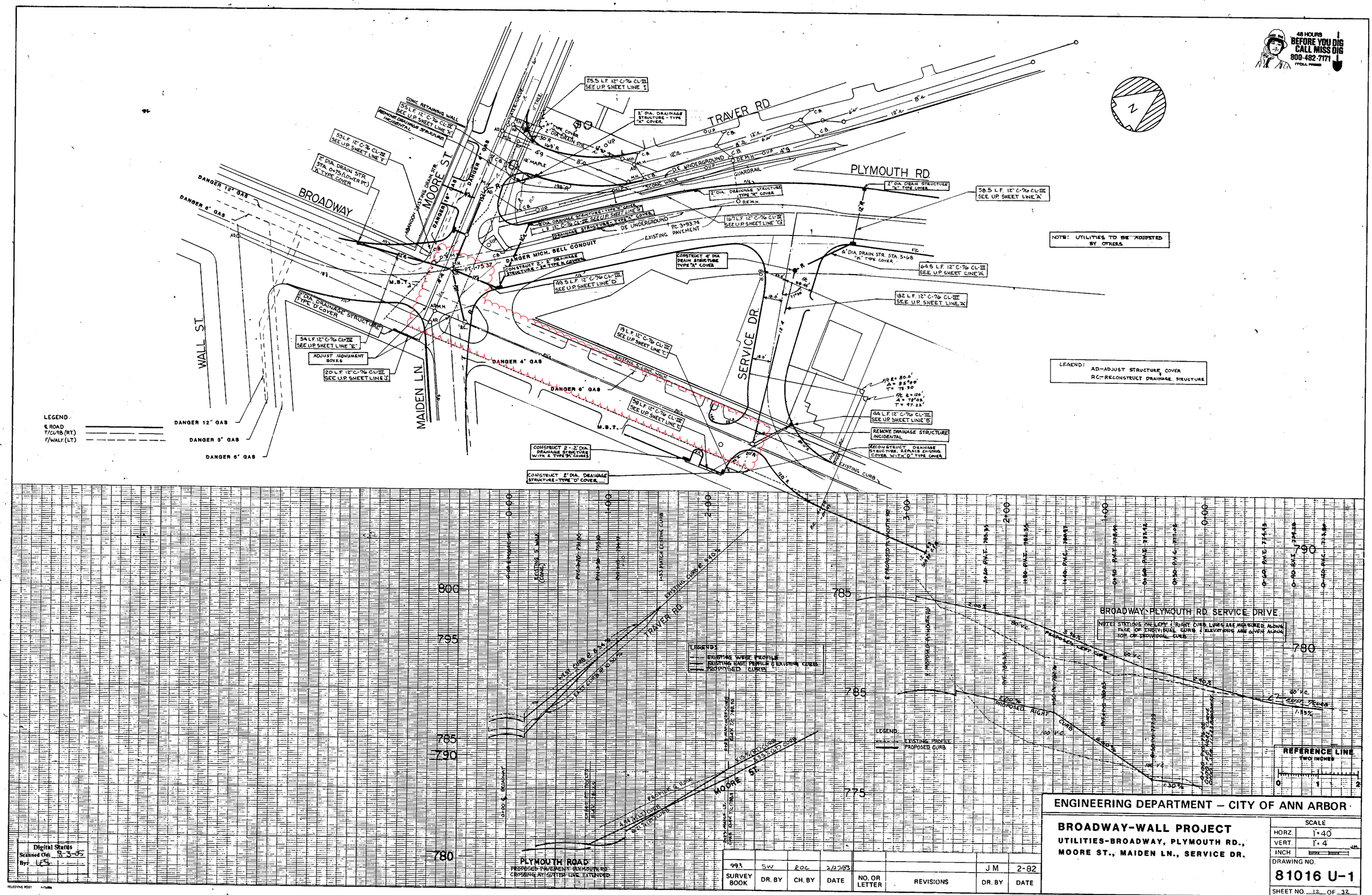


SURVEY BOOK	DR. BY	CH. BY	DATE	NO. OR LETTER	REVISIONS	DR. BY	DATE
993	SW	ROC	2/27/83			JM	2-82

ENGINEERING DEPARTMENT – CITY OF ANN ARBOR

BROADWAY-WALL PROJECT

UTILITIES-BROADWAY, PLYMOUTH RD., MOORE ST., MAIDEN LN., SERVICE DR.

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

DRAWING NO. 81016 U-1

SHEET NO. 12 OF 32

HES 2006 (036)

SWIFT ST.

ASSESSOR'S 8

PLAT No 33

MOORE ST.

Traver Rd.

Plymouth Rd

Brown & Fuller's Add.

Block 6

BROADWAY

STREET

CANAL ST.

WALL ST.

MAIDEN LANE

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 8-13-84
By: LES
Despeckeled: YES
Vectors:
O.C.R.:

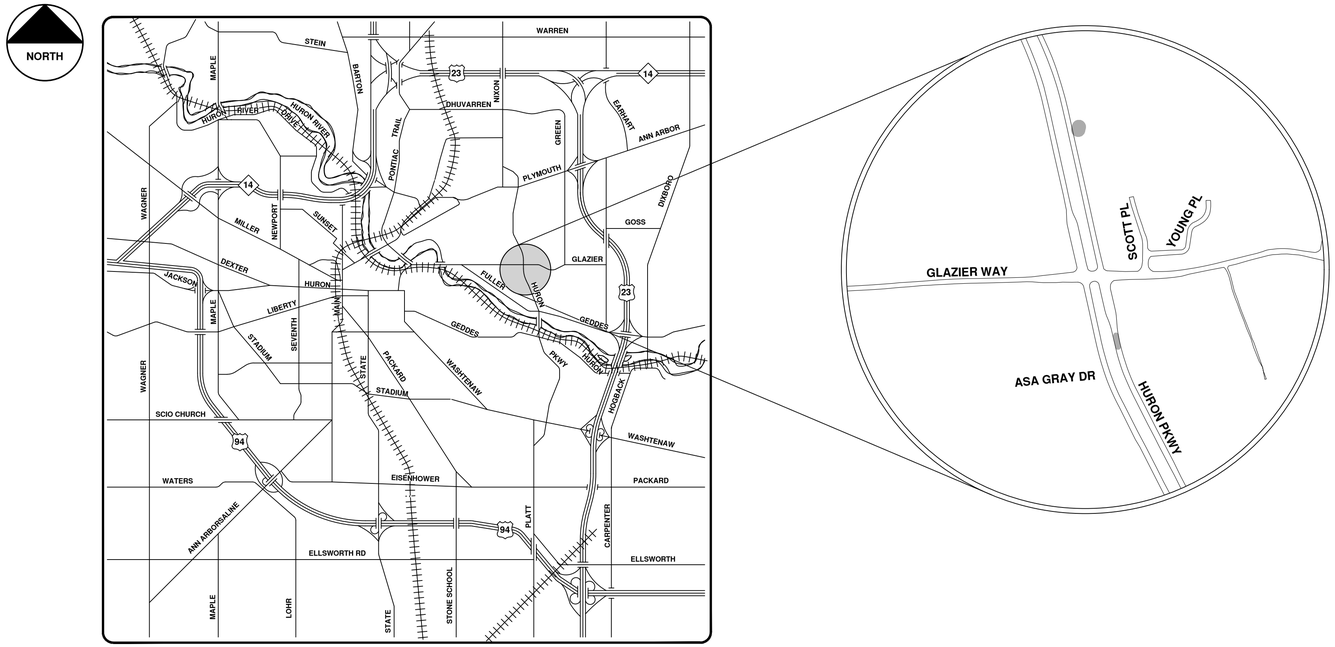
INDEX No.	1340
SHELF	5
SIZE	C
SUB No.	149
DRAWN BY	
TRACED BY	
CHECKED BY	

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
CURB AND GUTTER
AND
STORM SEWER
BROADWAY ST.
SWIFT TO TRAVER CREEK.
Geo. H. Sandenburgh, City Engineer.
1923-1-30
Scales. Hor. 1"=40' Vert. 1"=4'

2021 SEWER LINING PROJECT

GROUP 5 - STORM

GROUP - STORM	
SHEET NUMBER	SHEET TITLE
301	GROUP COVER SHEET
302 - 303	HURON PK
30 - 306	HURON PK S GR DR



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-301

SHEET No. 301 OF 362

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R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — a2 standard bw.stb — Plot Date: 9/16/2021 3:42:22 PM

Huron Pkwy.

Manhole
Catchbasin
Proposed Lining
Storm Main

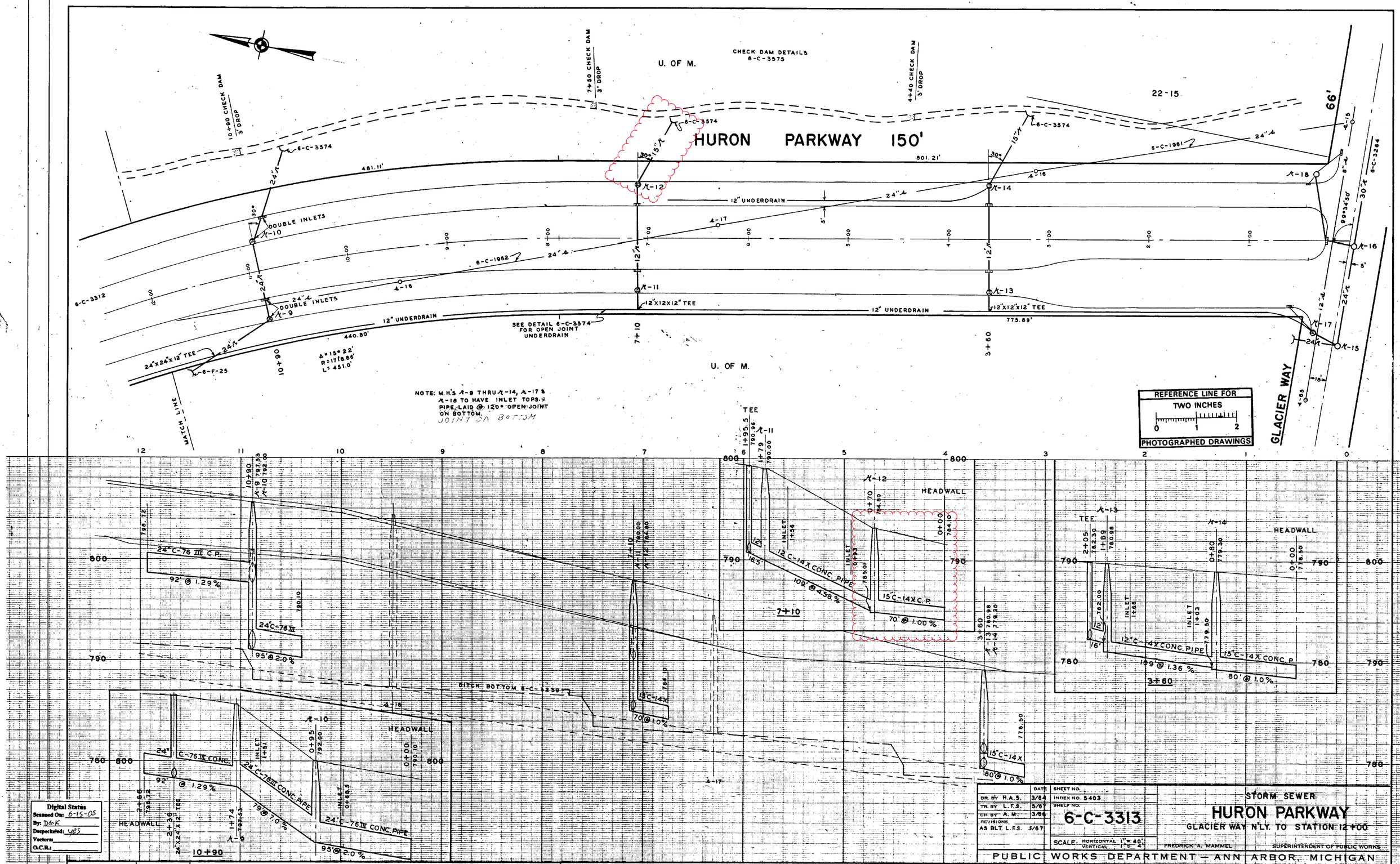
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

For terms and conditions please visit www.a2gov.org/terms



Digital Status
Scanned On: 6-15-05
By: DGK
Depeckeled: yes
Vectors:
O.C.R.:

	DATE	SHEET NO.
DR. BY H.A.S.	3/64	INDEX NO. 5403
TR. BY L.F.S.	5/67	SHELF NO.
CH. BY A. M.	3/66	6-C-3313
REVISIONS AS BLT. L.F.S.	5/67	

SCALE: HORIZONTAL 1" = 40', VERTICAL 1" = 4'

STORM SEWER
HURON PARKWAY
GLACIER WAY N'LY. TO STATION 12+00

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

LEGEND:
UNDERGROUND UTILITIES: EXISTING SANITARY, PROPOSED SANITARY, EXISTING STORM, PROPOSED STORM, EXISTING GAS, EXISTING WATER
PROFILES: CENTER LINE, LEFT PROPERTY LINE, RIGHT PROPERTY LINE

REFERENCES:
BENCH MARK CITY #85 811.35
DRAWINGS
PROFILES BY
FIELD BOOK 369 PG. 22-26

JOB 2790-C DIST.
JOB DIST.
JOB DIST.
JOB DIST.

PREPARED BY
APPROVED BY

Huron Pkwy. & Asa Gray Dr.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 4.5 9 18 27 36 Feet

N

For terms and conditions please visit www.a2gov.org/terms

CONTRACTOR SHALL CONTACT THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT SIGNS/SIGNALS/STREETLIGHTING DIVISION AT 994-1619 TO COORDINATE THE EXTENSION OF TRAFFIC SIGNAL CONDUIT. THE EXCAVATION AND BACKFILLING FOR THE CONDUIT EXTENSIONS SHALL BE PERFORMED BY THE CONTRACTOR AND INCLUDED IN GENERAL CONDITIONS

CONSTRUCTION KEY

ABO	ADJUST BY OTHERS.	**CA150HE**	REMOVE EXISTING DRIVE APPROACH PLACE 150mm CONCRETE DRIVE APPROACH, H.E.	**RBS**	REMOVE EXISTING BITUMINOUS SURFACE – ANY THICKNESS SAWCUT AT REMOVAL LIMITS (INCLUDED IN MACHINE GRADING, ITEM NO. 520)
AC	ADJUST CASTING (INCLUDES GATE WELL, MONUMENT BOX, & VALVE BOX)	**CS150**	REMOVE EXISTING SIDEWALK PLACE 150mm CONCRETE SIDEWALK OR RAMP	**RCA**	REMOVE EXISTING CONCRETE DRIVE APPROACH – ANY THICKNESS
CG	PLACE CONCRETE CURB AND GUTTER– CITY OF ANN ARBOR STANDARD SD-R-1(M)	**CS150HE**	REMOVE EXISTING SIDEWALK PLACE 150mm CONCRETE SIDEWALK OR RAMP, H.E.	**RCG**	REMOVE EXISTING CONCRETE CURB AND GUTTER, CONCRETE GUTTER OR CONCRETE CURB – ANY TYPE
CS100	REMOVE EXISTING SIDEWALK PLACE 100mm CONCRETE SIDEWALK OR RAMP	**CA200**	REMOVE EXISTING DRIVE APPROACH PLACE 200mm CONCRETE DRIVE APPROACH	**RRCG**	REMOVE EXISTING CONCRETE CURB AND GUTTER, REPLACE WITH CITY OF ANN ARBOR STANDARD SD-R-1(M).
CS100HE	REMOVE EXISTING SIDEWALK PLACE 100mm CONCRETE SIDEWALK OR RAMP, H.E.	**CA200HE**	REMOVE EXISTING DRIVE APPROACH PLACE 200mm CONCRETE DRIVE APPROACH, H.E.	**RSW**	REMOVE EXISTING CONCRETE SIDEWALK OR RAMP – ANY THICKNESS
CA150	REMOVE EXISTING DRIVE APPROACH PLACE 150mm CONCRETE DRIVE APPROACH	**CS200HE**	REMOVE EXISTING SIDEWALK PLACE 200mm CONCRETE SIDEWALK OR RAMP, H.E.		

STRUCTURE R-4, STA. 0+295
CONSTRUCT 1200 mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 237.583

INSTALL 53 m OF 150 mm WRAPPED UNDERDRAIN. STA. 0+297 TO STA. 0+321

STRUCTURE R-4A, STA. 0+297
CONSTRUCT 600 mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 237.728

STRUCTURE R-3, STA. 0+190
CONSTRUCT 1200 mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 238.206

TAP STRUCTURE ~-11, STA. 0+295
AND PLACE 4.0 m OF 300 mm CL. IV
RCP AT 1.00% INV. ELEV. = 237.68

STRUCTURE R-3A, STA. 0+192
CONSTRUCT 600 mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 238.276

INSTALL 100 m OF 150 mm WRAPPED UNDERDRAIN. STA. 0+190 TO STA. 0+290

UNDERCUT = 2.25 m3
AVG. WIDTH = 3.0 m
AVG. LENGTH = 2.5 m
AVG. DEPTH = 0.3 m

UNDERCUT = 23.76 m3
AVG. WIDTH = 3.0 m
AVG. LENGTH = 24.0 m
AVG. DEPTH = 0.33 m

UNDERCUT = 4.32 m3
AVG. WIDTH = 1.2 m
AVG. LENGTH = 9.0 m
AVG. DEPTH = 0.4 m

CURB TO BE DONE BY OTHERS

INSTALL 29.6 m OF 150 mm WRAPPED UNDERDRAIN. STA. 0+160.4 TO STA. 0+190

TAP STRUCTURE ~-7, STA. 0+184
AND PLACE 9.5 m OF 300 mm CL. IV
RCP AT 1.00% INV. ELEV. = 238.105

STA. 0+130
CONNECT 150 mm WRAPPED UNDERDRAIN
TO EXISTING EDGEDRAIN W/ PVC COUPLER

STRUCTURE R-1, STA. 0+094
CONSTRUCT 600mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 237.828

TAP STRUCTURE ~-4, STA. 0+086.5
AND PLACE 7.2m OF 300 mm CL. IV
RCP AT 1.00% INV. ELEV. = 237.758

INSTALL 104.4 m OF 150 mm WRAPPED UNDERDRAIN. STA. 0+184.7 TO STA. 0+288

91 m OF EXISTING EDGE DRAIN TO BE ABANDONED BY CAPPING BOTH ENDS. INCLUDED IN GENERAL CONDITIONS.

INSTALL 85 m OF 150 mm WRAPPED UNDERDRAIN. STA. 0+100 TO STA. 0+184.7

STRUCTURE R-2A, STA. 0+179.5
CONSTRUCT 600mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 238.144

STRUCTURE R-2, STA. 0+184.7
CONSTRUCT 1200 mm INLET STRUCTURE, COMPLETE
INV. ELEV. = 237.439

INSTALL 28 m OF 150 mm WRAPPED UNDERDRAIN.

UNDERCUT = 50.63 m3
AVG. WIDTH = 3.6 m
AVG. LENGTH = 66.03 m
AVG. DEPTH = 0.213 m

UNDERCUT = 49.83 m3
AVG. WIDTH = 7.85 m
AVG. LENGTH = 11.5 m
AVG. DEPTH = 0.552 m

RBS[180 m2] = AREA OF ROADWAY WIDENING AND/OR RECONSTRUCTION. SEE TYPICAL CROSS-SECTION ON SHEET 98057-TCS1 FOR PROPOSED PAVEMENT CROSS-SECTION

FUTURE ENTRANCE LOCATION OF UNIVERSITY COMMONS BY OTHERS

HURON PARKWAY

GLAZIER WAY

(24.384 m R.O.W.)

(45.72 m R.O.W.)

CG[28.0 m] **RCG**[15.0 m] **RBS**[280 m2] **CG**[425.0 m] **RCG**[255.0 m] **CS150**[3.5 m2] **RSW**[5.5 m2] **CS150**[3.5 m2] **RSW**[2.5 m2] **CS150**[3.0 m2] **CS150**[3.5 m2] **RSW**[5.5 m2] **RCG**[118.0 m] **RCG**[15.0 m] **CG**[21.0 m]

HURON

MATCH EXISTING GRADES, OR AS DIRECTED BY ENGINEER.

PARKWAY

CG[19.0 m] **RCG**[15.0 m]

SEE BENCHMARK #1

HURON HIGH SCHOOL EXIT

BENCHMARKS:

1. CITY OF ANN ARBOR PRIMARY CONTROL POINT NO. 00058, MONUMENT LOCATED APPROX. 183 m SOUTH OF GLAZIER WAY IN GRASS TRAFFIC ISLAND ELEV. = 239.815. **WARNING DO NOT DISTURB. THE CONTRACTOR IS RESPONSIBLE TO LOCATE THIS MONUMENT AND TAKE PRECAUTION PRIOR TO PERFORMING WORK NEAR IT.**
2. TOP OF CASTING OF INLET (@ EDGE OF METAL) EAST SIDE OF NORTH BOUND LANE, 90 m S'LY OF GLAZIER WAY (STA. 0+087) ELEV. = 239.150
3. TOP OF CASTING OF INLET (@ EDGE OF METAL) EAST SIDE OF SOUTH BOUND LANE, 90 m S'LY OF GLAZIER WAY (STA. 0+087) ELEV. = 240.280
4. STEAMER VALVE ON HYDRANT AT NORTHWEST CORNER OF HURON PARKWAY AND GLAZIER WAY ELEV. = 240.559

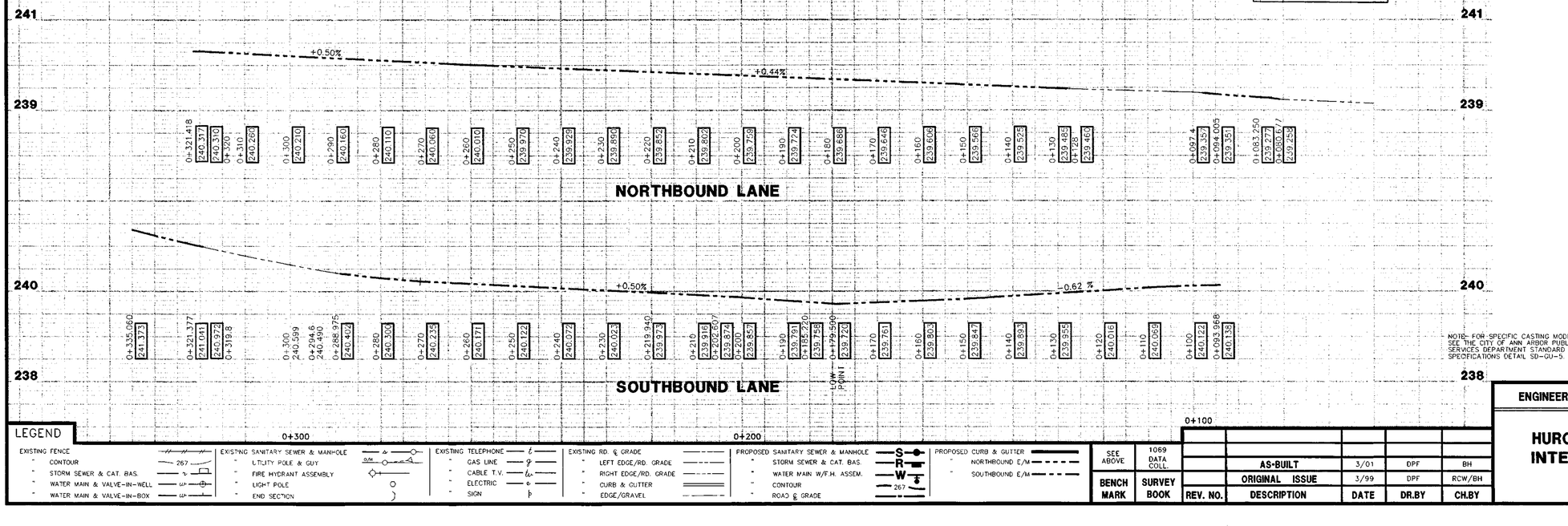
AS-BUILT STORM DRAWING
CORRECTED 3/01
IN SERVICE DATE (Mo/Yr) 7/99
CONTRACTOR FONSON

CASTING SCHEDULE
FOR
HURON PARKWAY/GLAZIER WAY INTERSECTION IMPROVEMENTS
FILE NO. 98057

STRUCTURE/ STATION	TOP-OF-CASTING ELEVATION	INVERT ELEV. SIZE, DIRECTION	DEPTH (METERS)	SIZE	DETAIL	APPLICATION/ CONSTRUCTION
~-1/0+005	238.87	237.33 300 mm E	1.54	600 mm	SD-S-10	STORM INLET/NONE
~-2/0+005	238.73	236.08 300 mm E 236.08 300 mm W	2.65	900 mm	SD-S-9	STORM INLET/NONE
~-3/0+086.5	239.14	236.99 450 mm E 236.99 450 mm W	2.15	1200 mm	SD-S-1	STORM INLET/NONE
~-4/0+086.5	239.27	237.15 450 mm E 237.15 450 mm W **237.758 200 mm NE**	2.12	900 mm	SD-S-9	STORM INLET/**FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-5/0+086.5	240.27	237.40 450 mm E 237.40 450 mm W	2.87	600 mm	SD-S-10	STORM INLET/**FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-6/0+086.5	240.37	238.12 450 mm E 238.12 450 mm W	2.25	1200 mm	SD-S-1	STORM INLET/NONE
~-7/0+184	239.83	237.33 750 mm E 237.33 600 mm W 237.83 300 mm SW 237.58 300 mm N **238.105 300 mm NE**	2.50	1200 mm	SD-S-1	STORM MANHOLE/**NEW TAP, FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-7A/0+169.5	239.85	238.6 300 mm W 238.65 300 mm N	1.25	900 mm	SD-S-9	STORM INLET/**FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-7B/0+172	239.84	238.71 300 mm E	1.13	600 mm	SD-S-10	STORM INLET/NONE
~-7C/0+192	239.68	237.58 300 mm S 237.61 300 mm E	2.10	DBL INLET	SD-S-11	STORM INLET/**FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-8/0+195	239.75	237.65 300 mm SW 237.70 300 mm SE 238.20 300 mm W	2.10	1200 mm	SD-S-1	STORM MANHOLE/NONE
~-8A/0+188	239.94	237.69 300 mm NW	2.25	600 mm	SD-S-10	STORM INLET/NONE
~-8B/0+195.5	239.67	238.22 300 mm E	1.45	600 mm	SD-S-10	STORM INLET/NONE
~-9/0+190	240.14	237.74 600 mm N 238.49 300 mm SE 237.74 600 mm E 237.77 300 mm NE	2.40	1200 mm	SD-S-1	STORM MANHOLE/NONE
~-9A/0+182.5	239.88	235.25 200 mm E	4.63	600 mm	SD-S-10	STORM INLET/NONE
~-9B/0+197.5	239.93	237.73 300 mm S 237.97 300 mm NE	2.20	1200 mm	SD-S-1	STORM INLET/NONE
~-9C/0+204	239.80	238.06 300 mm SW	1.74	600 mm	SD-S-10	STORM INLET/NONE
~-9D/0+207	240.00	238.06 600 mm S	1.94	600 mm	SD-S-10	STORM INLET/NONE
~-10/0+295	240.25	237.55 300 mm W 237.55 375 mm SE	2.70	1200 mm	SD-S-1	STORM INLET/NONE
~-11/0+295	240.24	237.68 300 mm E 237.68 300 mm W **237.68 300 mm W**	2.56	1200 mm	SD-S-1	STORM INLET/**FURNISH TYPE "A" CASTING, ADJUST TO FINISH GRADE**
~-12/0+295	240.50	237.9 300 mm E 237.9 300 mm W	2.6	900 mm	SD-S-9	STORM INLET/NONE
~-13/0+295	240.47	238.07 300 mm E	2.40	1200 mm	SD-S-1	STORM INLET/NONE
~-1/0+199	240.56	235.76 300 mm E	4.80	1200 mm	SD-S-1	SANITARY MH/NONE
~-2/0+185	240.17	234.82 750 mm S 234.82 300 mm W 234.82 600 mm N	5.35	1200 mm	SD-S-1	SANITARY MH/NONE
~-3/0+280	240.37	236.32 600 mm N 236.32 600 mm S	4.05	1200 mm	SD-S-1	SANITARY MH/NONE
ω-1/0+191 #2938	239.96	238.46 T/P	1.50	1200 mm	SD-S-3	G.V.I.W./NONE
ω-2/0+198 #2933	239.97	238.02 T/P	1.95	1200 mm	SD-S-3	G.V.I.W./ **ADJUST TO FINISH GRADE**
ω-3/0+199.5 #4499	240.02	237.97 T/P	2.05	1200 mm	SD-S-3	G.V.I.B./ **ADJUST TO FINISH GRADE**
R-1/0+094	239.351	237.828 300 mm S 238.131 150 mm S	1.52	600 mm	SD-S-10(M)	**SINGLE INLET/NEW**
R-2/0+184.7	239.756	237.439 24" E 237.449 24" W 238.089 300 mm S 238.680 150 mm N 238.497 150 mm S	2.31	1200 mm	SD-S-1(M)	**SINGLE INLET/NEW**
R-2A/0+179.5	239.720	238.144 300 mm N	1.57	600 mm	SD-S-10(M)	**SINGLE INLET/NEW**
R-3/0+190	239.724	238.241 300 mm N 238.206 300 mm SW 238.427 150 mm S 238.527 150 mm N	1.51	1200 mm	SD-S-1(M)	**SINGLE INLET/NEW**
R-3A /0+192	239.731	238.276 300 mm S	1.45	600 mm	SD-S-10(M)	**SINGLE INLET/NEW**
R-4/0+295	240.185	237.708 300 mm N 237.693 12" W 237.583 12" E	2.60	1200 mm	SD-S-1(M)	**SINGLE INLET/NEW**
R-4A/0+297	240.195	237.728 300 mm S 239.000 150 mm N	2.46	600 mm	SD-S-10(M)	**SINGLE INLET/NEW**

NOTE- FOR SPECIFIC CASTING MODEL SEE THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS DETAIL SD-GU-5.

NOTE:
Data contained on this page was drawn from City records. No gaurantee is made as to its accuracy or completeness.



LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
" CONTOUR 267	" UTILITY POLE & GUY	" GAS LINE	" LEFT EDGE/RD. GRADE	" STORM SEWER & CAT. BAS.	" NORTHBOUND E/M
" STORM SEWER & CAT. BAS.	" FIRE HYDRANT ASSEMBLY	" CABLE T.V.	" RIGHT EDGE/RD. GRADE	" WATER MAIN W/F.H. ASSEM.	" SOUTHBOUND E/M
" WATER MAIN & VALVE-IN-WELL	" LIGHT POLE	" ELECTRIC	" CURB & GUTTER	" CONTOUR 267	
" WATER MAIN & VALVE-IN-BOX	" END SECTION	" SIGN	" EDGE/GRAVEL	" ROAD ℄ GRADE	

SEE ABOVE	1069 DATA COLL.
BENCH MARK	SURVEY BOOK

REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
	AS-BUILT	3/01	DPF	BH
	ORIGINAL ISSUE	3/99	DPF	RCW/BH

3 WORKING DAYS
BEFORE YOU DIG CALL MISS DIG 800-482-7171
(TOLL FREE)

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

HURON PARKWAY-GLAZIER WAY INTERSECTION IMPROVEMENT

PAVING & UTILITIES

SCALE
HORIZ. 1:500
VERT. 1:50
mm 0 10 20

DRAWING NO. 98057-C/G, R

SHEET NO. 3 OF 9

U:\ENG\draftland\autocad\98057\98057cgr.dwg Wed Apr 04 15:49:26 2001 DPF

POST 37749

WAY 80

90°/t

24"⌀

30"⌀

4-15

4-14

Δ=14°39'
℄R=1089.98'
℄L=278.70'

8-C-1961

30"⌀

4-13

277.32'

20" W

6'

12"⌀

12" W

24"/t 6-C-3264

t-16

39'±42

30"/t

3' DIA. J.C.

GLACIER

28'

t-17

t-15

24"⌀

ALLEY TYPE INLET

2" SIGNAL CONDUIT

302.64'

50'

20" W

18"/t

36'±50

18"/t

t-12

HURON

259.52'

PARKWAY

150'

430.93'

12"/t

3' DIA. J.C.

33+80

18" STUB

t-13

5'

297.87'

30"⌀

4-12

18"/t

20'

30"/t

t-10

18"/t

4-12A

3' DIA. J.C.

29+50

8-C-4447

20" W

50'

18" STUB

t-11

5'

REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

t-13

1+65
781.01

STUB

1+90
781.87

BRICK BULKHEAD

18"

18"C-14X CONC. PIPE

25'@3.44%

110'@3.44%

55'@0.82%

0+55
777.24

t-12

18"C-14X C.P.

HEADWALL

0+00
776.92

INLET J.C.

0+82.5
774.90

0+56.5
774.70

HEADWALL

0+00
774.42

12"C-14X C.P.

25'@6.5%

56.5'@0.5%

STUB

2+58.5
777.48

t-11

2+3.3
776.98

J.C

1+12
774.49

t-10

0+74
772.64

HEADWALL

0+00
771.90

BRICK BULKHEAD

18"

18"C-14X CONC. PIPE

25.5'@2%

121'@2.04%

18"C-14X

38'@4.86%

18"C-14X C.P.

74'@1.0%

780

770

760

NO SAN - Only Storm

Digital Status
Scanned On: 6-15-05
By: DSK
Despeckled: yes
Vectors:
O.C.R.:

LEGEND:

UNDERGROUND UTILITIES
- EXISTING SANITARY
- PROPOSED SANITARY
- EXISTING STORM
- PROPOSED STORM
- EXISTING GAS
- EXISTING WATER

PROFILES
- CENTER LINE
- LEFT PROPERTY LINE
- RIGHT PROPERTY LINE

REFERENCES:
BENCH MARK CITY 16-754.49
DRAWINGS
PROFILES BY
FIELD BOOK 838 PG. 71, 880 PG. 59

	DATE	SHEET NO.
DR. BY L.F.S.	6/99	INDEX NO. 6755
TR. BY		SHELF NO.
CH. BY		
REVISIONS		

6-C-4448

SCALE: HORIZONTAL 1"=40'
VERTICAL 1"=4'

SANITARY & STORM SEWER

HURON PARKWAY

GEDDES ROAD TO GLACIER WAY
STA. 30+00 TO GLACIER WAY

FREDRICK A. MAMMEL — SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

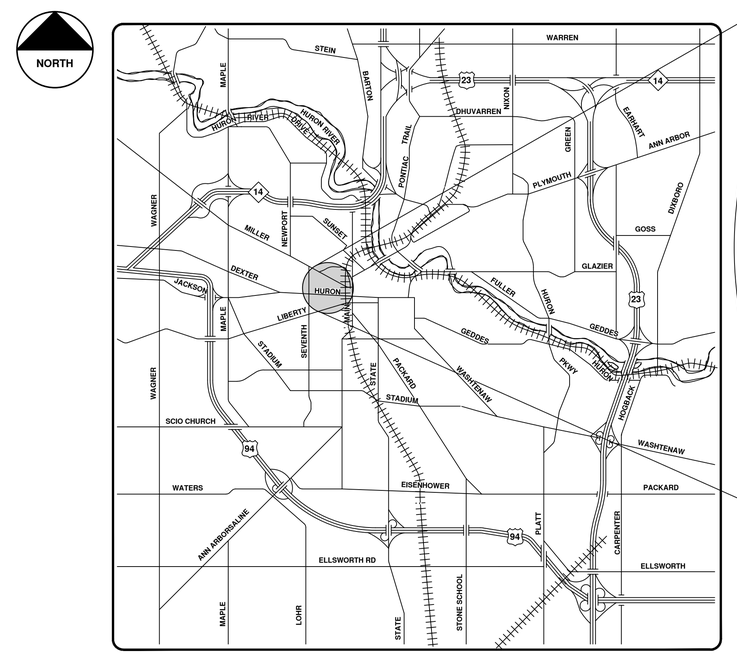
JOB 609-3411 DIST.
JOB DIST.
JOB DIST.
JOB DIST.

PREPARED BY
APPROVED BY

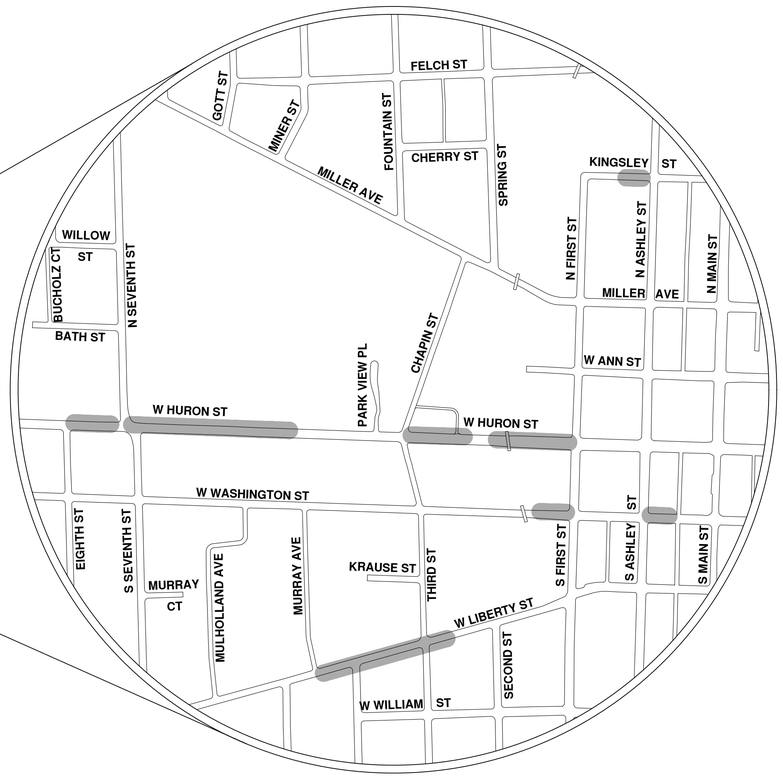
2021 SEWER LINING PROJECT

GROUP 6 - STORM

GROUP 6 - STORM	
SHEET NUMBER	SHEET TITLE
30	GROUP 6 COVER SHEET
30 - 310	HURON ST S IRST ST
311 - 312	HURON ST THIRD ST
313 - 31	HURON ST S SEVENTH ST
31 - 31	HURON ST EIGHTH ST
320 - 321	KINGSLE ST
322 - 32	LIBERT ST
326 - 32	SHINGTON ST



VICINITY MAP



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

NO	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-307

SHEET No. 307 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:27 PM

W Huron St. & S First St.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

N

For terms and conditions please visit www.a2gov.org/terms

AS-BUILT SANITARY DRAWING
CONST. COMP. DATE 1/14/03
CORRECTED 6/03
MDEQ PERMIT NO. 027034
IN SERVICE DATE (MO/YR) 9/02
CONTRACTOR PAMAR

NOTE:
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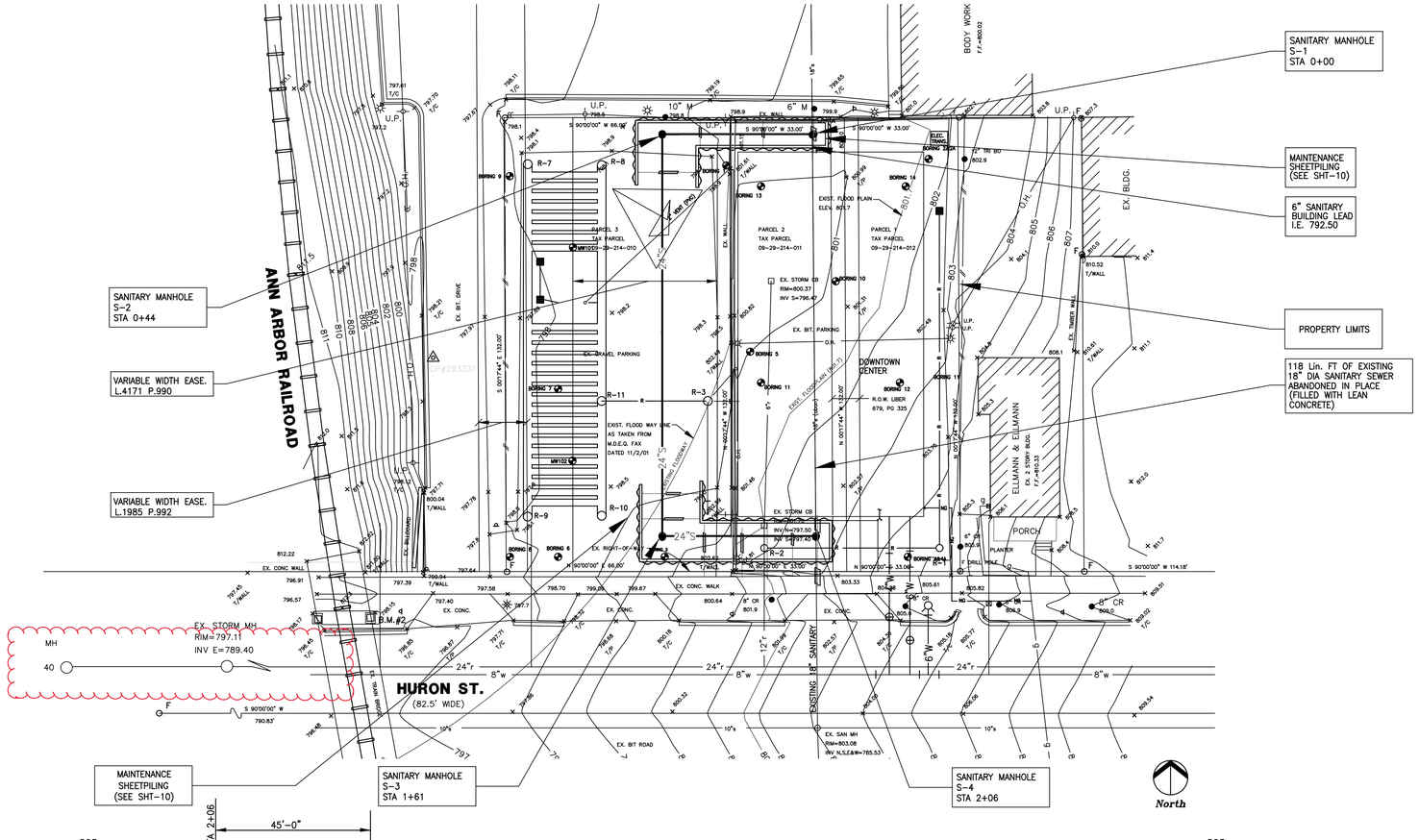
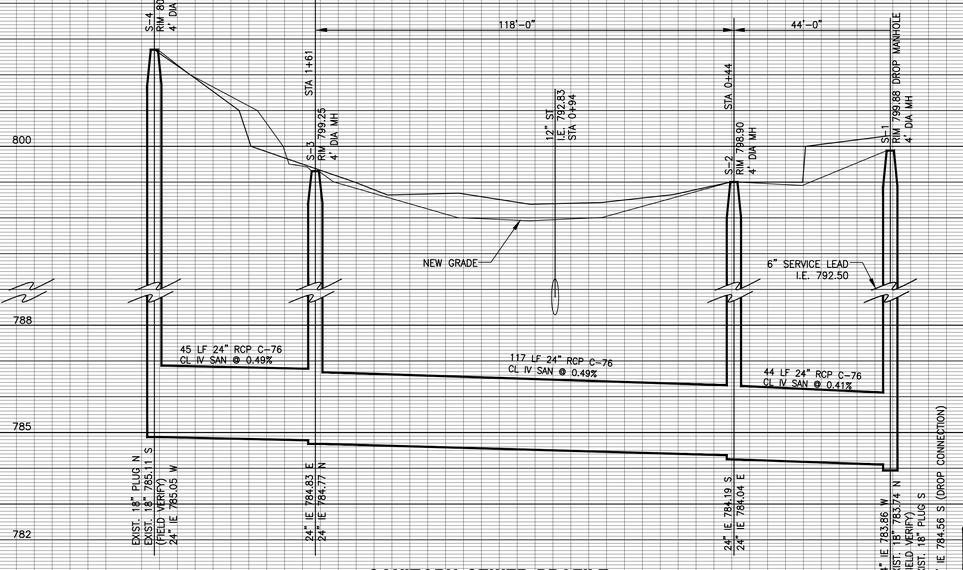


NOTE: ALL WORK AND MATERIALS TO BE IN COMPLETE COMPLIANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)



SANITARY SEWER PROFILE

LEGEND

EXISTING FENCE	CONTOUR 847	EXISTING SANITARY SEWER & MANHOLE	UTILITY POLE & GUY	EXISTING TELEPHONE	GAS LINE
" STORM SEWER & CAT. BAS.		"	FIRE HYDRANT ASSEMBLY	"	CABLE T.V.
" WATER MAIN & VALVE-IN-WELL		"	LIGHT POLE	"	ELECTRIC
" WATER MAIN & VALVE-IN-BOX		"	END SECTION		

EXISTING RD. & GRADE	NEW SANITARY SEWER & MANHOLE	NEW CURB & GUTTER	
" LEFT EDGE/RD. GRADE	" STORM SEWER & CAT. BAS.		
" RIGHT EDGE/RD. GRADE	" WATER MAIN W/F.H. ASSEM.		
" CURB & GUTTER	" CONTOUR 847		
	" ROAD & GRADE		

BENCH MARK | SURVEY BOOK

REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
	AS-BUILT	6/03	PJM	JTZ
	CITY COMMENTS	05-21-02	J.J.P.	A.R.B.
	CITY COMMENTS	05-09-02	J.J.P.	A.R.B.
0	BP-2	04-23-02	J.M.B.	A.R.B.
	CITY COMMENTS	04-09-02	J.M.B.	A.R.B.
1	ADDENDUM	03-13-02	S.J.M.	A.R.B.
2	BP-1 BIDS	03-07-02	J.J.W.	A.R.B.
1	BP-1 BIDS	02-01-02	J.J.W.	A.R.B.

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

ANN ARBOR DOWNTOWN CENTER
312 WEST HURON STREET
ANN ARBOR , MI 48103
SANITARY SEWER – PLAN AND PROFILE

APPROVED BY _____
Alan Birch, P.E., MICHIGAN NO. 24685

SCALE HORIZ. 1"=20' VERT. 1"=2' | INCH 0 1
DRAWING NO. 2001029-S
SHEET NO. 8 OF 17

Y:\21390.00 – AA SHELTER\CAD_DOCS\Base\01-14-02\DC-sanprofile.dwg

INDEX No. 1021	CITY ENGINEER'S OFFICE
SHELF No. 6	ANN ARBOR MICH.
SIZE 0	PLAN AND PROFILE OF STORM SEWER
SUB No. 391	HURON STREET.
Drawn by Reiner	ALLENS CREEK to MAIN ST.
Traced by Reiner	Geo. H. Sandenburgh, City Eng.
Checked by	1918
	Scales. Plan 1"=40', Profile - Hor. 1"=40' Vert. 1"=4'

Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

W Huron St. & Third St.

Manhole
Catchbasin
Proposed Lining
Storm Main

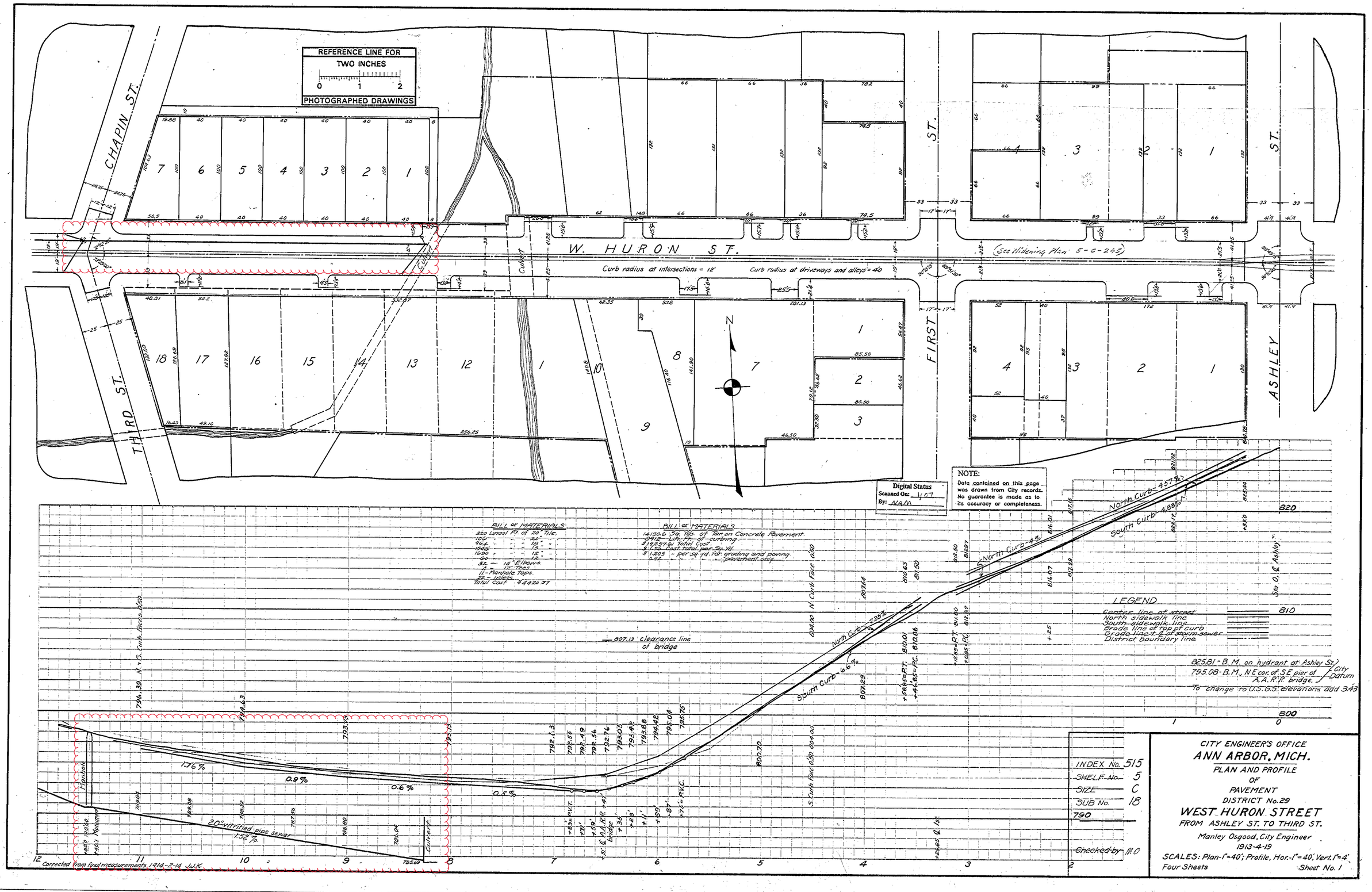
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 10 20 40 60 80 Feet

N

For terms and conditions please visit www.a2gov.org/terms



REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
CHAPIN ST.
THIRD ST.
W. HURON ST.
FIRST ST.
ASHLEY ST.
Curb radius at intersections = 12'
Curb radius at driveways and alleys = 40
(See Widening Plan 5-C-245)
Culvert
N
Digital Status
Scanned On: 1/07
By: NAM
NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.
BILL OF MATERIALS
220 Lineal Ft. of 20" Tile.
106 " " " 20" "
964 " " " 18" "
1546 " " " 15" "
1690 " " " 12" "
32 — 18" Elbows.
4 — 12" Tees.
11 - Manhole Tops.
22 - Inlets.
Total Cost $4420.37
BILL OF MATERIALS
14190.6 Sq. Yds. of Tar on Concrete Pavement.
8912 Lin. Ft. of curbing.
$19257.61 Total Cost.
$1.36 Cost total per Sq. Yd.
$1.205 " per sq. yd. for grading and paving.
0.92 " " " " pavement only.
807.13 clearance line of bridge
North Curb - 4.57%
South Curb - 4.88%
North Curb - 4%
North Curb - 7.28%
South Curb - 6.6%
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade line of ℄ of storm sewer
District boundary line
825.81 - B.M. on hydrant at Ashley St.
795.08 - B.M., NE cor. of SE pier of A.A.R.R. bridge.
City Datum
To change to U.S.G.S. elevations add 3.43
1.76%
0.9%
0.6%
0.5%
20" vitrified pipe sewer 1.52%
Manhole
Culvert
Corrected from final measurements 1914-2-14 J.J.K.
INDEX No. 515
SHELF No. 5
SIZE C
SUB No. 18
790
Checked by MO
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM ASHLEY ST. TO THIRD ST.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert. 1"=4'
Four Sheets
Sheet No. 1

W Huron St. & S Seventh St.

Manhole
Catchbasin
Proposed Lining
Storm Main

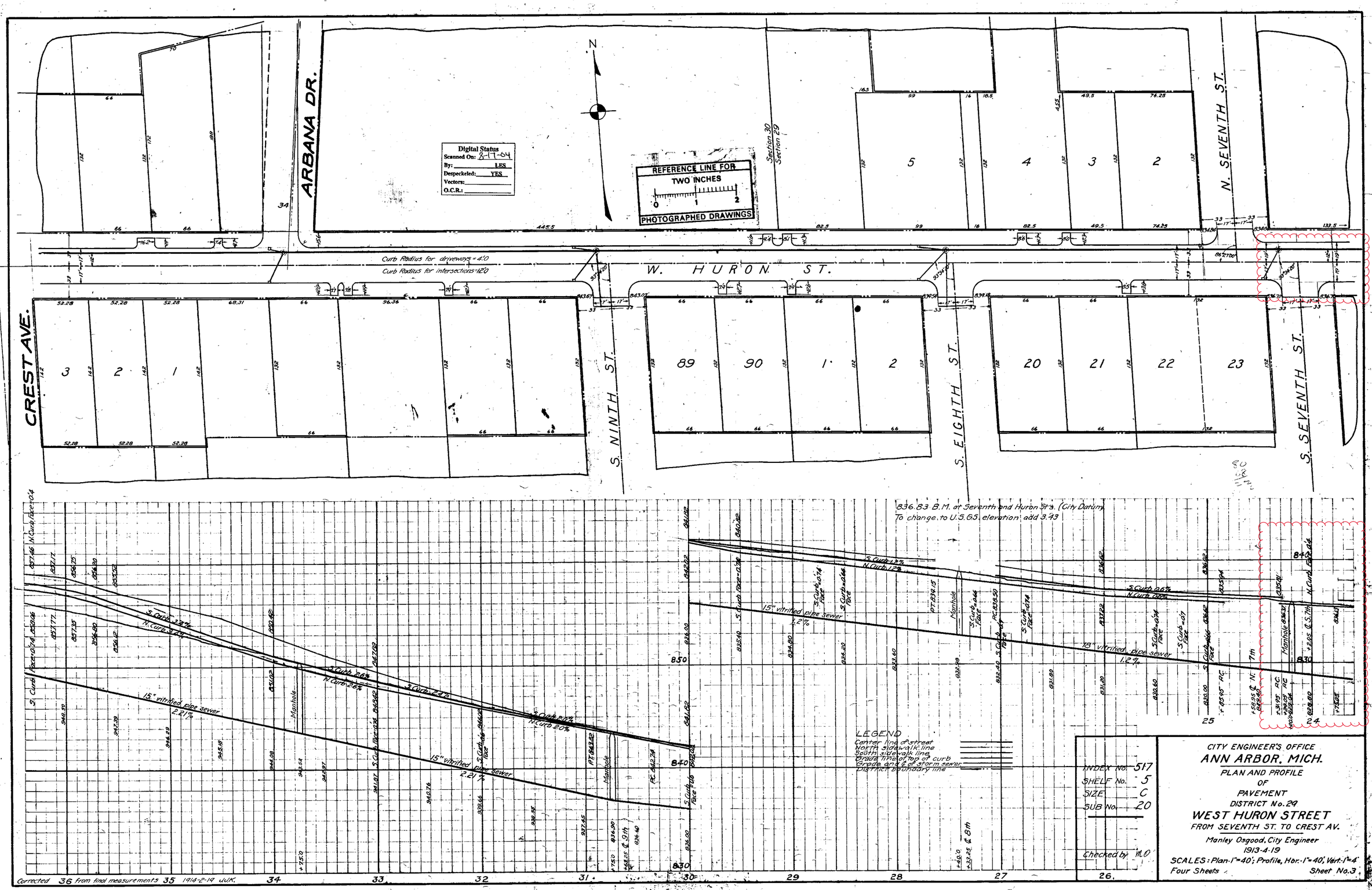
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

N

For terms and conditions please visit www.a2gov.org/terms



ARBANA DR.
CREST AVE.
W. HURON ST.
S. NINTH ST.
S. EIGHTH ST.
S. SEVENTH ST.
N. SEVENTH ST.
Section 30
Section 29
Curb Radius for driveways = 4'.0
Curb Radius for intersections = 12'.0
836.83 B.M. at Seventh and Huron St's. (City Datum)
To change to U.S.G.S. elevation add 3.43
15" vitrified pipe sewer 2.21%
15" vitrified pipe sewer 1.2%
18" vitrified pipe sewer 1.2%
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and ℄ of storm sewer
District boundary line
INDEX No. 517
SHELF No. 5
SIZE C
SUB No. 20
Checked by M.O.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM SEVENTH ST. TO CREST AV.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets
Sheet No. 3
Corrected 36 from final measurements 35 1914-2-19 JJK.

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
US-12	81-16	Washtenaw	Ann Arbor		7

S. P. R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL R.O.W. CHECKED		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES CHECKED		
PRELIM. ART. GRADE		
QUANTITIES CHECKED		
SQUAD	W.W. Patzel	1-53

OPERATION	BY	DATE
SURVEYED	Survey Crews	2-54
PLAN PLOTTED	M. Mazurowski	1-55
PLAN CHECKED	C. Wilcox	1-55
PROFILE PLOTTED		
PROFILE CHECKED	A. Weber-Main	3-55
PRELIM. ART. GRADE		
CHECKED INSPECTION		
FIELD INSPECTION		

B.M. 6 - Elev. 838.92
M.S.H.D. Tag in S.W. Root of 18" Elm
47' Lt. of Sta. 86+66

Auth.s 2004 - 2005
This Sheet

Bit. Contr.
46 Syds Rem. Asp. Surf.

Recon. (2) MH's 95, 6 Huron St.
Conc. with Sheet Asphalt Cap

Recon. MH.

Adj. (1) MH.

Bit. Contr.
46 Syds. Rem. Asph. Surf.

This Sheet
246 sq. yds. Rem. Sidewalk
shown thus
1905 sq. ft. 4" Conc. Sidewalk
316 sq yds Rem. Old Pav't.
Shown thus

Bit. Contr.
42' F to F Bit. Conc. Class I
Conc Curb & Gutter Det. 7 Mod.

Driveway Returns

Sta.	Det. 16 Lin. Ft.	7" Conc. Pav't. Sq. Yds.	7" Conc. S.W. Sq. Ft.	Sta.	Det. 16 Lin. Ft.	7" Conc. Pav't. Sq. Yds.	7" Conc. S.W. Sq. Ft.
82+48 L	45	22		89+58 R	28	9	
82+60 R	28	9		89+63 L	28	9	
84+27 L	28	9		90+15 R	28	9	
84+84 L	28	9		90+24 L	28	9	
85+25 L	28	9		90+81 L	28	9	
85+81 R	28	9		91+95 L	28	9	
86+00 R	28	9		92+06 R	28	9	
88+96 L	28	9		93+66 L	28	9	
89+05 R	28	9		93+99 L	28	9	
89+76 L	28	9		93+96 L	28	9	

REFERENCE LINE
TWO INCHES

87050

Digital Sc
Scanned On: 8/24/05
By: LES

FILE NO.	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
T-1-G-6	81-16		7

122176

Digital Status
Scanned On: 1107
By: NAM

NOTE:
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

N

W. HURON ST.

SEVENTH ST.

CHAPIN ST.

THIRD ST.

Curb Radius at driveways and alleys = 40

Curb Radius at street intersections = 20

BLOCK 4

819.34 - B.M. on hydrant between 3rd. and 7th Sts. (City Datum)
To change to U.S.G.S. elevation add 3.43

18" vitrified pipe sewer 1.20 %

18" vitrified pipe sewer 2.65 %

15" vitrified pipe sewer 4.10 %

15" vitrified pipe sewer 4.70 %

Manhole

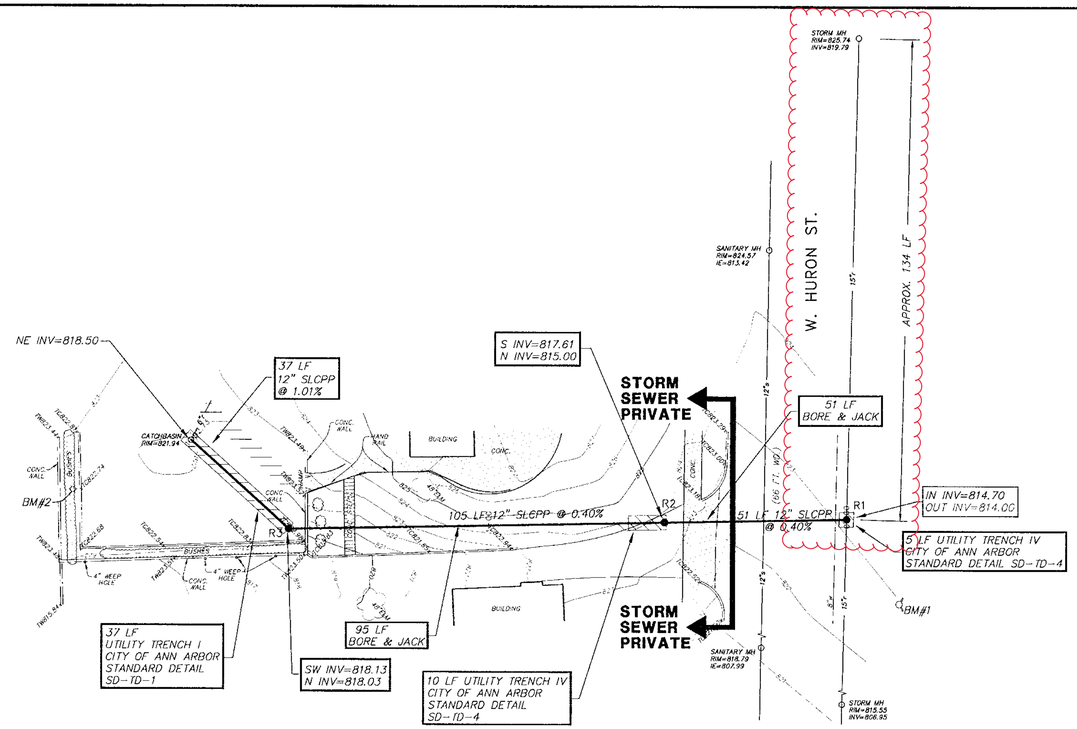
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and C of storm sewer
District boundary line

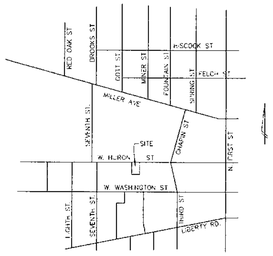
Corrected from final measurements 1914-2-17 J.J.K.

INDEX No. 516
BIO
SHELF No. 5
SIZE C
SUB No. 19

Checked by: MO

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM THIRD ST. TO SEVENTH ST.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets Sheet No. 2




RED OAK ST
DIXBORO ST
N SCIO ST
GOSS ST
MILLER AVE
SUNSET ST
FOUNTAIN ST
SUNSET CT
SUNSET PL
SUNSET TER
SUNSET LN
SUNSET CIR
SUNSET CT
SUNSET ST

W Huron St. & Eighth St.

Manhole
Catchbasin
Proposed Lining
Storm Main

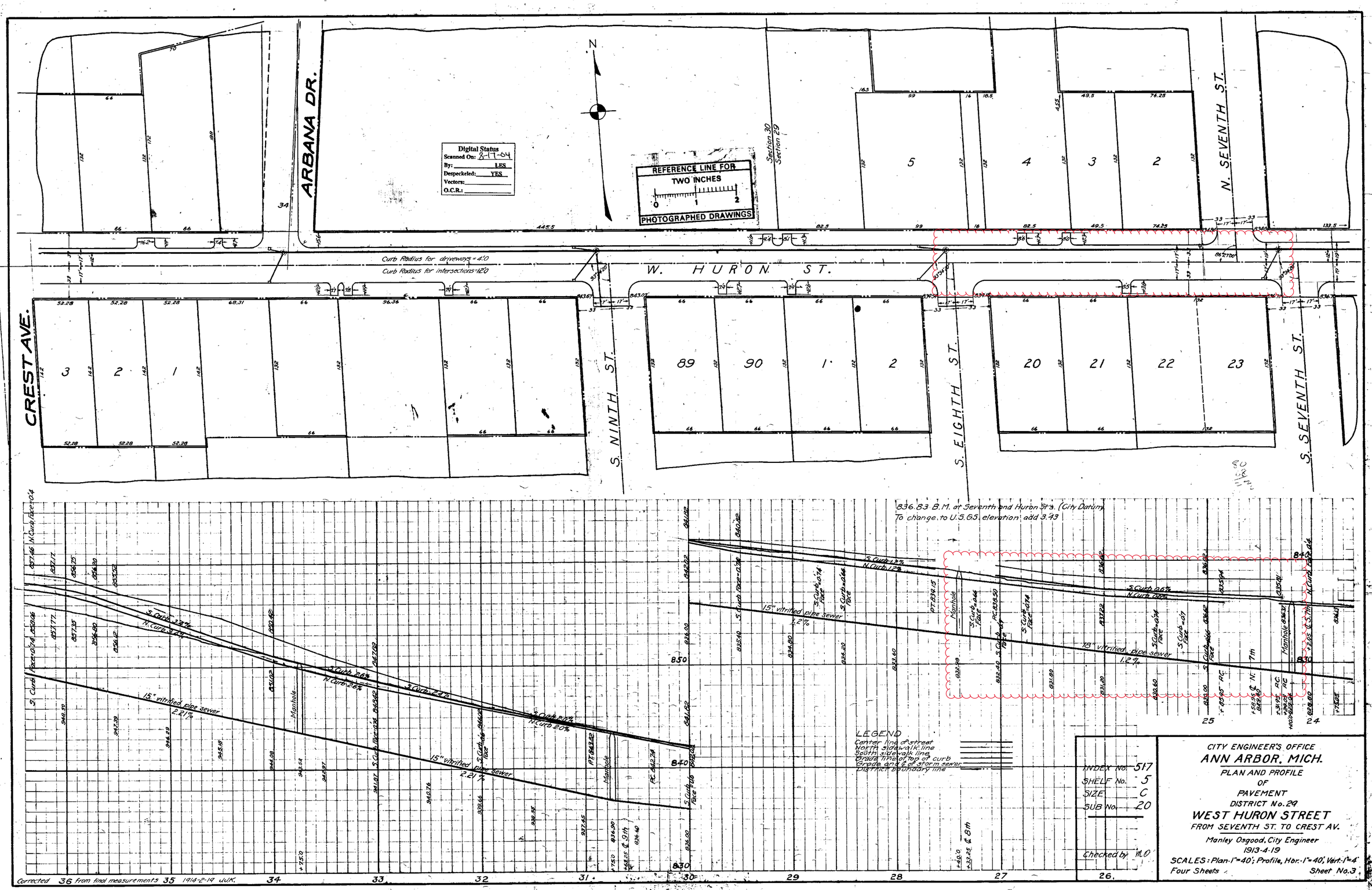
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms



ARBANA DR.
CREST AVE.
W. HURON ST.
S. NINTH ST.
S. EIGHTH ST.
S. SEVENTH ST.
N. SEVENTH ST.
Section 30
Section 29
Curb Radius for driveways = 4'0
Curb Radius for intersections = 12'0
Digital Status
Scanned On: 8-17-04
By: LES
Despeckeled: YES
Vectors:
O.C.R.:
REFERENCE LINE FOR TWO INCHES
PHOTOGRAPHED DRAWINGS
836.83 B.M. at Seventh and Huron St's. (City Datum)
To change to U.S.G.S. elevation add 3.43
15" vitrified pipe sewer 2.21%
15" vitrified pipe sewer 1.2%
18" vitrified pipe sewer 1.2%
LEGEND
Center line of street
North sidewalk line
South sidewalk line
Grade line of top of curb
Grade and ℄ of storm sewer
District boundary line
INDEX No. 517
SHELF No. 5
SIZE C
SUB No. 20
Checked by M.O.
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 29
WEST HURON STREET
FROM SEVENTH ST. TO CREST AV.
Manley Osgood, City Engineer
1913-4-19
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets
Sheet No. 3
Corrected 36 from final measurements 35 1914-2-19 JJK.

W Kingsley St.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms

SHEET	No. 1
INDEX	No. 1181
SHELF	No. 6
SIZE	C
SUB	No. 467

Drawn by V.W.M.
Traced by V.W.M.
Checked by

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH.

PLAN AND PROFILE

OF

STORM and SEWER
CURB and GUTTER

KINGSLEY ST.

ALLENS CREEK TO FOURTH AVE.

Geo. H. Sandenburgh, Engineer.

1921-1-7.

Scales:- Plan 1" = 40', Profile Vert. 1" = 4'

Digital Status
Scanned On: 9-17-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

W Liberty St.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

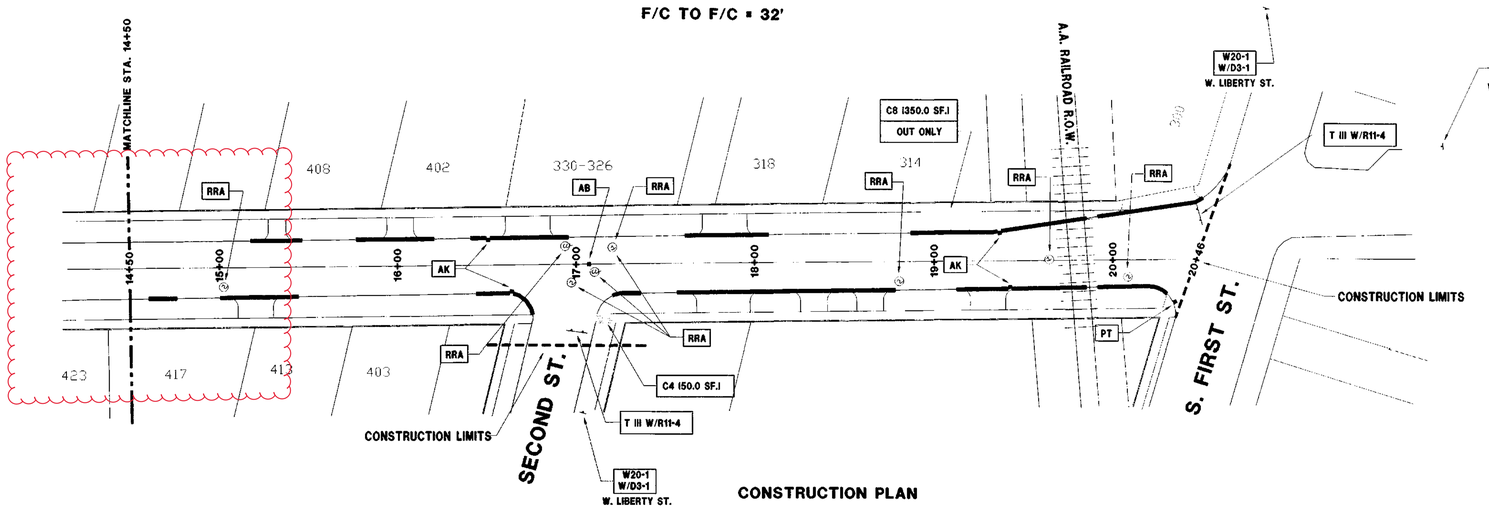
N

For terms and conditions please visit www.a2gov.org/terms

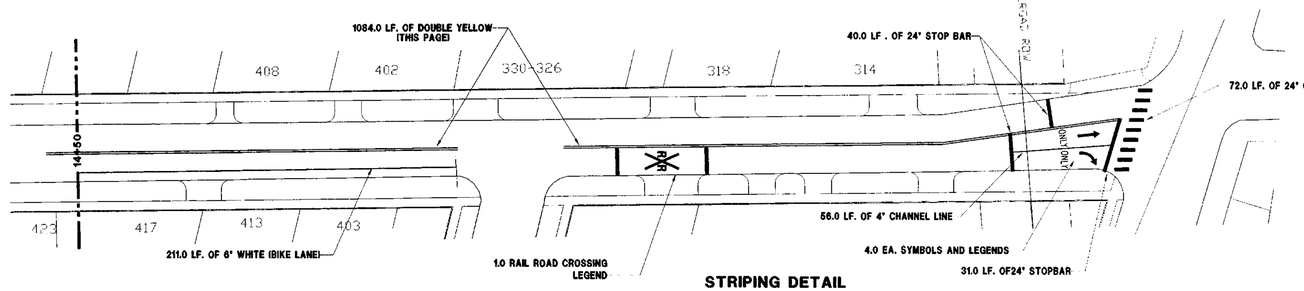
DIGITAL STATUS
SCANNED ON: 6/2/05
BY: JAM
DESPECKLED:
VECTORS:
O.C.R.:

W. LIBERTY ST.

F/C TO F/C = 32'



CONSTRUCTION PLAN



STRIPING DETAIL

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

CONSTRUCTION KEY

C/G	REMOVE AND REPLACE CURB AND GUTTER	PT	POINT STRUCTURE.
C/GHE	REMOVE CURB AND GUTTER, REPLACE WITH CONCRETE CURB AND GUTTER H.E.	C4	REMOVE EXISTING RAMP OR SIDEWALK REPLACE WITH 4" SIDEWALK OR RAMP.
C4HE	REMOVE EXISTING RAMP OR SIDEWALK. REPLACE WITH 4" SIDEWALK OR TYPE 1 SIDEWALK RAMP,H.E.	C HE	REMOVE EXISTING DRIVE APPROACH, RAMP OR SIDEWALK. REPLACE WITH 6" OR 8" APPROACH, RAMP,OR SIDEWALK, H.E.
CR	REMOVE SIDEWALK, DRIVE OR RAMP.	CP	PLACE 4" SIDEWALK OR RAMP.
AA	ADJUST MDOT TYPE A CASTINGS.	AK	ADJUST MDOT TYPE K CASTING.
AB	ADJUST GATE VALVE BOX OR MONUMENT BOX.	TIII	MDOT TYPE III BARRICADE.
ADSR	ADDITIONAL DEPTH STRUCTURE REPAIR.	TII	MDOT TYPE II BARRICADE.
RRA	REMOVE AND REPLACE MDOT TYPE A CASTING ADJUST TO FINISH GRADE.	RRK	REMOVE AND REPLACE MDOT TYPE K CASTING. ADJUST TO FINISH GRADE.
CPRHE	CONCRETE PAVEMENT REPAIR, H.E.	RS	RECONSTRUCT STRUCTURE.
DS	CONSTRUCT 2, 3 OR 4' DIAM. DRAINAGE STRUCTURE.	RCP	REMOVE CONC. PAVEMENT - ANY THICKNESS.

STREET AS-BUILT INFORMATION

THIS STREET WAS MILLED TO A DEPTH OF 3" +/- FULL WIDTH TO EXPOSE A BITUMINOUS OR CONCRETE BASE WHICH WAS IN SATISFACTORY CONDITION. FAILING AREAS WERE CUT OUT AND REMOVED, UNDERCUT, AND PATCHED AS DIRECTED BY ENGINEER. A 3C LEVELING COURSE WAS PLACED AT 1.5-2" THICKNESS, THEN A 4C WEARING COURSE WAS PLACED AT 1.5-2" THICKNESS.

NOTE:
DATA CONTAINED ON THIS PAGE WAS DRAWN FROM CITY RECORDS. NO GUARANTEE IS MADE AS TO ITS ACCURACY OR COMPLETENESS

NOTE:
CITY RECORDS INDICATE THAT THE PAVEMENT SECTIONS OF W. LIBERTY ST FROM S. SEVENTH ST. TO S. FIRST ST. HAS A CONCRETE OR BRICK BASE UNDER THE ASPHALT SURFACE

TRAFFIC CONTROL & SIGN LEGEND

QTY.	TYPE	DESCRIPTION
	W20-1	"CONSTRUCTION AHEAD"
	W20-2	"DETOUR AHEAD"
	W20-5	"RIGHT LANE CLOSED AHEAD"
	W4-2	LANE DROP SYMBOL, RIGHT
	W20-1a	WORKER SYMBOL
	W13-1	"SPEED LIMIT"
	M4-9 L&R	DETOUR (LEFT OR RIGHT ARROW)
	D3-1	CONVENTIONAL GUIDE
	M4-8a	"DETOUR ENDS"
	M4-10	"DETOUR"
	R6-1 L&R	"ONE WAY" (LEFT & RIGHT)
	TYPE III	TYPE III LIGHTED BARRICADE
	TYPE II	TYPE II LIGHTED BARRICADE (DRUM)
	R11-4	"ROAD CLOSED TO THRU TRAFFIC"
	TYPE A	LIGHTED ARROW, TYPE A
	TYPE B	LIGHTED ARROW, TYPE B

DRAWING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	EXISTING SANITARY SEWER MANHOLE
	EXISTING STORM SEWER MANHOLE
	EXISTING WATER MAIN VALVE IN WELL
	AMERITECH TELEPHONE VAULT
	MICHCON GAS CO. VALVE BOX/WELL
	WATER MAIN GATE VALVE IN BOX
	SOIL BORING
	EXISTING STORM SEWER INLET
	MONUMENT BOX
	REMOVE AND REPLACE CONC. SIDEWALK
	PLACE CONCRETE SIDEWALK
	REMOVE & REPLACE CONC. CURB & GUTTER
	CONSTRUCTION LIMITS

GRAPHIC SCALE
TWO INCHES
0 1 2

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
" CONTOUR 847	" UTILITY POLE & GUY	" GAS LINE	" LEFT EDGE/RD. GRADE	" STORM SEWER & CAT. BAS.	
" STORM SEWER & CAT. BAS.	" FIRE HYDRANT ASSEMBLY	" CABLE T.V.	" RIGHT EDGE/RD. GRADE	" WATER MAIN W/F.H. ASSEM.	
" WATER MAIN & VALVE-IN-WELL	" LIGHT POLE	" ELECTRIC	" CURB & GUTTER	" CONTOUR 847	
" WATER MAIN & VALVE-IN-BOX	" END SECTION			" ROAD & GRADE	

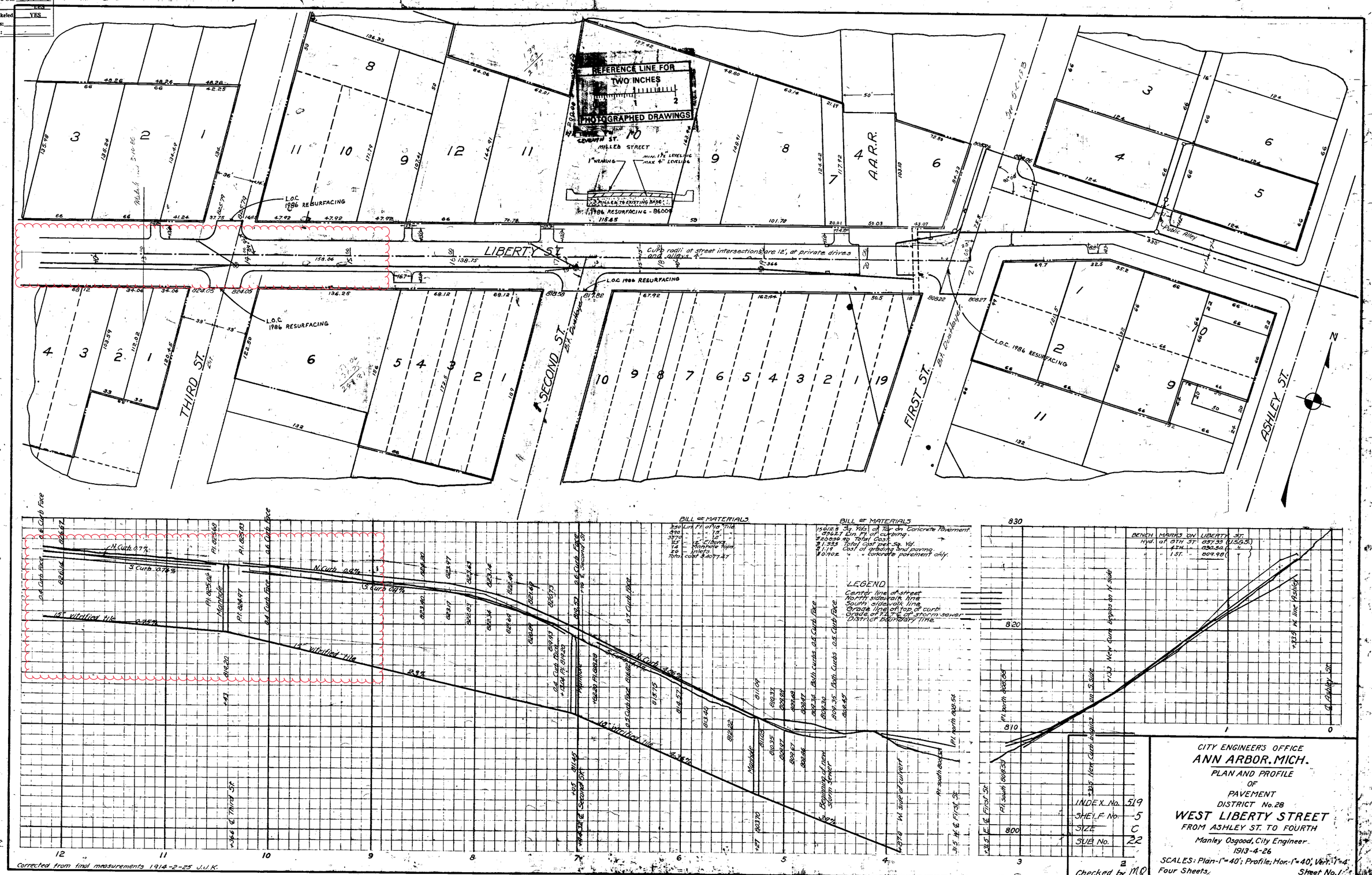
BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	4/05	JTB	
			ORIGINAL ISSUE	12/03	WAGS/KFS	DWT

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

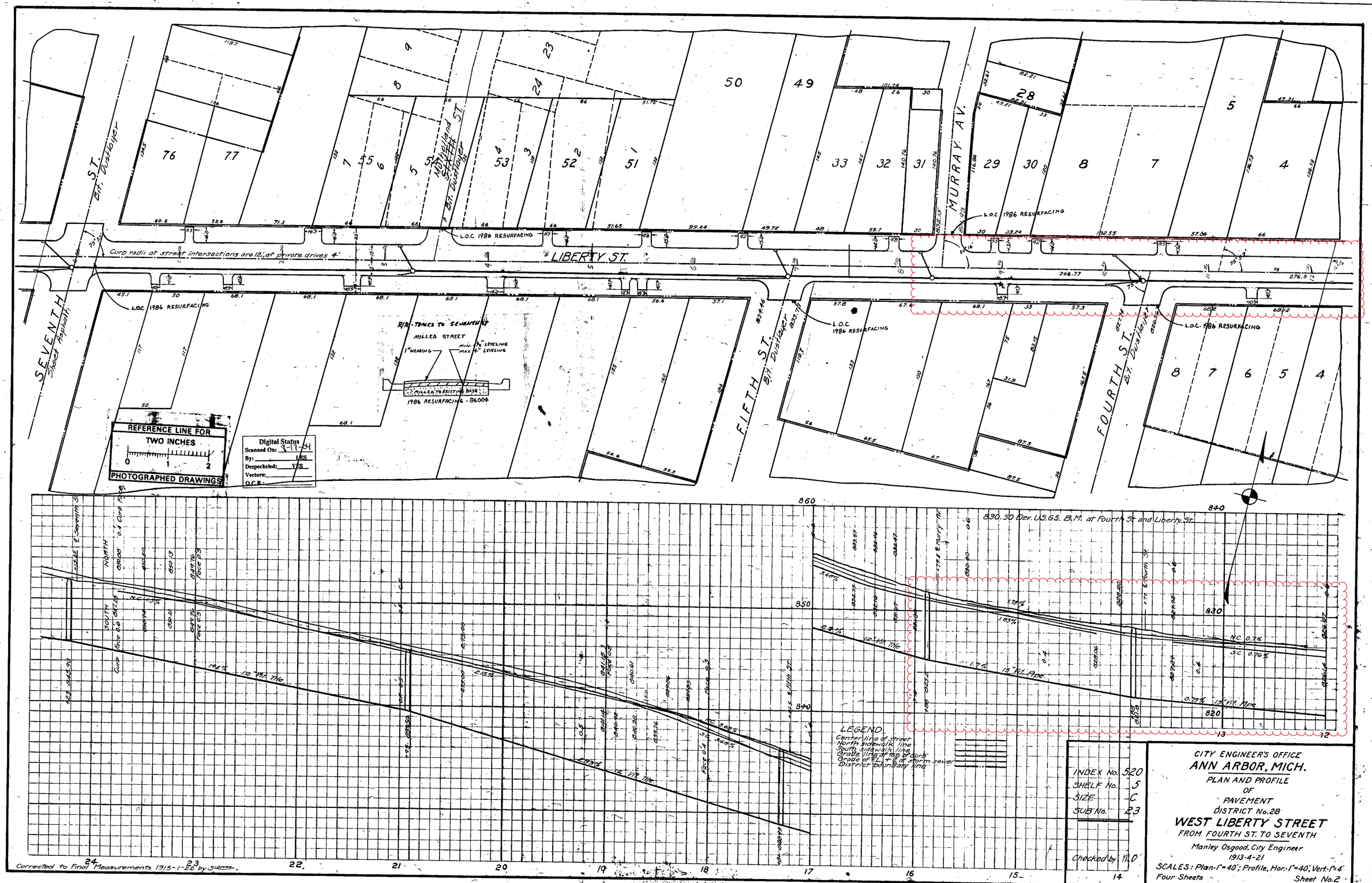
2004 ANNUAL RESURFACING PROGRAM
W. LIBERTY ST.
STA. 14+50 TO FIRST ST.

SCALE HORIZ. 1"=40' VERT. 1"=4"
INCH 0 1
DRAWING NO. 2004-004-34
SHEET NO. 34 OF 44

Digital Status
Scanned On: 9-17-04
By: LES
Despeckeled: YES
Vectors:
O.C.R.:



CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 28
WEST LIBERTY STREET
FROM ASHLEY ST. TO FOURTH
Manley Osgood, City Engineer
1913-4-26
SCALES: Plan-1"=40'; Profile; Hor.-1"=40', Vert.-1"=4'
Four Sheets, Sheet No. 1



INDEX No. 520
SHELF No. 5
SIZE C
SUB No. 23

Checked by M.O.

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
PAVEMENT
DISTRICT No. 28
WEST LIBERTY STREET
FROM FOURTH ST. TO SEVENTH
Manley Osgood, City Engineer
1913-4-21
SCALES: Plan-1"=40'; Profile, Hor.-1"=40', Vert.-1"=4'
Four Sheets
Sheet No. 2

W Washington St.

Manhole
Catchbasin
Proposed Lining
Storm Main

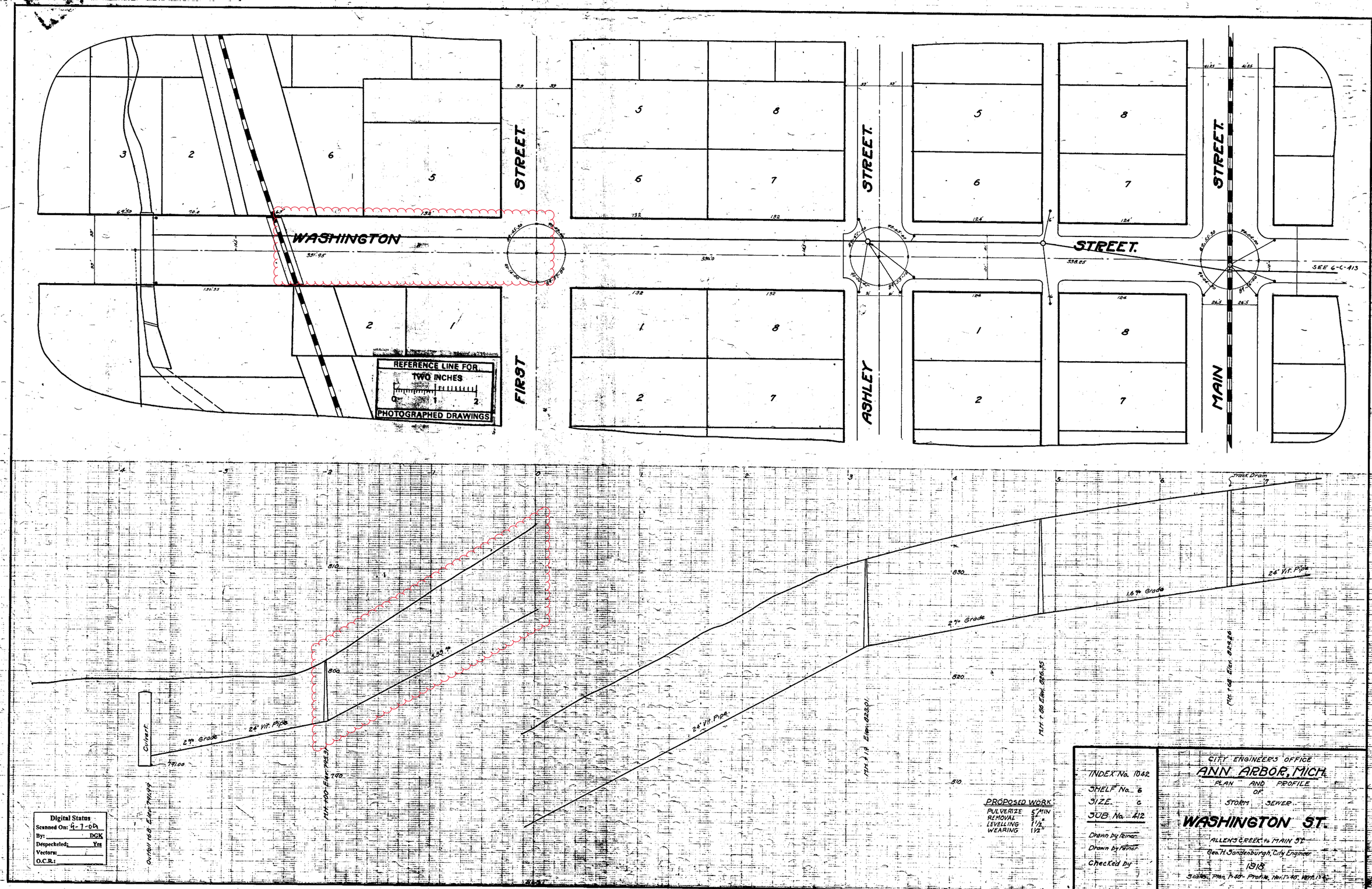
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms


WASHINGTON
STREET.
FIRST
STREET.
ASHLEY
STREET.
MAIN
STREET.
SEE 6-C-413
REFERENCE LINE FOR
TWO INCHES
PHOTOGRAPHED DRAWINGS
Track Drain
24" Vit. Pipe
2% Grade
1.6% Grade
Culvert
PROPOSED WORK
PULVERIZE 5" MIN
REMOVAL 3"
LEVELLING 1 1/2"
WEARING 1 1/2"
INDEX No. 1042
SHELF No. 6
SIZE. c
SUB. No. 412
Drawn by Feiner
Drawn by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
WASHINGTON ST.
ALLEN'S CREEK to MAIN ST.
Geo. H. Sandenburgh, City Engineer
1918
Scales: Plan, 1"=40' - Profile, Hor. 1"=40', Vert. 1"=4'
Digital Status
Scanned On: 9-7-09
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

W Washington St.

Manhole
Catchbasin
Proposed Lining
Storm Main

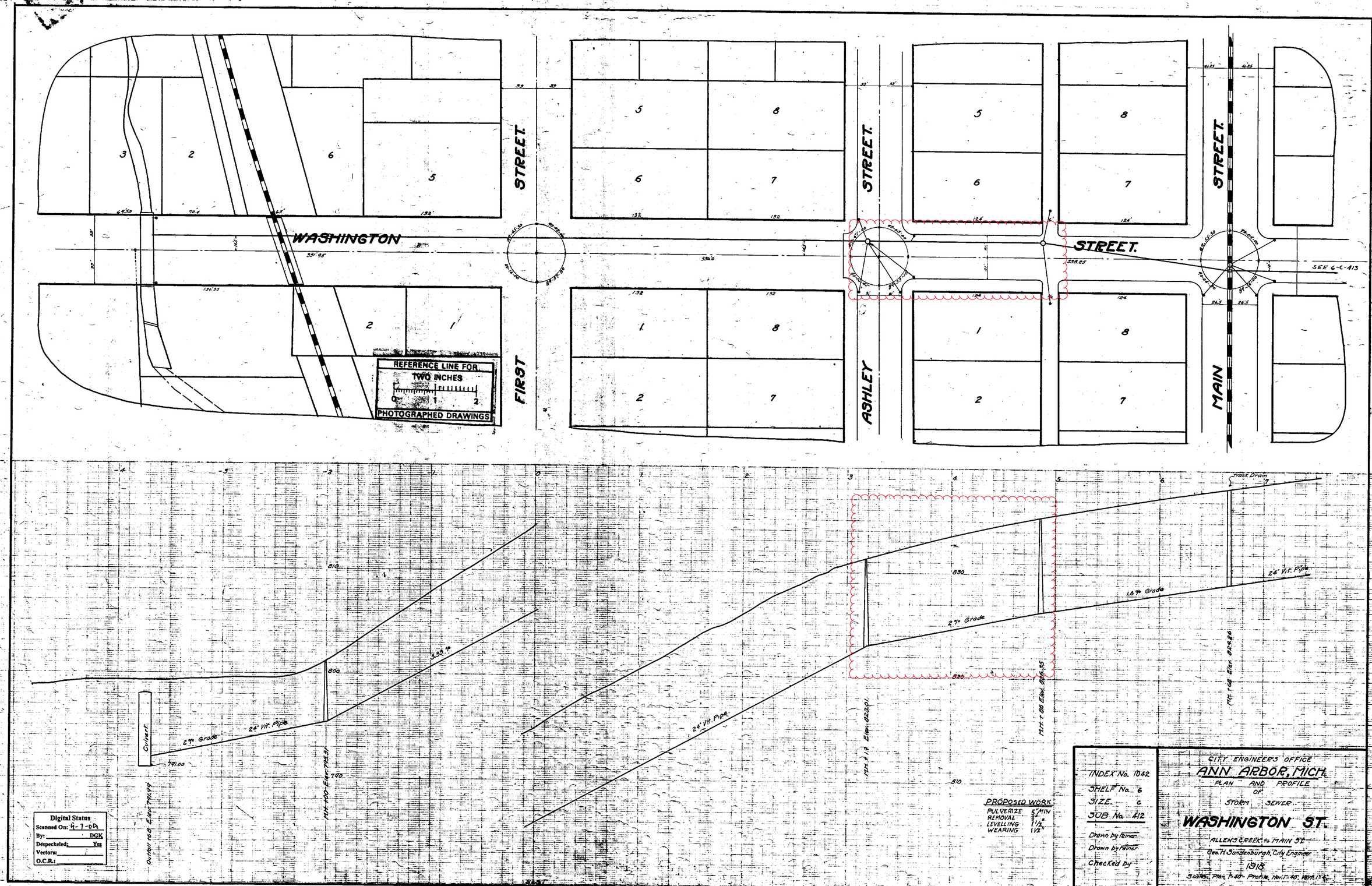
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

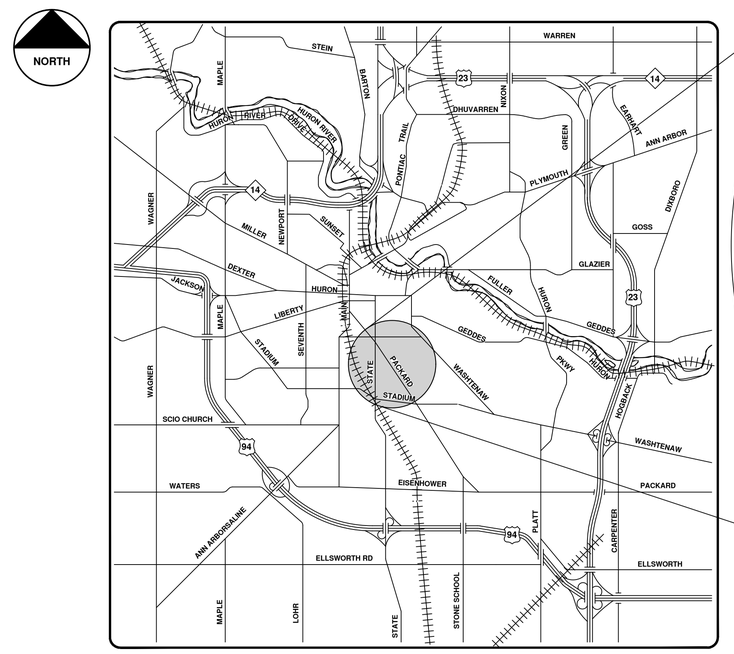
For terms and conditions please visit www.a2gov.org/terms


WASHINGTON
STREET.
FIRST
STREET.
ASHLEY
STREET.
MAIN
STREET.
SEE 6-C-413
REFERENCE LINE FOR
TWO INCHES
PHOTOGRAPHED DRAWINGS
Track Drain
24" Vit. Pipe
1.6% Grade
2% Grade
Culvert
Digital Status
Scanned On: 9-7-09
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
PROPOSED WORK
PULVERIZE 5" MIN
REMOVAL 3"
LEVELLING 1 1/2"
WEARING 1 1/2"
INDEX No. 1042
SHELF No. 6
SIZE. c
SUB. No. 412
Drawn by Feiner
Drawn by Feiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
WASHINGTON ST.
ALLEN'S CREEK to MAIN ST.
Geo. H. Sandenburgh, City Engineer
1918
Scales: Plan, 1"=40' - Profile, Hor. 1"=40', Vert. 1"=4'

2021 SEWER LINING PROJECT

GROUP 7 - STORM

GROUP - STORM	
SHEET NUMBER	SHEET TITLE
330	GROUP COVER SHEET
331 - 332	B LD IN VE
333 - 33	CHURCH ST
336 - 33	E HOOVER VE
33 - 33	E UNIVERSIT VE
3 0 - 3 1	HILL ST
3 2 - 3 3	KEECH VE
3 - 3	S ST TE ST
3 6 - 3	S UNIVERSIT VE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

NO	BID SET	9-22-21	ARG	IVK
	REV.	DESCRIPTION	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-330

SHEET No. 330 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — _a2 standard bw.stb — Plot Date: 9/16/2021 3:42:32 PM

Baldwin Ave.

N

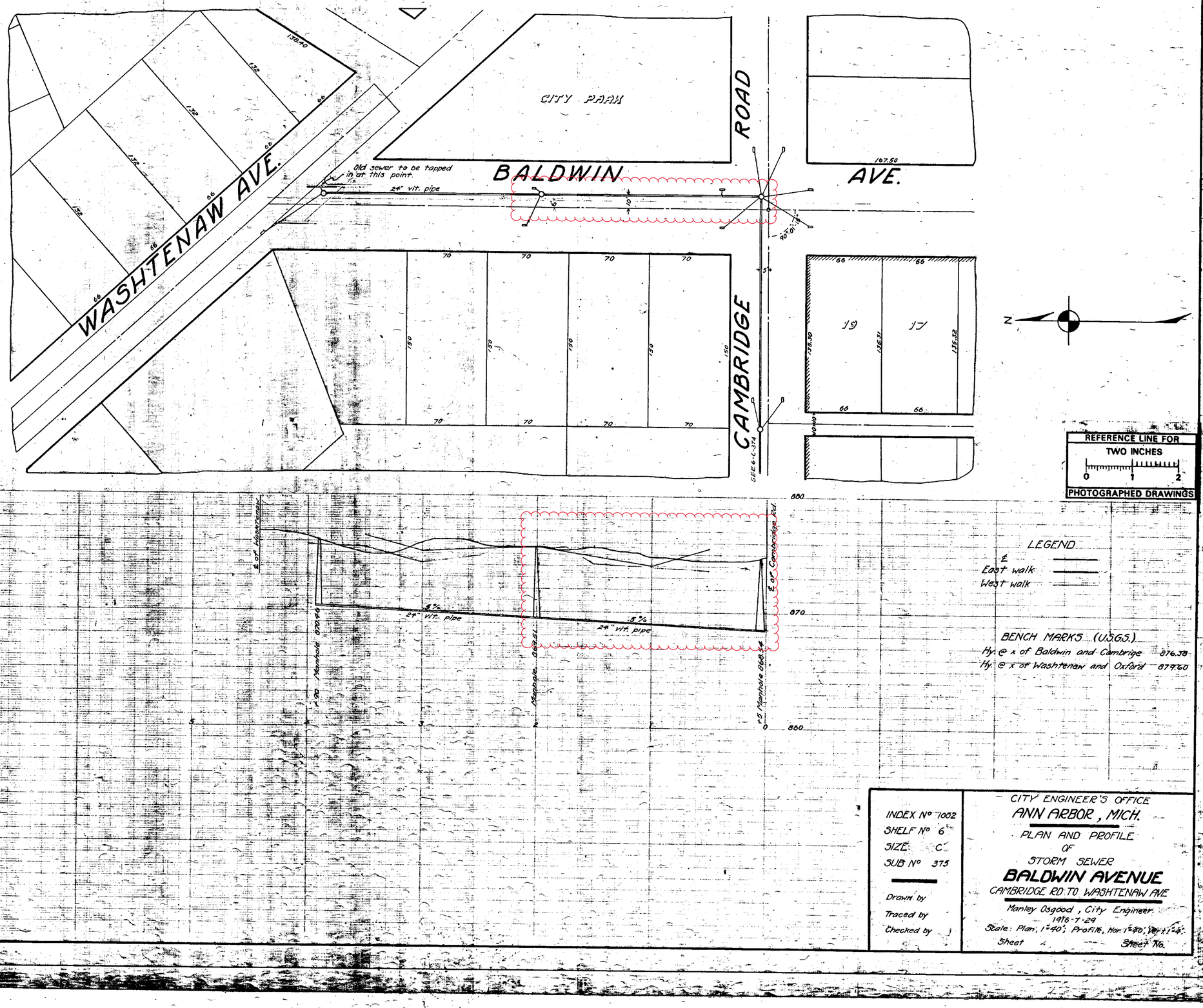
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

For terms and conditions please visit www.a2gov.org/terms



Digital Status
Scanned On: 9-5-04
By: DGK
Despeckled: Yes
Vectors:
O.C.Rs.:

INDEX Nº 7002
SHELF Nº 6
SIZE C
SUB Nº 375

Drawn by
Traced by
Checked by

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
BALDWIN AVENUE
CAMBRIDGE RD TO WASHTENAW AVE
Manley Osgood, City Engineer.
1916-7-29
Scale: Plan, 1"=40'; Profile, Hor. 1"=40'; Ver. 1"=4';
Sheet 4 Sheet No.

Church St.

N

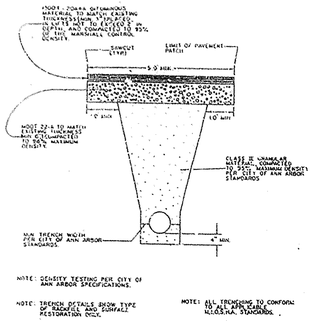
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 25 50 100 150 200 Feet

For terms and conditions please visit www.a2gov.org/terms

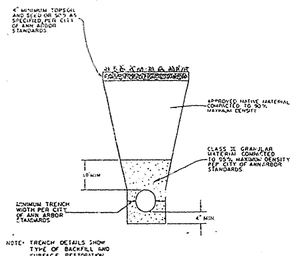


NOTE: DENSITY TESTING PER CITY OF ANN ARBOR SPECIFICATIONS.

NOTE: TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.

NOTE: ALL TRENCHING TO CONFORM TO ALL APPLICABLE MIOSHA STANDARDS.

UTILITY TRENCH - TYPE I
(UNDER BITUMINOUS SURFACE)

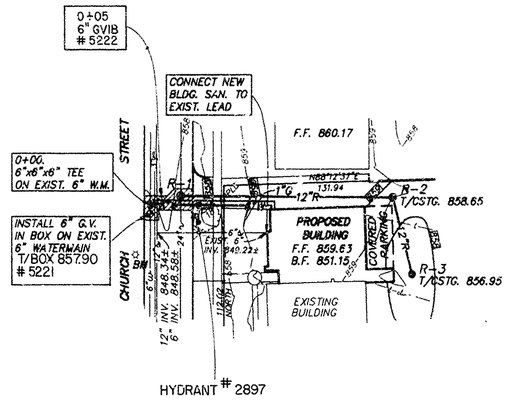


NOTE: TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY.

NOTE: ALL TRENCHING TO CONFORM TO ALL APPLICABLE MIOSHA STANDARDS.

NOTE: DENSITY TESTING PER CITY OF ANN ARBOR SPECIFICATIONS.

UTILITY TRENCH - TYPE V
(IN GREENBELT AREA OUTSIDE PAVEMENT INFLUENCE)



GRAPHIC SCALE
TWO INCHES
0 1 2

NOTE
Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

CONSTRUCTION NOTES - WATERMAIN & STORM SEWER

1) ALL WATERMAON CONSTRUCTION AND MATERIALS SHALL CONFORM TO CURRENT CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

2) ALL WATERMAIN PIPE SHALL BE CLASS 52 POLYWRAPPED DUCTILE DUCTILE IRON PIPE CONFORMING TO CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

3) ALL STORM SEWER PIPE SHALL BE SMOOTH LINED CORRUGATED PLASTIC PIPE CONFORMING TO CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

4) ALL WATERMAIN AND STORM SEWER SHALL BE INSTALLED ON CLASS II BEDDING ACCORDING TO THE APPROPRIATE DETAIL INCLUDED IN THESE PLANS.

5) ALL TRENCHES UNDER OR WITHIN 1:1 INFLUENCE OF PIPE AND 5 FEET OF THE EXISTING AND/OR PROPOSED PAVEMENT SHALL BE BACKFILLED TO GRADE WITH THOROUGHLY COMPACTED, APPROVED SAND. THE BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS.

6) ALL CASTING ELEVATIONS SHALL BE VERIFIED PRIOR TO FINAL GRADING OR PAVING. CASTINGS SHALL BE ADJUSTED A MAXIMUM OF 0.5 FT. PRIOR TO FINAL GRADING OR PAVING. ADJUSTMENTS SHALL BE INCLUDED IN THE PRICE OF WATERMAIN & STORM SEWER CONSTRUCTION.

7) ALL DISTURBED AREAS SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AND SHALL BE INCLUDED IN THE PRICE FOR SEWER CONSTRUCTION.

8) PAVEMENT RESTORATION & REPLACEMENT OF EXISTING BITUMINOUS CURB SHALL MATCH EXISTING AND SHALL BE INCLUDED IN THE PRICE FOR SEWER CONSTRUCTION.

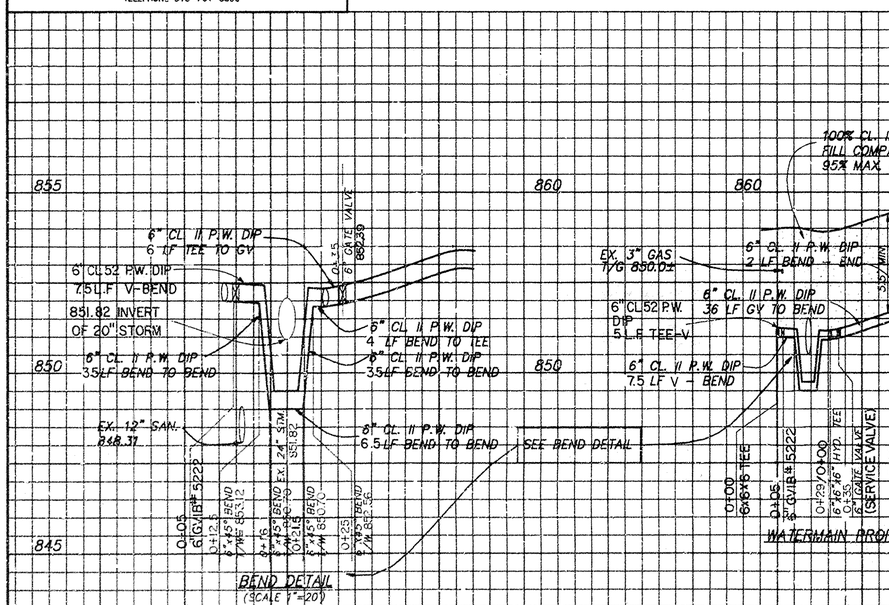
9) CITY OF ANN ARBOR ENGINEERING DIVISION IS TO BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO DELIVERY OF PIPE AND FITTINGS. THE ENGINEERING DIVISION IS TO WITNESS SUCH DELIVERIES.

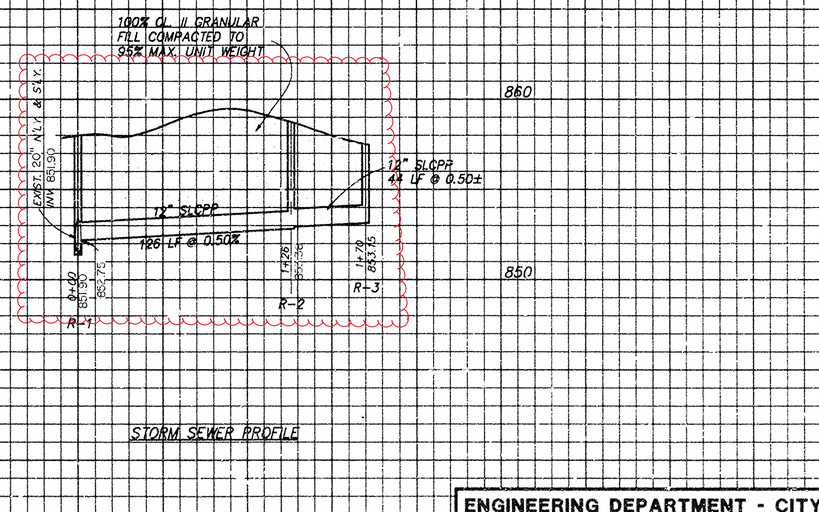
CASTING SCHEDULE

STRUCTURE	TYPE / DIA.	E. JORDAN FOUNDARY CASTING	CASTING ELEVATION	INVERT	DEPTH
R-1	1 / 4 FT.	1040(TYPE A	857.90	851.39	6.51
		COVER)			
R-2	INLET / 3 FT.	1040(TYPE M1	858.80	852.82	5.98
		GRATE)			
R-3	INLET / 2 FT.	1040(TYPE M1	857.70	853.15	4.55
		GRATE)			

VASHTENAW ENGINEERING
CIVIL ENGINEERS PLANNERS
SURVEYORS
P.O. BOX 1204 3250 WEST LIBERTY RD ANN ARBOR MICHIGAN 48106
TELEPHONE 313-761-8800

72 HOURS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)





WECO JOB No. 25492
WECO FILE No. 6451

LEGEND
EXISTING PAVEMENT
PROPOSED PAVEMENT
PROPOSED SIDEWALK
EXISTING UTILITY POLE
960 EXISTING CONTOUR
960 PROPOSED CONTOUR
PROPOSED FIRE HYDRANT
EXISTING FIRE HYDRANT
PROPOSED CATCH BASIN
EXISTING STORM
PROPOSED STORM
EXISTING SANITARY
PROPOSED SANITARY
EXISTING CATCH BASIN
EXISTING WATER
PROPOSED WATER
EXISTING TELEPHONE
EXISTING ELECTRIC
EXISTING GAS

BENCHMARK NAIL IN EAST SIDE OF LIGHT E ON WEST SIDE OF CHURCH ST ACROSS FROM HSE. #917. ELEV. 859.31

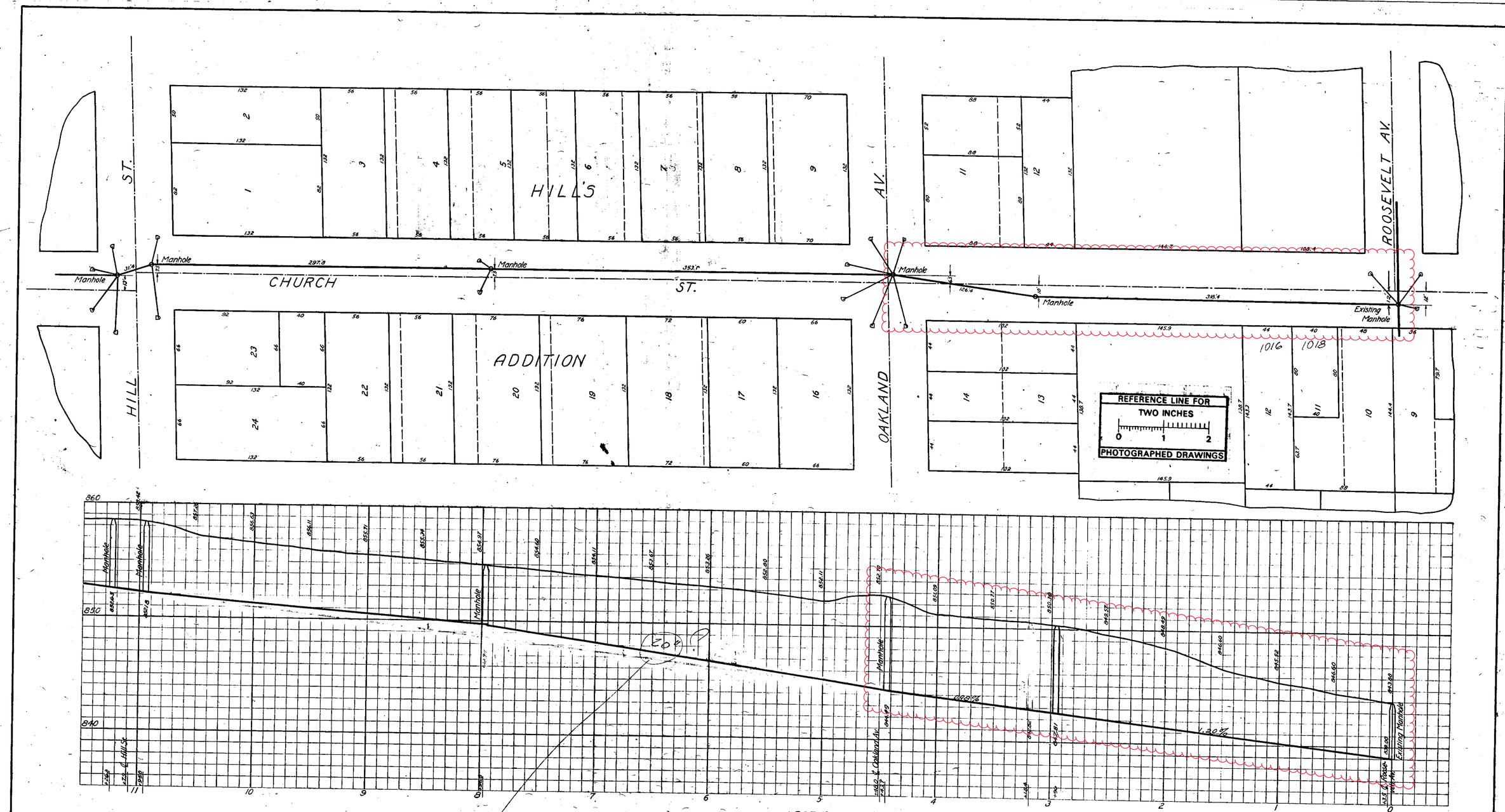
PREPARED BY WALTER F. LEWIS P.E., MICH. NO. 14316

BENCH MARK	SURVEY BOOK	REV.NO.	DESCRIPTION	DATE	DR.BY	CH.BY
		2	ASBUILT	9-27-95	KRS	DPF
		1		7-19-95	SNV	WFL
			ORIGINAL ISSUE	4-12-95	SJB	WFL

ENGINEERING DEPARTMENT - CITY OF ANN ARBOR

ECUMENICAL CENTER
STORM SEWER
WATERMAIN

SCALE HORIZ 40' VERT 4'
INCH 0 4"
DRAWING NO. 95047-W2
SHEET NO. 2 OF 2



BILL OF MATERIAL
1936' - 20" sewer tile
720' - 12" sewer tile
220'4 - 15" sewer tile
8 - Manholes complete
22 - Inlets
On Willard St.
144' - 15" sewer tile
28' - 12" sewer tile
1 - Manhole
2 - Inlets

LEGEND
Center line of street
Grade line of sewer

Digital Status
Scanned On: 8-25-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Corrected to Final Measurements 1915-1-16 by Sidman.

INDEX No. 499
SHELF No. 6
SIZE C
SUB No. 57

Checked by MQ

CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
ON
CHURCH STREET
FROM ROOSEVELT AVENUE TO HILL STREET
Manley Osgood, City Engineer
1912-12-31
SCALES: Plan-1"=40'; Profile; Hor.-1"=40', Vert.-1"=4'
Two Sheets
Sheet No. 1

E Hoover Ave.

Manhole
Catchbasin
Proposed Lining
Storm Main

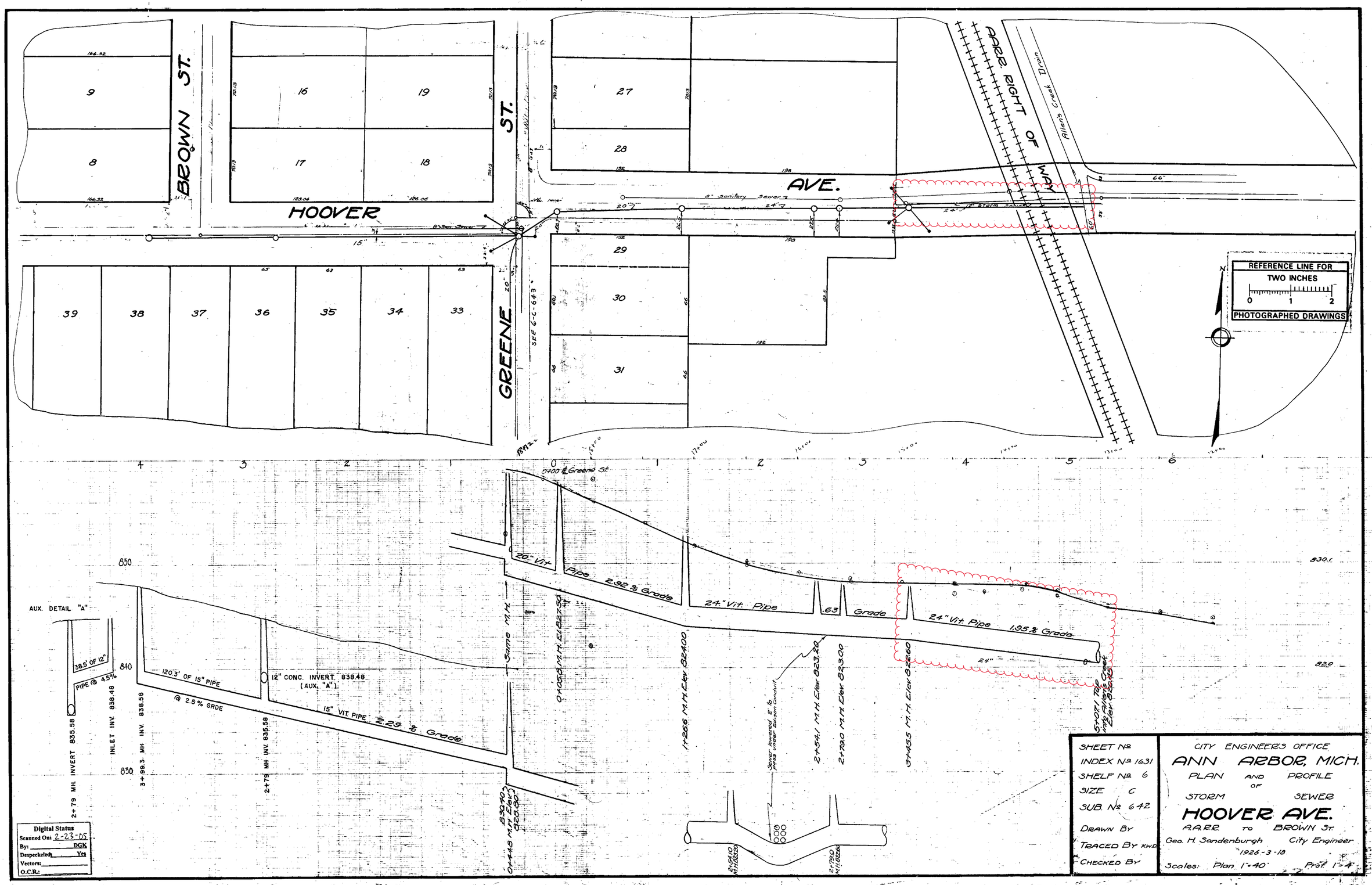
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

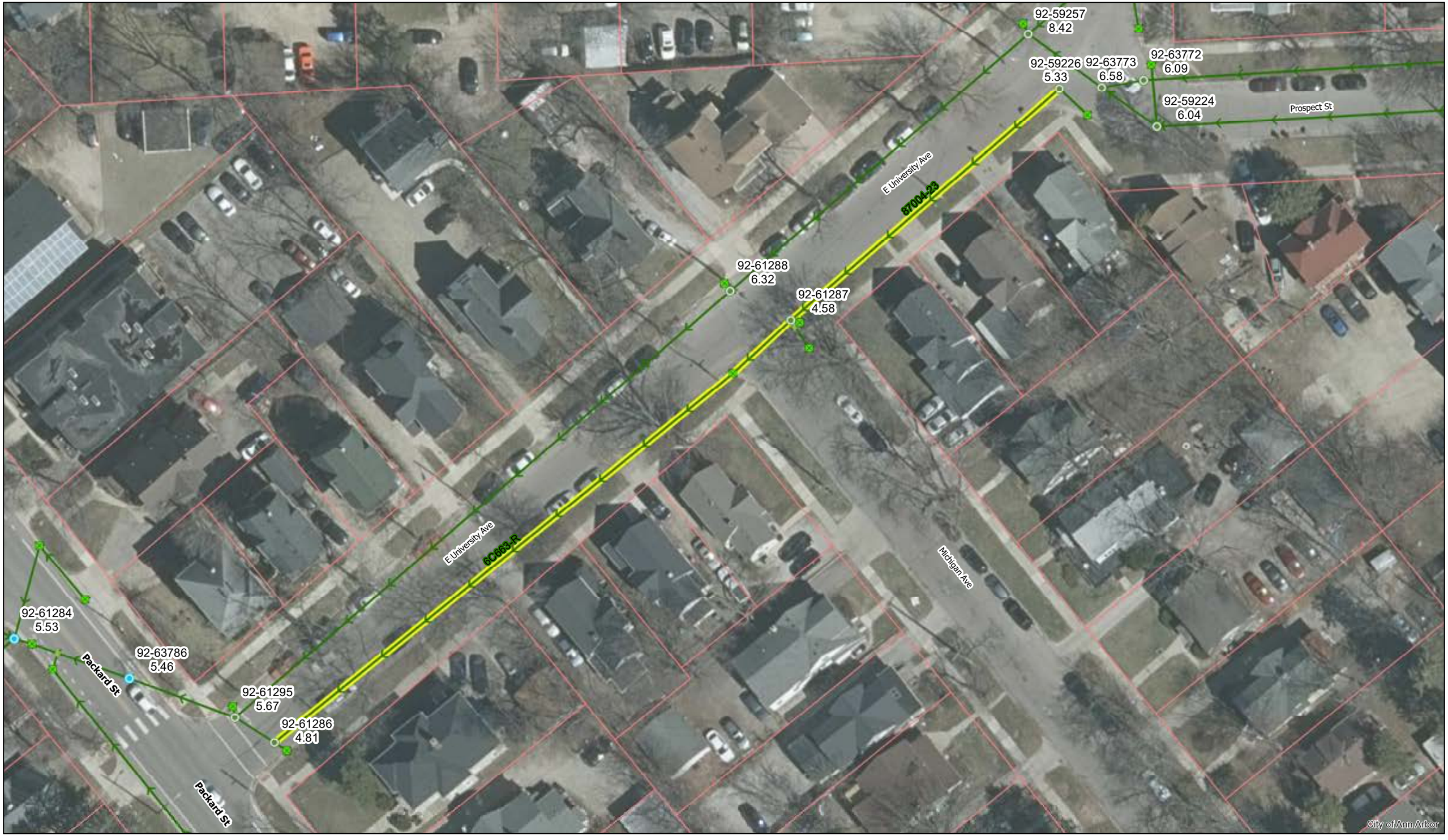
0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms



BROWN ST.
HOOVER
AVE.
GREENE ST.
AARR RIGHT OF WAY
Allen's Creek Drain
9
8
16
17
19
18
27
28
29
30
31
39
38
37
36
35
34
33
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
N
0+00 ℄ Greene St.
20" Vit Pipe 2.92 % Grade
24" Vit. Pipe .63 Grade
24" Vit. Pipe 1.95 % Grade
24"
AUX. DETAIL "A"
38.5' OF 12"
PIPE @ 4.5%
120.3' OF 15" PIPE
@ 2.5% GRDE
12" CONC. INVERT 838.48
(AUX. "A")
15" VIT PIPE 2.29 % Grade
Same M.H.
0+05.8 M.H. El. 827.50
1+26.6 M.H. Elev. 824.00
2+54.1 M.H. Elev. 823.20
2+79.0 M.H. Elev. 823.00
3+45.5 M.H. Elev. 822.60
5+07.1 Top into Allen's Creek Elev. 820.45
0+44.8 M.H. Elev. 828.80
830.40
2+79 MH. INVERT 835.58
INLET INV. 838.48
3+99.3 MH. INV. 838.58
2+79 MH. INV. 835.58
850
840
830
820
830.0
Sewer lowered 2' to pass under Edison Conduit
2+54.10 M.H. 823.20
2+79.0 M.H. 822.60
Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
SHEET No
INDEX No 1631
SHELF No 6
SIZE C
SUB. No 642
DRAWN BY
TRACED BY KWD
CHECKED BY
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
HOOVER AVE.
A.A.R.R. TO BROWN ST.
Geo. H. Sandenburgh City Engineer
1926-3-18
Scales: Plan 1"=40' Prof. 1"=4'



E University Ave.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 20 40 80 120 160 Feet

N

For terms and conditions please visit www.a2gov.org/terms

Sheet No.	
Index No.	1763
Shelf No.	6
Size	C.
Sub. No.	663
Drawn by	
Traced by	
Checked by	

CITY ENGINEER'S OFFICE

ANN ARBOR, MICH.

PLAN AND PROFILE OF STORM SEWER

E. UNIVERSITY AVE.

Packard St. to Vaughn St.

Geo. H. Sandenburgh, City Engineer

1928 - 4 - 20

Scales:- Plan 1"=40', Profile, Vert. 1"=4'

Digital Status
Scanned On: 2-23-05
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

Hill St.

Manhole
Catchbasin
Proposed Lining
Storm Main

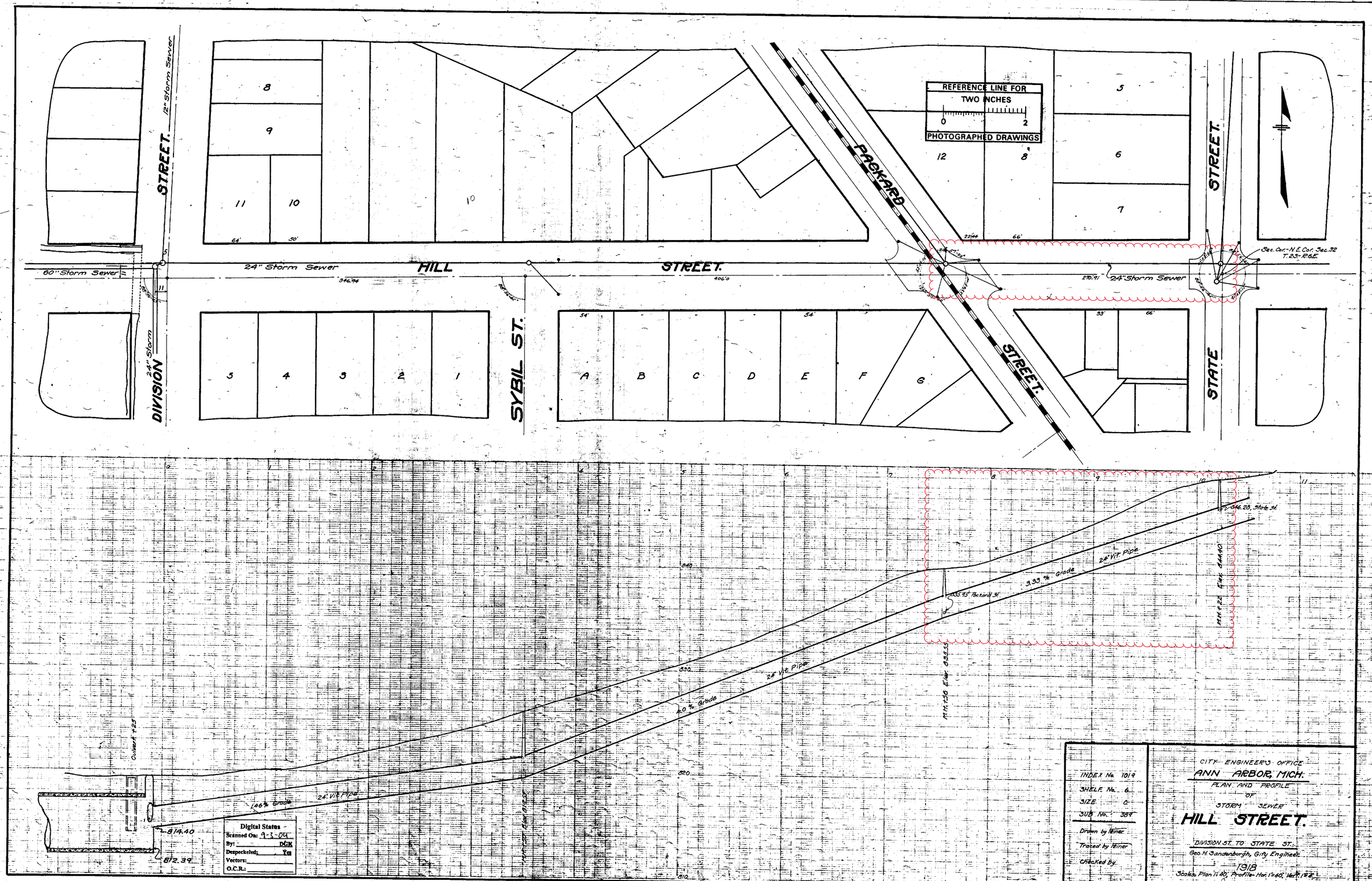
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms



REFERENCE LINE FOR
TWO INCHES
0
2
PHOTOGRAPHED DRAWINGS
12" Storm Sewer
STREET.
DIVISION
24" Storm
60" Storm Sewer
24" Storm Sewer
HILL
STREET.
SYBIL ST.
PACKARD
STREET.
STATE
STREET.
24" Storm Sewer
Sec. Cor.-N.E. Cor. Sec. 32
T. 2S-R.6E.
8
9
11
10
10
5
4
3
2
1
A
B
C
D
E
F
G
12
8
5
6
7
1.46% Grade
24" Vit. Pipe
4.0% Grade
24" Vit. Pipe
3.33% Grade
24" Vit. Pipe
814.40
812.39
Culvert +25
M.H. +56 Elev. 835.55
M.H. +22 Elev. 844.40
Digital Status
Scanned On: 9-3-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:
INDEX No. 1019
SHELF No. 6
SIZE C
SUB No. 389
Drawn by Reiner
Traced by Reiner
Checked by
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
HILL STREET.
DIVISION ST. TO STATE ST.
Geo. H. Sandenburgh, City Engineer.
1918
Scales, Plan 1"=40', Profile- Hor. 1"=40', Vert. 1"=4'.

Keech Ave.

N

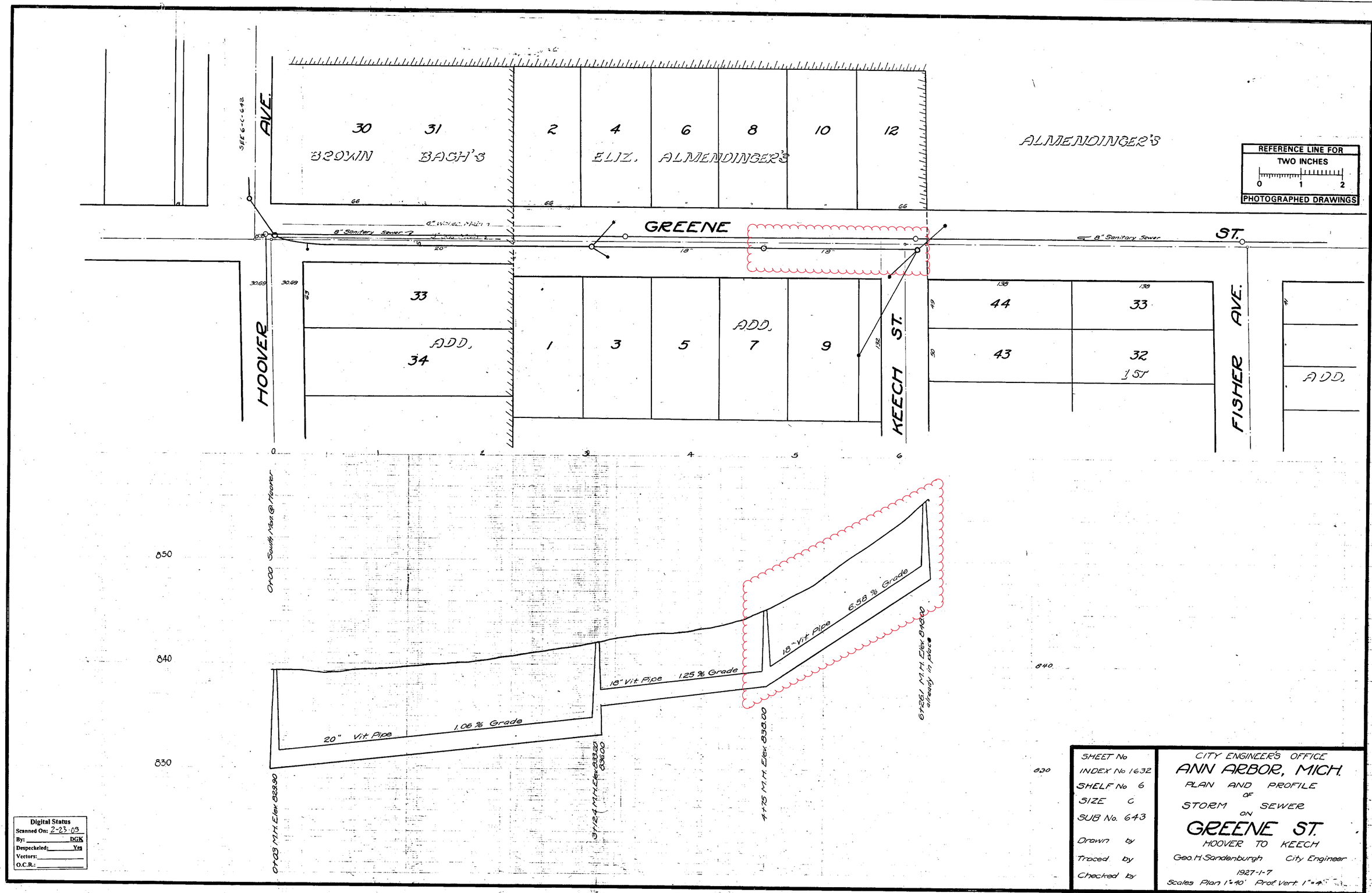
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

Feet
0 5 10 20 30 40

For terms and conditions please visit www.a2gov.org/terms



SHEET No	CITY ENGINEER'S OFFICE
INDEX No 1632	ANN ARBOR, MICH.
SHELF No 6	PLAN AND PROFILE
SIZE C	OF
SUB No. 643	STORM SEWER
Drawn by	ON
Traced by	GREENE ST.
Checked by	HOOVER TO KEECH
	Geo. H. Sandenburgh City Engineer
	1927-1-7
	Scales Plan 1"=40' Prof. Vert. 1"=4'

Digital Status
Scanned On: 2-23-09
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

S State St.

N

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms

ARBOR STREET.

PACKARD STREET.

STATE STREET.

HOOVER

34 36 38 41 42 45

3 4 5 6 7 8 9 10 11

REFERENCE LINE FOR TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS

Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

INDEX No.	1033
SHELF No.	6
SIZE	C
SUB No.	409
Drawn by Miller	
Traced by Miller	
Checked by	

CITY ENGINEERS OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
PACKARD STREET.
AT CORNER OF STATE ST.
STATE STREET.
PACKARD ST. TO HOOVER AVE.
Geo. H. Sandenbergh, City Engineer.
1918
Scales. Plan, 1"=40'. Profile, Hor. 1"=40' Ver. 1"=4'

S University Ave.

Manhole
Catchbasin
Proposed Lining
Storm Main

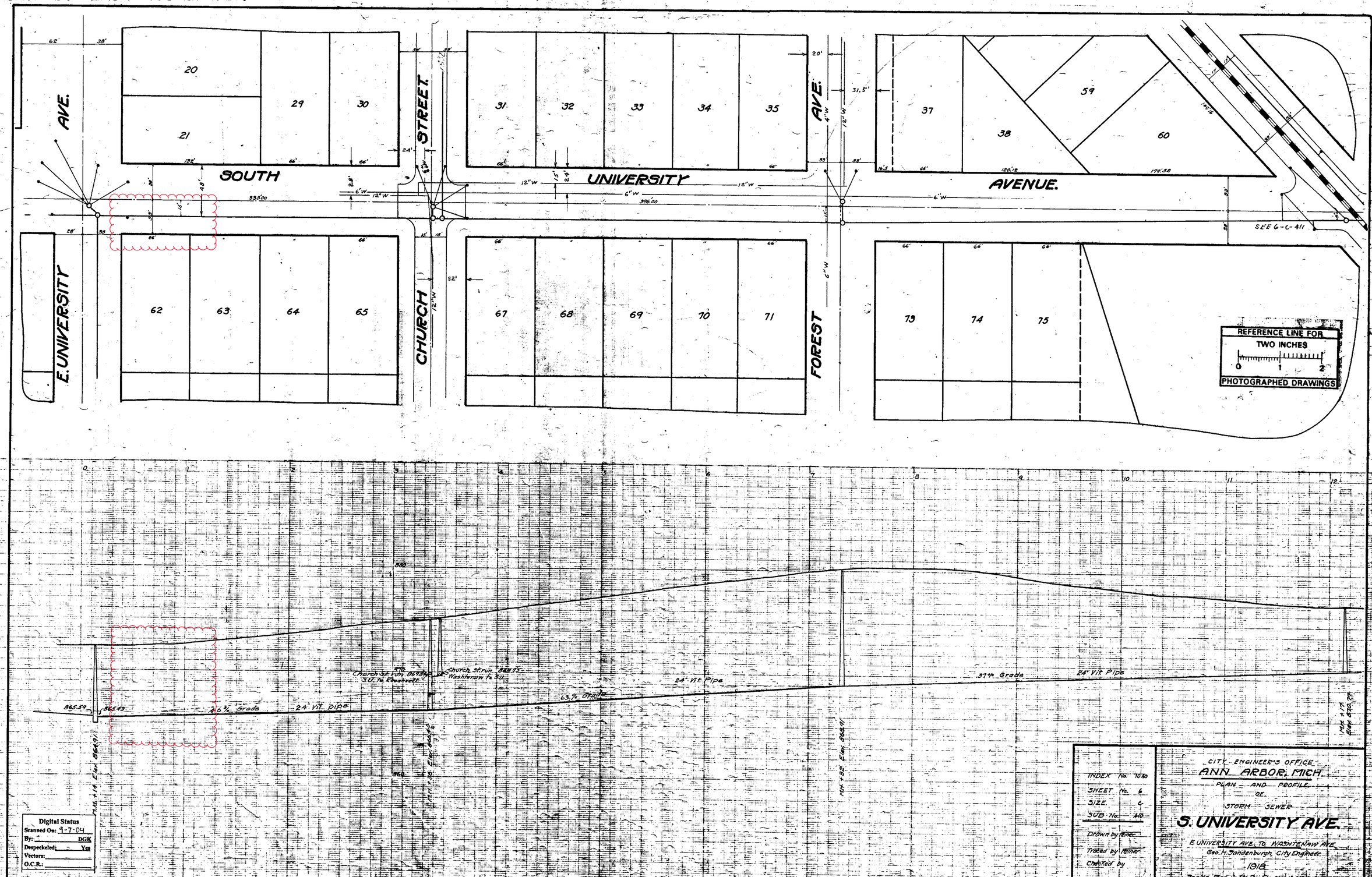
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms



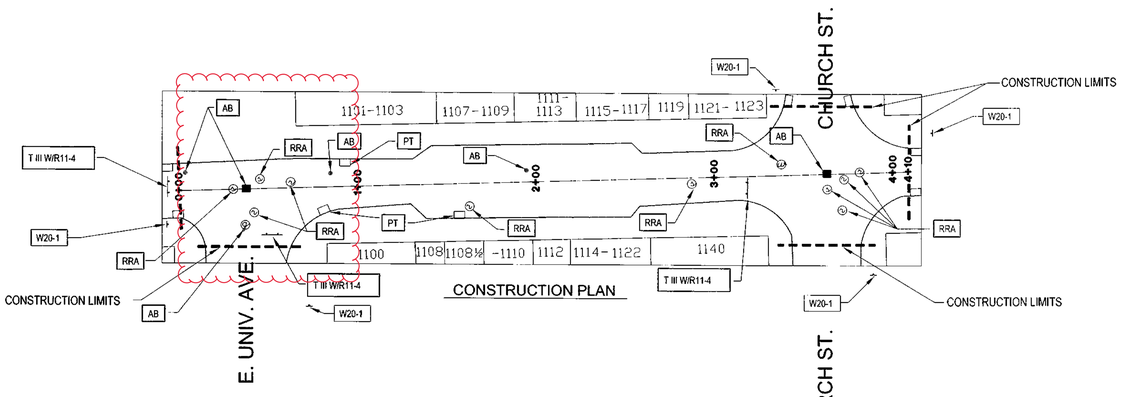
Digital Status
Scanned On: 9-7-04
By: DGK
Despeckeled: Yes
Vectors:
O.C.R.:

INDEX No. 1040
SHEET No. 6
SIZE C
SUB No. 410
Drawn by Reiner
Traced by Reiner
Checked by

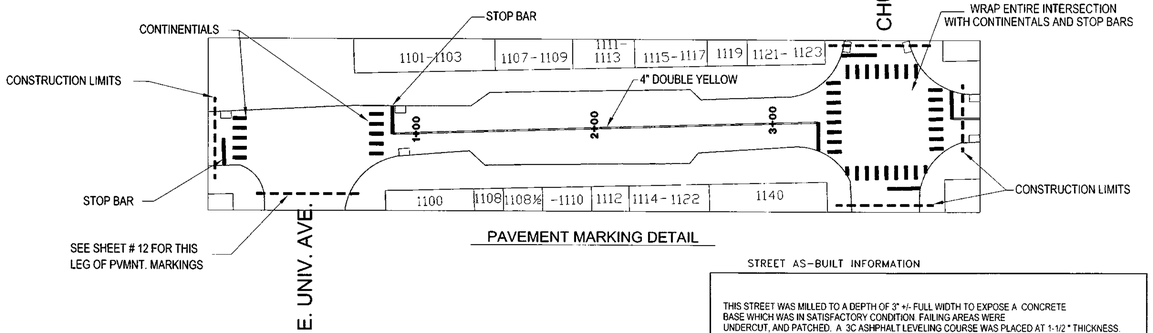
CITY ENGINEER'S OFFICE
ANN ARBOR, MICH.
PLAN AND PROFILE
OF
STORM SEWER
S. UNIVERSITY AVE.
E. UNIVERSITY AVE. TO WASHTENAW AVE.
Geo. H. Sandenburgh, City Engineer.
1918
Scales: Plan, 1" = 40'; Profile, Hor. 1" = 40'; Ver. 1" = 4'

S. UNIVERSITY AVE.

WIDTH = 35.0'



CONSTRUCTION PLAN



PAVEMENT MARKING DETAIL

NOTE:
DATA CONTAINED ON THIS PAGE WAS DRAWN FROM CITY RECORDS. NO GUARANTEE IS MADE AS TO ITS ACCURACY OR COMPLETENESS

NOTE:
CITY RECORDS INDICATE THAT THE PAVEMENT SECTIONS OF S. UNIVERSITY FROM E. UNIVERSITY TO CHURCH ST. HAS A CONCRETE OR BRICK BASE UNDER THE ASPHALT SURFACE

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

STREET AS-BUILT INFORMATION

THIS STREET WAS MILLED TO A DEPTH OF 3" +/- FULL WIDTH TO EXPOSE A CONCRETE BASE WHICH WAS IN SATISFACTORY CONDITION. FAILING AREAS WERE UNDERCUT, AND PATCHED. A 3C ASPHALT LEVELING COURSE WAS PLACED AT 1-1/2 " THICKNESS. THEN A 4C ASPHALT WEARING COURSE WAS PLACED AT 1-1/2" +/-THICKNESS

CONSTRUCTION METHOD AND SEQUENCING

THE WORK TO BE COMPLETED ON THIS STREET SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING ITEMS. THE ORDER OF CONSTRUCTION SHALL BE AS GIVEN UNLESS OTHERWISE AUTHORIZED OR DIRECTED BY THE ENGINEER.

1. IMPLEMENT TRAFFIC MAINTENANCE, AND SOIL EROSION CONTROLS IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
2. INSTALL ANY PROPOSED STORM SEWER AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
3. PERFORM ALL CONCRETE WORK, INCLUDING RESTORATION, IN ACCORDANCE WITH THE PLANS, AND AS DIRECTED BY THE ENGINEER.
4. LOWER ALL STRUCTURE COVERS, INCLUDING VALVE AND MONUMENT BOXES.
5. MILL THREE-INCHES OF MATERIAL FROM EXISTING ROADWAY. THIS MAY INCLUDE GRANULAR ROAD BASE MATERIAL.
6. PERFORM UNDERCUTS AND/OR BASE REPAIRS AS DIRECTED BY THE ENGINEER.
7. GRADE, SHAPE, AND RECOMPACT THE EXISTING ROADBASE AS REQUIRED, AND AS DIRECTED BY THE ENGINEER.
8. PAVE 1-1/2 INCHES OF MDOT 1300L-20AAA LEVELING COURSE IN ONE LIFT.
9. ADJUST ALL STRUCTURE COVERS, MONUMENT BOXES,AND VALVE BOXES TO THEIR FINISHED ELEVATIONS.
10. PAVE 1-1/2 INCHES OF MDOT 1300T-20AAA WEARING COURSE IN ONE LIFT.
11. COMPLETE ALL MISCELLANEOUS CONSTRUCTION INCLUDING ALL CLEAN-UP AND FINAL RESTORATION.
12. REMOVE ALL TRAFFIC CONTROL DEVICES.

ESTIMATED CONSTRUCTION QUANTITIES FOR S. UNIVERSITY AVE.

ITEM	ITEM DESCRIPTION	ITEM	EST. QUANTITY
205.	COLD MILL BIT. PAVEMENT	TON	320.00
211.	SUBGRADE UNDERCUTTING TYPE II	CY.	80.00
212.	REMOVE CONCRETE CURB & GUTTER - (ANY)	LF.	N/A
214.	REM. CONC. SIDEWALK & DRIVE - (ANY)	SF.	N/A
226.	BIT. PVMNT. LEVELING - (2C OR 3C)	TON	160.00
227.	BIT. PVMNT. WEARING - (4B OR 4C)	TON	160.00
230.	21-AA LIMESTONE - C.I.P.	CY.	80.00
241.	CONC. CURB & GUTTER - (H.E.)	LF.	N/A
244.	6" SIDEWALK OR RAMP (H.E.)	SF.	N/A
254.	ADJUST DRAINAGE STRU. COVER	EA.	11.00
255.	ADJUST MONUMENT OR GATE VALVE IN BOX	EA.	5.00
257.	LOWER DRAINAGE STRU. COVER	EA.	10.00
258.	LOWER MONUMENT OR GATE VALVE IN BOX	EA.	5.00
260.	DRAINAGE STRUCTURE COVERS	LB.	4490.00
261.	POINT DRAINAGE STRUCTURE	EA.	2.00
282.	TYPE II BARR. - LIGHTED/FURNISH	EA.	20.00
283.	TYPE II BARR. - LIGHTED/OPERATE	EA.	20.00
284.	TYPE III BARR. LIGHTED/FURNISH/OPERATE	EA.	3.00
285.	TEMPORARY SIGNS - TYPE B	SF.	117.5
286.	NO PARKING SIGNS	EA.	N/A
594.	HOT APPLIED THERMO. 4" WHITE	LF.	N/A
595.	HOT APPLIED THERMO. 4" YELLOW	LF.	476.00
597.	HOT APPLIED THERMO. 24" WHITE	LF.	293.00
598.	HOT APPLIED THERMO. SYMBOL WHITE	EA.	N/A
599.	HOT APPLIED THERMO. LEGEND WHITE	EA.	2.00

CONSTRUCTION KEY

C/G	REMOVE AND REPLACE CURB AND GUTTER	PT	POINT STRUCTURE
C/GHE	REMOVE CURB AND GUTTER, REPLACE WITH CONCRETE CURB AND GUTTER H.E.	C4	REMOVE EXISTING RAMP OR SIDEWALK REPLACE WITH 4" SIDEWALK OR RAMP.
C4HE	REMOVE EXISTING RAMP OR SIDEWALK REPLACE WITH 4" SIDEWALK OR TYPE 1 SIDEWALK RAMP,H.E.	C HE	REMOVE EXISTING DRIVE APPROACH, RAMP OR SIDEWALK. REPLACE WITH 6" OR 8" APPROACH, RAMP,OR SIDEWALK, H.E.
CR	REMOVE SIDEWALK, DRIVE OR RAMP.	CP	PLACE 4" SIDEWALK OR RAMP.
AA	ADJUST MDOT TYPE A CASTINGS.	AK	ADJUST MDOT TYPE K CASTING.
AB	ADJUST GATE VALVE BOX OR MONUMENT BOX.	TIII	MDOT TYPE III BARRICADE.
ADSR	ADDITIONAL DEPTH STRUCTURE REPAIR.	TII	MDOT TYPE II BARRICADE
RRA	REMOVE AND REPLACE MDOT TYPE A CASTING ADJUST TO FINISH GRADE.	RRK	REMOVE AND REPLACE MDOT TYPE K CASTING. ADJUSTTO FINISH GRADE.
CPRHE	CONCRETE PAVEMENT REPAIR, H.E.	RS	RECONSTRUCT STRUCTURE.
DS	CONSTRUCT 2, 3 OR 4' DIAM. DRAINAGE STRUCTURE.	RCP	REMOVE CONC. PAVEMENT - ANY THICKNESS.

TRAFFIC CONTROL & SIGN LEGEND

QTY.	TYPE	DESCRIPTION
5.00	W20-1	"CONSTRUCTION AHEAD"
	W20-2	"DETOUR AHEAD"
	W20-5	"RIGHT LANE CLOSED AHEAD"
	W4-2	LANE DROP SYMBOL, RIGHT
	W20-1a	WORKER SYMBOL
	W13-1	"SPEED LIMIT"
	M4-9 L&R	DETOUR (LEFT OR RIGHT ARROW)
	D3-1	CONVENTIONAL GUIDE
	M4-8a	"DETOUR ENDS"
	M4-10	"DETOUR"
	R6-1 L&R	"ONE WAY" (LEFT & RIGHT)
3.00	TYPE III	TYPE III LIGHTED BARRICADE
20.0	TYPE II	TYPE II LIGHTED BARRICADE (DRUM)
3.00	R11-4	"ROAD CLOSED TO THRU TRAFFIC"
	TYPE A	LIGHTED ARROW, TYPE A
	TYPE B	LIGHTED ARROW, TYPE B

DRAWING SYMBOL LEGEND

SYMBOL	DESCRIPTION
S	EXISTING SANITARY SEWER MANHOLE
S	EXISTING STORM SEWER MANHOLE
W	EXISTING WATER MAIN VALVE IN WELL
T	AMERITECH TELEPHONE VAULT
G	MICHCON GAS CO. VALVE BOX/WELL
	WATER MAIN GATE VALVE IN BOX
	SOIL BORING
	EXISTING STORM SEWER INLET
	MONUMENT BOX
	REMOVE AND REPLACE CONC. SIDEWALK
	PLACE CONCRETE SIDEWALK
	REMOVE & REPLACE CONC. CURB & GUTTER
	CONSTRUCTION LIMITS

Digital Status
Scanned On: 7/22/04
By: J.J.M
Despeckeled:
Vectors:
O.C.R.:

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
" CONTOUR 847	" UTILITY POLE & GUY	" GAS LINE	" LEFT EDGE/RD. GRADE	" STORM SEWER & CAT. BAS.	
" STORM SEWER & CAT. BAS.	" FIRE HYDRANT ASSEMBLY	" CABLE T.V.	" RIGHT EDGE/RD. GRADE	" WATER MAIN W/F.H. ASSEM.	
" WATER MAIN & VALVE-IN-WELL	" LIGHT POLE	" ELECTRIC	" CURB & GUTTER	" CONTOUR 847	
" WATER MAIN & VALVE-IN-BOX	" END SECTION			" ROAD ℄ GRADE	

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	11/2000	WAGS	DWT
			ORIGINAL ISSUE	2/2000	WAGS	DWT

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

2000 DOWNTOWN RESURFACING PROGRAM

S. UNIVERSITY AVE.

E. UNIVERSITY TO CHURCH ST.

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

INCH 0 1

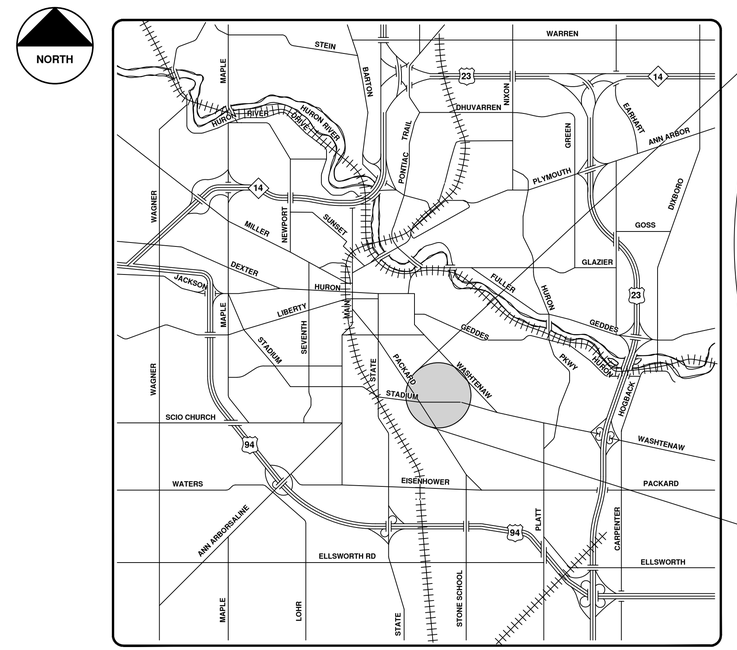
DRAWING NO. 2000018-14

SHEET NO. 14 OF 15

2021 SEWER LINING PROJECT

GROUP 8 - STORM

GROUP - STORM	
SHEET NUMBER	SHEET TITLE
3	GROUP COVER SHEET
3 0 - 3 2	BROCKM N BLVD
3 3 - 3	ERDON RD
3 - 3 6	HENR ST



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

Know what's below. Call before you dig. 811

NO	BID SET	DESCRIPTION	DATE	DRAWN	CHECKED
			9-22-21	ARG	IVK

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PUBLIC SERVICES
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P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-349

SHEET No. 349 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg — a2 standard bw.stb — Plot Date: 9/16/2021 3:42:37 PM

Brockman Blvd.

N

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 3.75 7.5 15 22.5 30 Feet

For terms and conditions please visit www.a2gov.org/terms

Brockman Blvd.

N

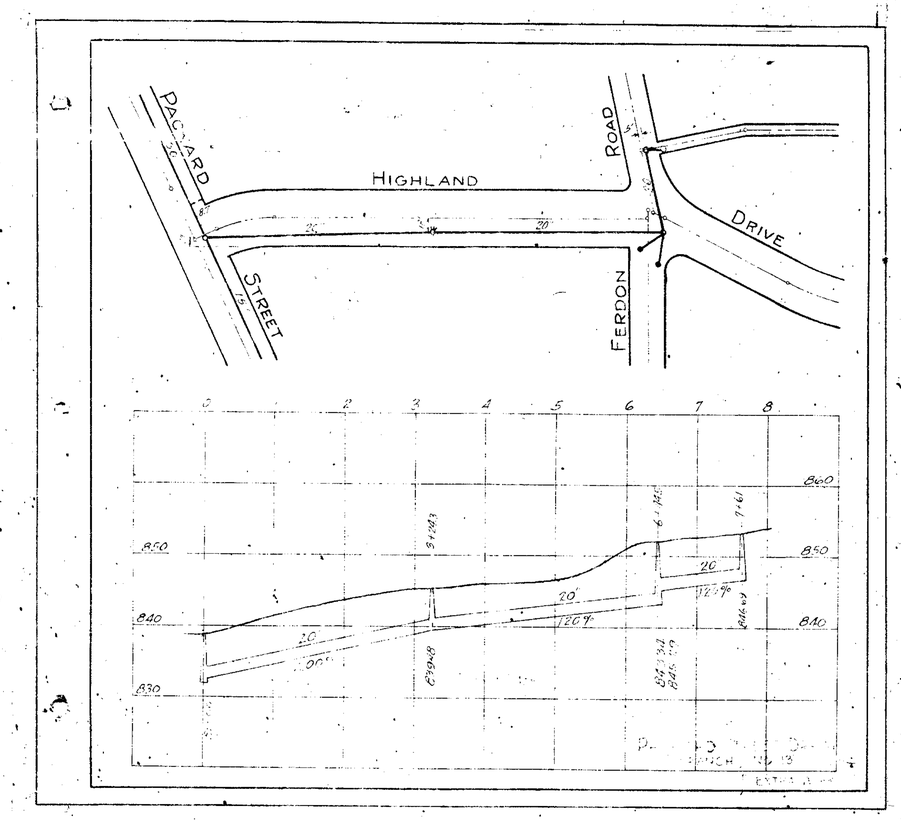
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 3.75 7.5 15 22.5 30 Feet

For terms and conditions please visit www.a2gov.org/terms

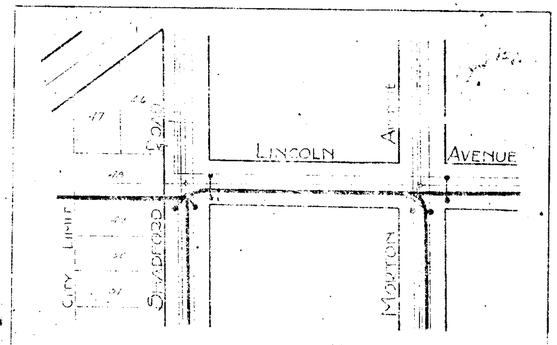


WASHTENAW COUNTY, MICHIGAN.
PITTSFIELD AND ANN ARBOR TOWNSHIPS

PLANS FOR PACKARD STREET DRAIN.

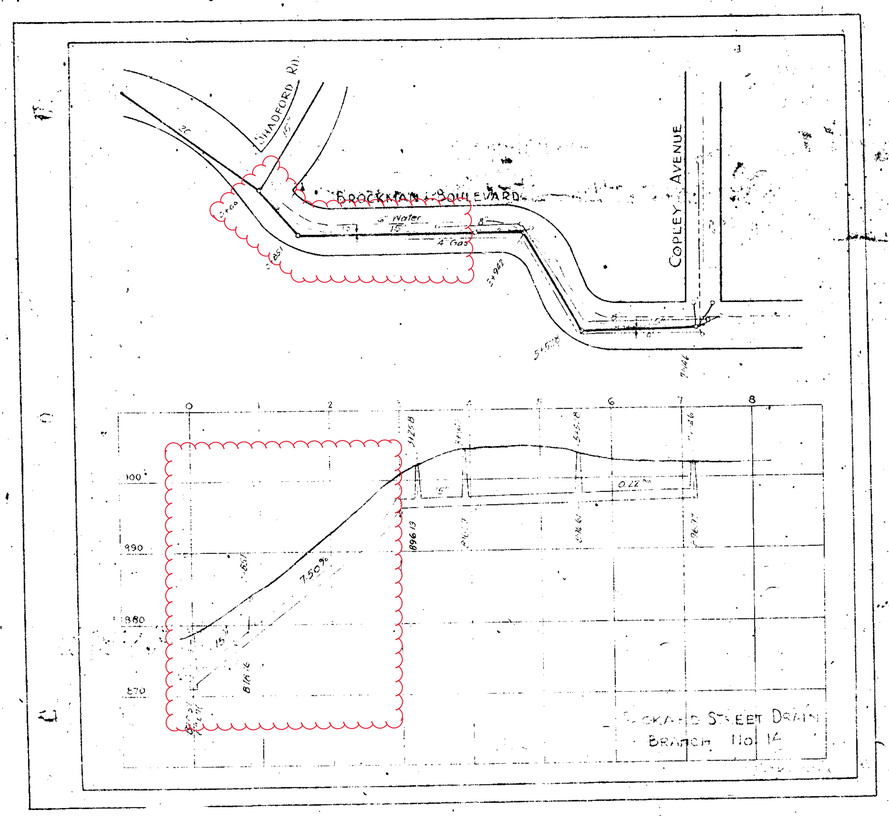
OCTOBER 1927.

CLAYTON E. DEAKE, DRAIN COMMISSIONER
MENEFEE AND DODGE, ENGINEERS.
ANN ARBOR, MICHIGAN.



WASHTENAW COUNTY MICHIGAN
PITTSFIELD AND ANN ARBOR TOWNSHIPS
PACKARD STREET DRAIN.
EXPLANATION OF SYMBOLS.

MENEFEE AND DODGE, ENGINEERS
ANN ARBOR, MICHIGAN



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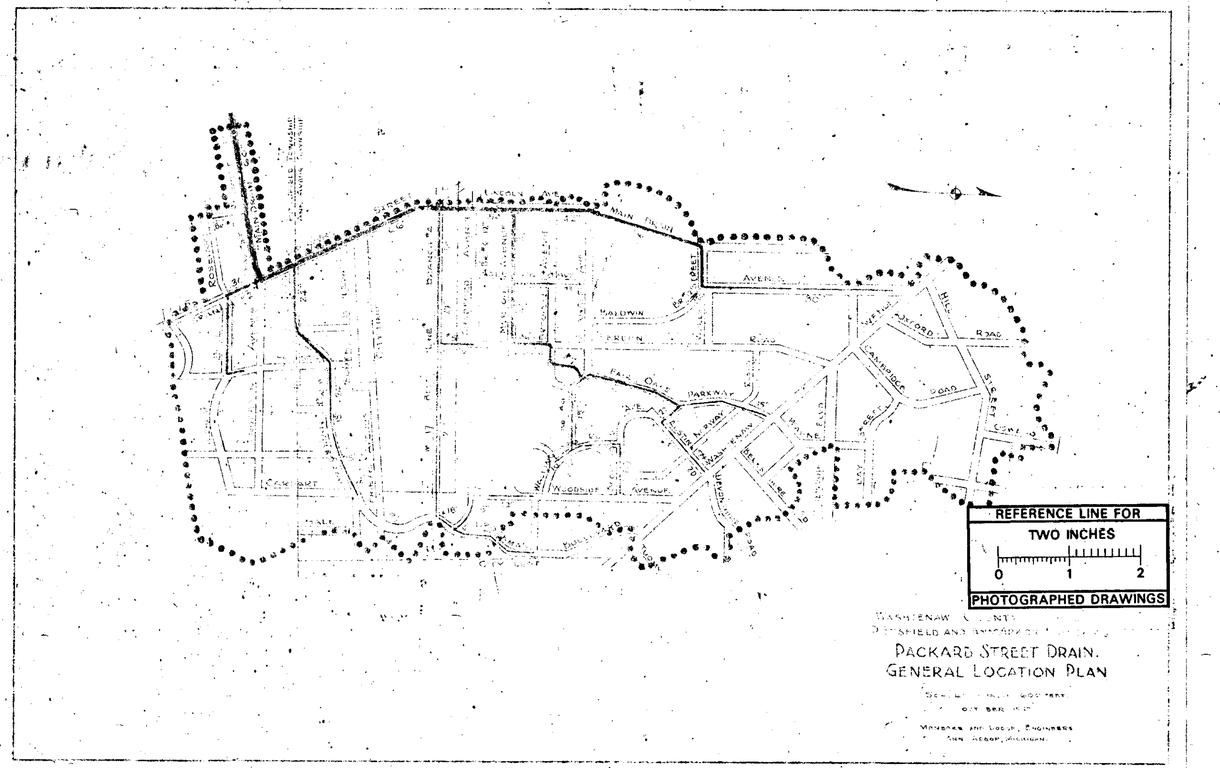


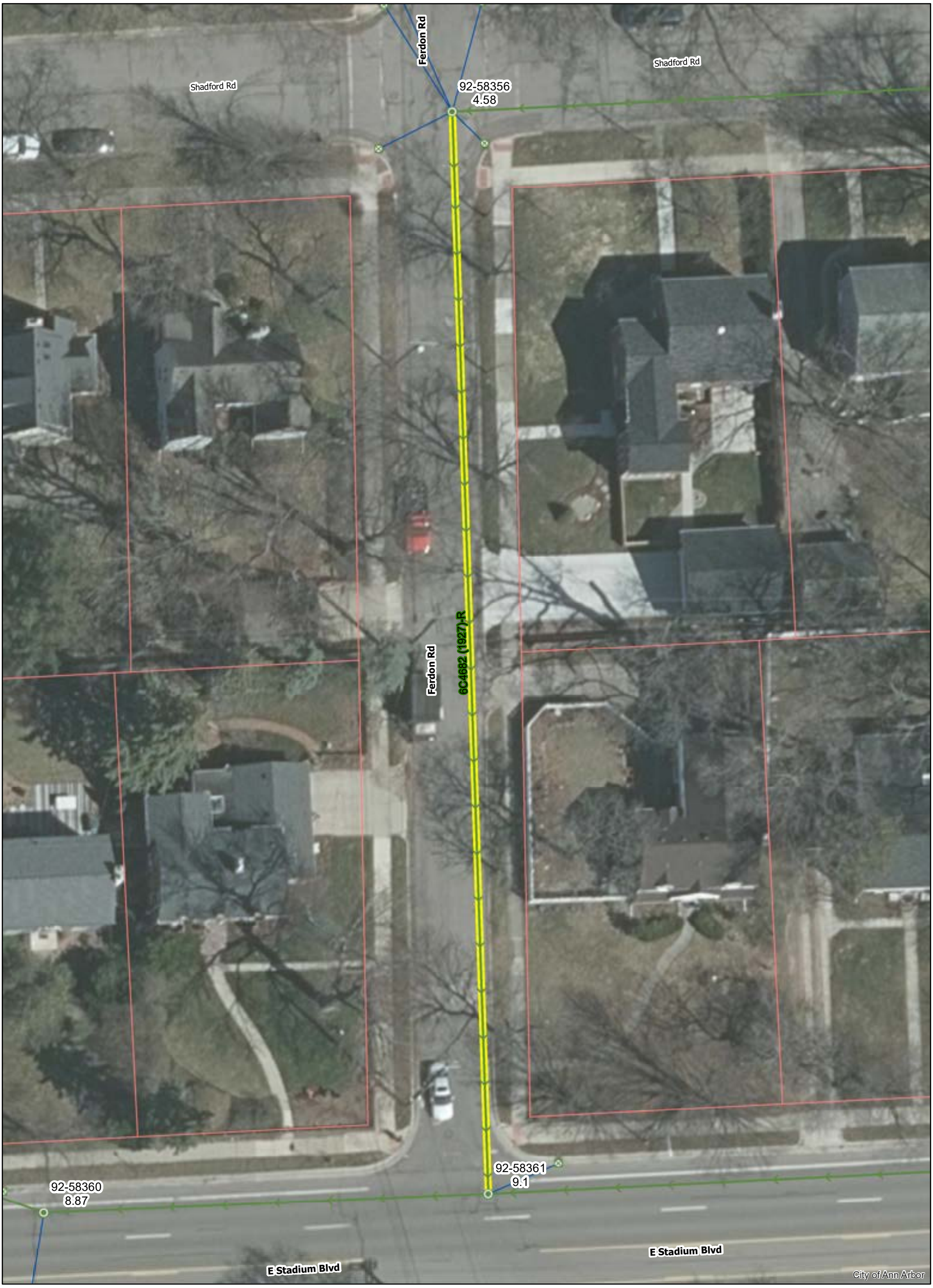
WASHTENAW COUNTY
PITTSFIELD AND ANN ARBOR TOWNSHIPS

PACKARD STREET DRAIN.
GENERAL LOCATION PLAN

MENEFEE AND DODGE, ENGINEERS
ANN ARBOR, MICHIGAN.

7029

Ferdon Rd.



N

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

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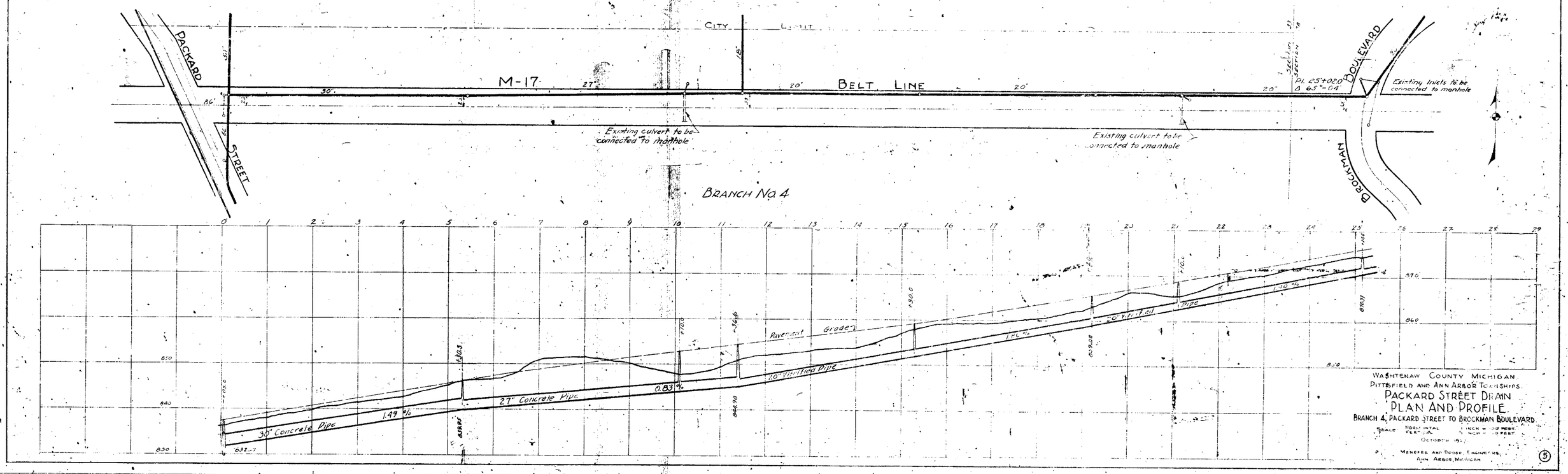
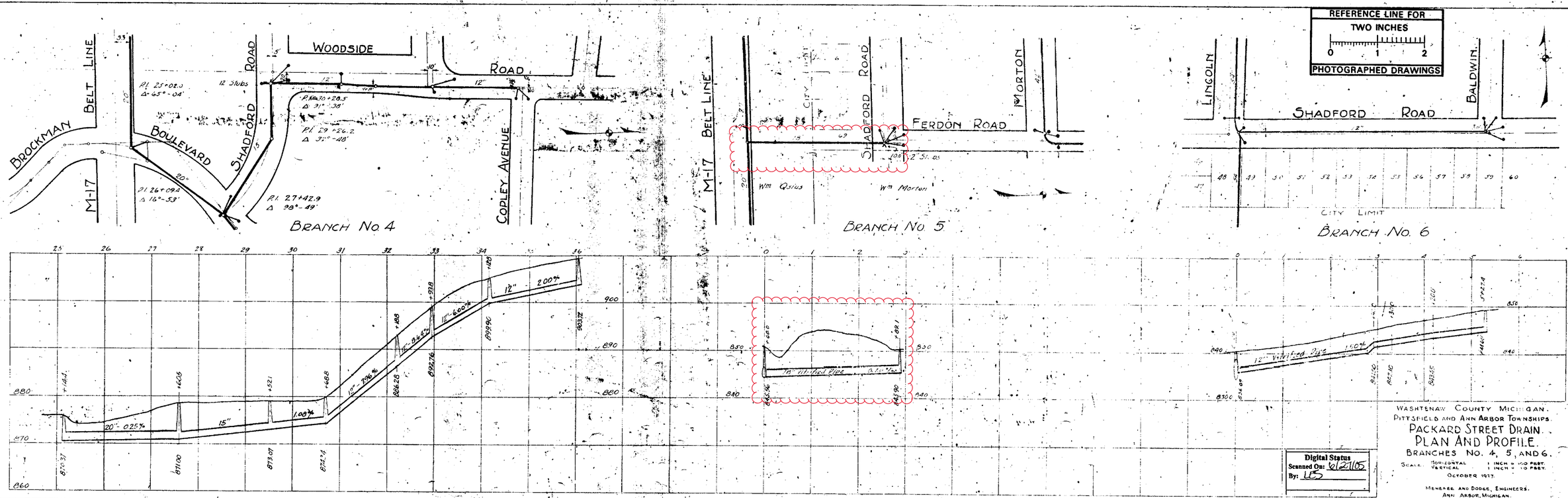




Digital Status
Scanned On: 6/22/05
By: LES

7032
6-C-4682

Henry St.

Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

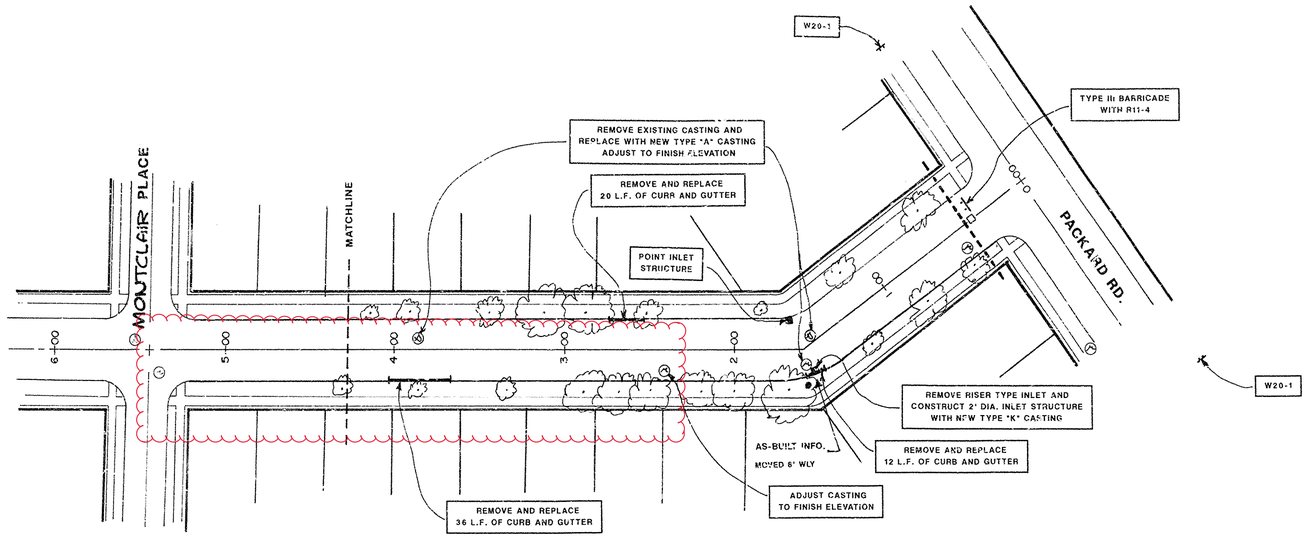
0 10 20 40 60 80 Feet

N

For terms and conditions please visit www.a2gov.org/terms

HENRY ST.

31' E/M TO E/M



STREET AS-BUILT INFORMATION

THIS STREET WAS CUT, PATCHED AND OVERLAYED. EXISTING FAILED AREAS WERE CUT OUT AND PATCHED, THEN A 1" THICKNESS OF 1300L-20AAA LEVELING COURSE WAS PLACED. THE FINAL COURSE WAS A 1 1/2" THICKNESS OF 1300T-20AAA WEARING COURSE WHICH INCLUDED THE OVERLAYING OF THE CONCRETE GUTTERPAN.

NOTE

Data contained on this page was drawn from City records. No guarantee is made as to its accuracy or completeness.

SIGN LEGEND

QTY	TYPE	DESCRIPTION
8	W20-1	"CONSTRUCTION AHEAD"
	W20-2	"DETOUR AHEAD"
	W20-3	"STREET CLOSED AHEAD"
	W20-5	RIGHT LANE CLOSED AHEAD
	W4-2	RIGHT LANE DROP SYMBOL
	W21-1a	WORKER SYMBOL
	M4-9	DETOUR (LEFT ARROW)
	M4-9	DETOUR (RIGHT ARROW)
	M4-9	DETOUR (STRAIGHT ARROW)
	D3-1	CONVENTIONAL GUIDE
	M4-8a	"DETOUR ENDS"
	M4-10	"DETOUR"
	R6-1	"ONE WAY" (LEFT)
8	TYPE III	TYPE III LIGHTED BARRICADE
56	TYPE II	TYPE II LIGHTED BARRICADE (DRUM)
8	R11-4	"ROAD CLOSED TO THRU TRAFFIC"
	TYPE "A"	TYPE "A" LIGHTED ARROW BOARD

GENERAL CONSTRUCTION NOTES

1. All work shall conform to current City of Ann Arbor Standards and Specifications.
2. The Contractor shall maintain access to all drives during the course of construction, and in no case shall a drive be permitted to remain closed during non-working hours.
3. The Contractor shall completely restore all existing site features to better than, or equal to, their existing condition. This activity will be closely monitored by the Engineering Department.
4. The Contractor shall be aware that there are buried utilities in these streets which include, but are not limited to, gas mains, watermains, vitrified clay storm sewer, sanitary sewer and other utilities. The Contractor shall conduct his work on these streets and all streets in such a fashion so not to damage or alter in any way, existing utilities except where called for on the plans or as directed by the Engineer. The city has inspected by television cameras and cleaned all sanitary and storm sewers, including storm leads and has found them to be in good condition except where being replaced.
5. The Contractor is solely responsible for any delays, damages, costs and/or charges incurred due to and/or by reason of any utility, structure, feature and/or site condition whether shown on the plans or not, and the Contractor shall repair and/or replace, at his sole expense, to as good or better condition, any and all utilities, structures, features and/or site conditions which are impacted by reason of the work or injured by him during his operations or injured during the operations of his subcontractors or suppliers.
6. No extra payments or adjustments to unit prices will be made for damages, delays, costs and/or charges due to existing utilities, structures, features and/or site conditions not shown or being incorrectly shown or represented on the plans.

CONSTRUCTION METHOD AND SEQUENCE

The work to be completed on Henry St. shall include but not be limited to the following items. The order of construction shall be as given below unless otherwise authorized by the Engineer.

1. Implementation of the traffic control and traffic maintenance plan.
2. Perform concrete removals and replacements as shown on the plans or as directed by the Engineer.
3. Remove and replace bituminous pavement as directed by the Engineer.
4. Pave 1 inch M.D.O.T. 1300L-20AAA scratch leveling course.
5. Adjust structure covers, valve boxes and monument boxes to their finished elevations.
6. Pave 1 1/2 inches M.D.O.T. 1300T-20AAA wearing course.
7. Complete miscellaneous construction including restoration.
8. Remove traffic control.

ESTIMATED CONSTRUCTION QUANTITIES FOR HENRY ST.

ITEM	ITEM DESCRIPTION	UNIT	EST. QUANTITY
2.	REMOVE BITUMINOUS PAVEMENT	SY	904.00
8.	SUBGRADE UNDERCUTTING TYPE II	CY	226.00
9.	REMOVE CONCRETE CURB OR CURB & GUTTER - ANY TYPE	LF	622.00
11.	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS	SF	942.00
12.	BITUMINOUS PATCHING - M.D.O.T. NO. 706-20C OR NO. 1300T-20AAA	TON	184.00
14.	BITUMINOUS P EMENT LEVELING M.D.O.T. NO. 1300L-20AAA	TON	408.00
15.	BITUMINOUS PAVEMENT WEARING M.D.O.T. NO. 1300T-20AAA	TON	384.00
17.	BITUMINOUS PAVEMENT FINISH WEDGING M.D.O.T. 1300T-35A	TON	15.00
20	22-A AGGREGATE - C.I.P.	CY	226.00
27	CONCRETE CURB AND GUTTER ANY TYPE	LF	622.00
29.	4" SIDEWALK OR RAMP	SY	942.00
36.	ADJUST DRAINAGE STRUCTURE COVER	EA	14.00
37.	ADJUST MONUMENT BOX OR GATE VALVE BOX	EA	6.00
42.	DRAINAGE STRUCTURE COVERS	LBS	3290.00
43.	POINT DRAINAGE STRUCTURE	EA	6.00
44.	RECONSTRUCT GATE VALVE BOX	EA	3.00
60.	BARRICADE TYPE II (DRUM) LIGHTED - OPERATE	EA	56.00
61.	BARRICADE TYPE III - LIGHTED FURNISH AND OPERATE	EA	8.00
62.	TEMPORARY SIGN - TYPE B	SF	228.00
63.	NO PARKING SIGN	EA	16.00

LEGEND

S	EXISTING SANITARY SEWER
ST	EXISTING STORM SEWER
W	EXISTING WATERMAIN
MBT	MICHIGAN BELL TELEPHONE
G	GAS CO. VALVE
	GATE VALVE IN BOX
	SOIL BORING
	EXISTING CURB INLET
	MONUMENT BOX
	REMOVE AND REPLACE SIDEWALK
	CONSTRUCTION LIMITS
	REMOVE AND REPLACE CONCRETE CURB

GRAPHIC SCALE

TWO INCHES

0 1 2

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

LEGEND

EXISTING FENCE	EXISTING SANITARY SEWER & MANHOLE	EXISTING TELEPHONE	EXISTING RD. & GRADE	PROPOSED SANITARY SEWER & MANHOLE	PROPOSED CURB & GUTTER
CONTOUR	UTILITY POLE & GUY	GAS LINE	LEFT EDGE/RD. GRADE	STORM SEWER & CAT. BAS.	
STORM SEWER & CAT. BAS.	FIRE HYDRANT ASSEMBLY	CABLE T.V.	RIGHT EDGE/RD. GRADE	WATERMAIN W/F.H. ASSEM.	
WATERMAIN & VALVE-IN-WELL	LIGHT POLE	ELECTRIC	CURB & GUTTER	CONTOUR	
WATERMAIN & VALVE-IN-BOX	END SECTION			ROAD & GRADE	

BENCH MARK	SURVEY BOOK	REV. NO.	DESCRIPTION	DATE	DR.BY	CH.BY
			AS-BUILT	1-11-94	RAG	
			ORIGINAL ISSUE	12-92	WAGS	DWT

ENGINEERING DIVISION - PUBLIC SERVICES DEPARTMENT - CITY OF ANN ARBOR

HENRY ST.

PACKARD TO STA. 4+27

1993 ANNUAL STREET RESURFACING PROJECT

SCALE HORIZ. 1"=40' VERT. 1"=4' | INCH 0 1

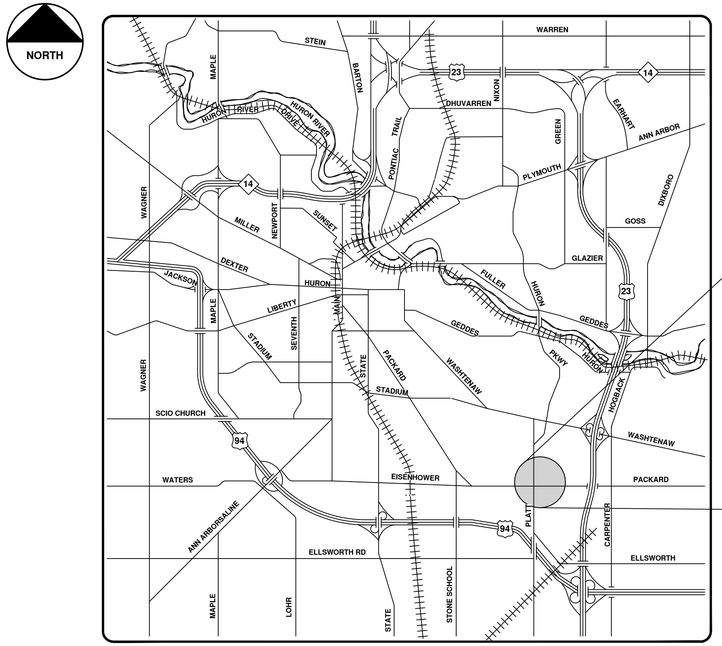
DRAWING NO. 93004-29

SHEET NO. OF

2021 SEWER LINING PROJECT

GROUP 9 - STORM

GROUP - STORM	
SHEET NUMBER	SHEET TITLE
3	GROUP COVER SHEET
3 - 3	ELM OOD VE



VICINITY MAP

ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-357

SHEET No. 357 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:42:42 PM

Elmwood Ave.

N

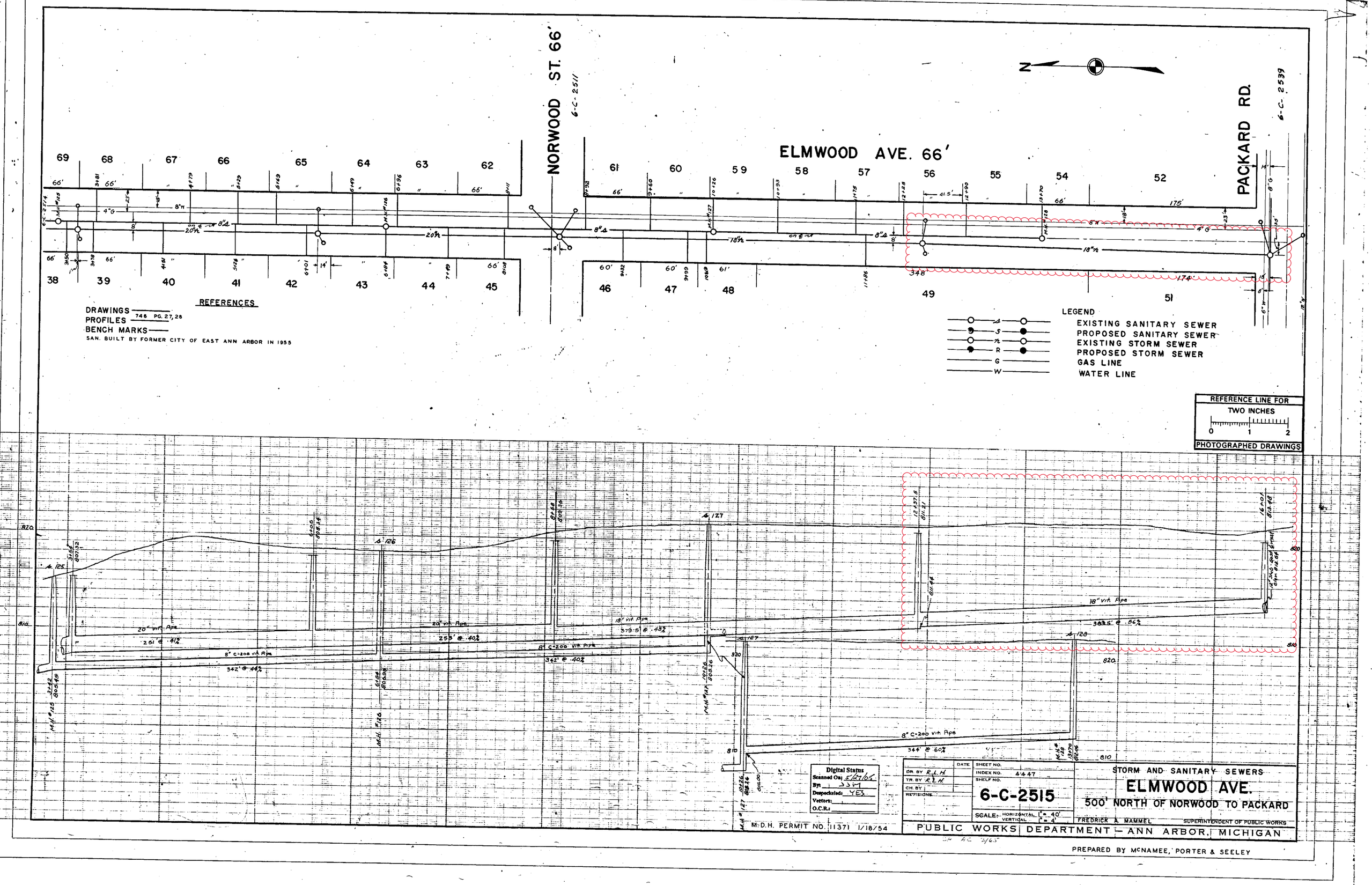
Manhole
Catchbasin
Proposed Lining
Storm Main

92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 12.5 25 50 75 100 Feet

For terms and conditions please visit www.a2gov.org/terms

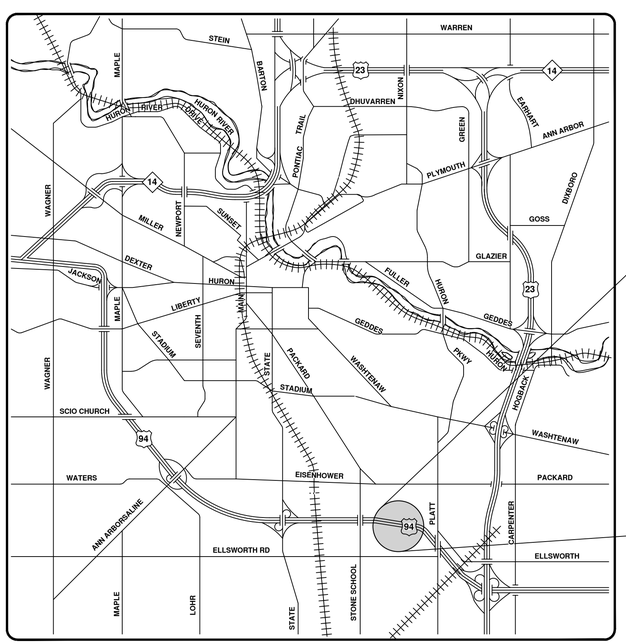


NORWOOD ST. 66'
6-C-2511
ELMWOOD AVE. 66'
PACKARD RD.
6-C-2539
N
REFERENCES
DRAWINGS
PROFILES 746 PG. 27, 28
BENCH MARKS
SAN. BUILT BY FORMER CITY OF EAST ANN ARBOR IN 1955
LEGEND
EXISTING SANITARY SEWER
PROPOSED SANITARY SEWER
EXISTING STORM SEWER
PROPOSED STORM SEWER
GAS LINE
WATER LINE
REFERENCE LINE FOR
TWO INCHES
0 1 2
PHOTOGRAPHED DRAWINGS
20" vit. Pipe
18" vit. Pipe
8" C-200 vit. Pipe
Digital Status
Scanned On: 5/27/05
By: JJM
Despeckeled: YES
Vectors:
O.C.R.:
M.D.H. PERMIT NO. 11371 1/18/54
DR. BY R.L.H.
TR. BY R.L.H.
CH. BY
REVISIONS
DATE
SHEET NO.
INDEX NO. 4447
SHELF NO.
6-C-2515
SCALE: HORIZONTAL 1" = 40'
VERTICAL 1" = 4'
STORM AND SANITARY SEWERS
ELMWOOD AVE.
500' NORTH OF NORWOOD TO PACKARD
FREDRICK A. MAMMEL
SUPERINTENDENT OF PUBLIC WORKS
PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN
PREPARED BY McNAMEE, PORTER & SEELEY

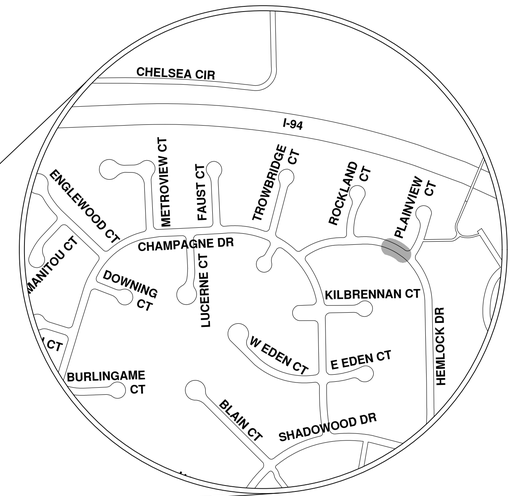
2021 SEWER LINING PROJECT

GROUP 10 - STORM

GROUP 10 - STORM	
SHEET NUMBER	SHEET TITLE
360	GROUP 10 COVER SHEET
361 - 362	HEMLOCK DR



VICINITY MAP



ENGINEERING
CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET, P.O. BOX 8647
ANN ARBOR, MICHIGAN 48107-8647
734-794-6410 www.a2gov.org

811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	BID SET	9-22-21	ARG	IVK

CITY OF ANN ARBOR PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

SCALE

DRAWING No. 2021006-360

SHEET No. 360 OF 362

© 2021 SEWER LINING PROJECT; BID No. ITB 4693; 2021006

R:\2021006 Sewer Lining 2021\Plan Production\2021006CovStorm.dwg - _a2 standard bw.stb - Plot Date: 9/16/2021 3:42:47 PM

Hemlock Dr.

Manhole
Catchbasin
Proposed Lining
Storm Main

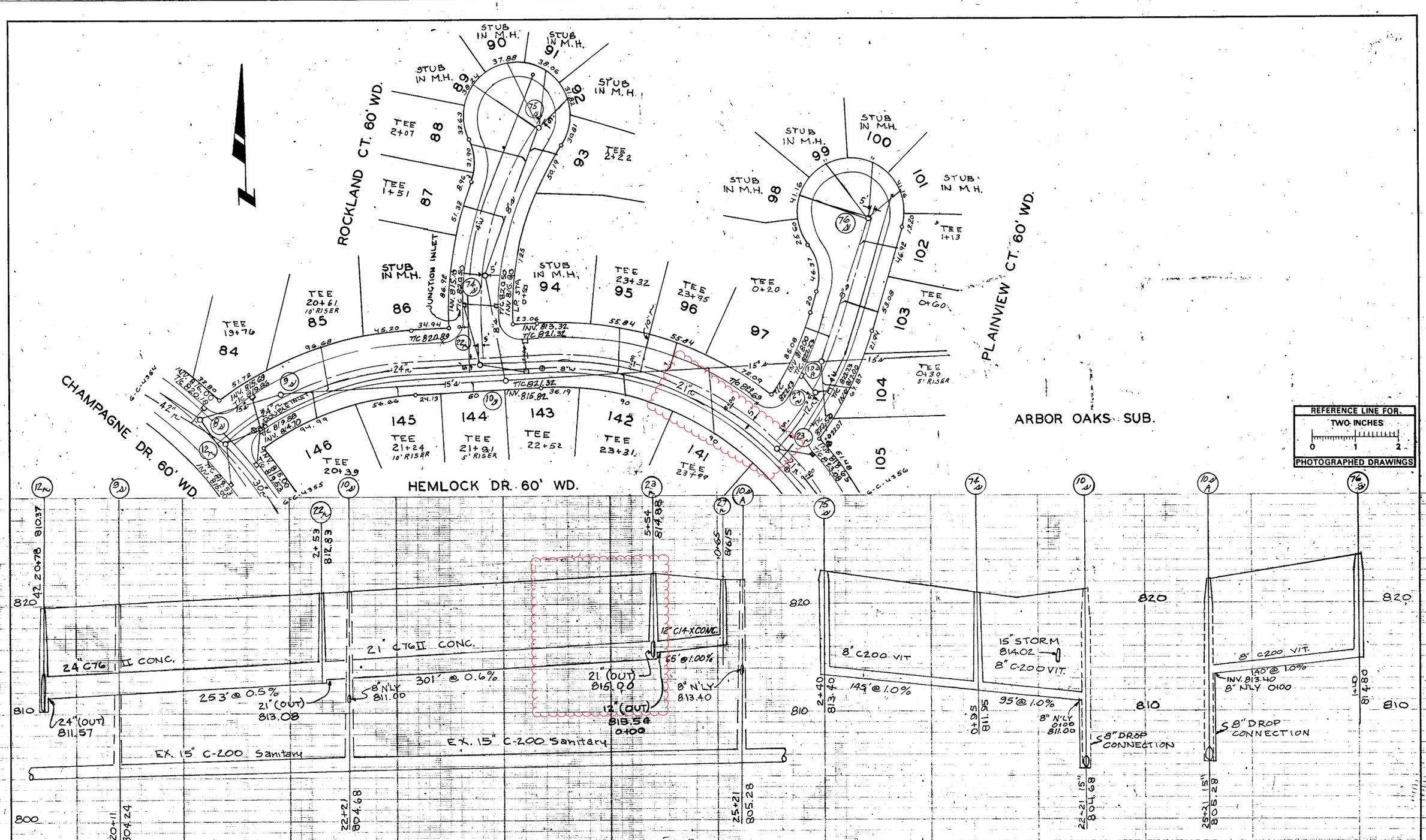
92-XXXXX (Manhole ID)

1.00 (Manhole Depth)

0 5 10 20 30 40 Feet

N

For terms and conditions please visit www.a2gov.org/terms



	DATE	SHEET NO.
DR. BY M.A.B	2/11/69	INDEX NO. 6662
TR. BY M.A.B	2/11/69	SHELF NO.
CH. BY E.F.Z	2/11/69	6-C-4357
REVISIONS 2-24-69 4-6-71 As Built 7-22-69 1-4-72 9-30-70		SCALE: HORIZONTAL 1"=40' VERTICAL 1"=4'

STORM & SANITARY SEWERS
HEMLOCK DR. ROCKLAND CT.
STA. 12+00 TO CHAMPAGNE DR. PLAINVIEW CT.
FREDRICK A. MAMMEL SUPERINTENDENT OF PUBLIC WORKS

PUBLIC WORKS DEPARTMENT — ANN ARBOR, MICHIGAN

Digital Status
Scanned On: 6-15-05
By: DGK
Despeckeled: YES
Vectors:
O.C.R.:

LEGEND: UNDERGROUND UTILITIES — EXISTING SANITARY, PROPOSED SANITARY, EXISTING STORM, PROPOSED STORM, EXISTING GAS, EXISTING WATER
PROFILES — CENTER LINE, LEFT PROPERTY LINE, RIGHT PROPERTY LINE

REFERENCES: BENCH MARK #37 ELEV. 835.35 PROFILES BY
DRAWINGS 6-C-4085 FIELD BOOK

JOB 3726 S DIST. P
JOB 3727 R DIST. P
JOB 680 DIST.
JOB DIST.

PREPARED BY EUGENE F. ZEIMET MICH NO. 9209
APPROVED BY Howard Z. Russell 6/3/69

SH. 6 OF 18