

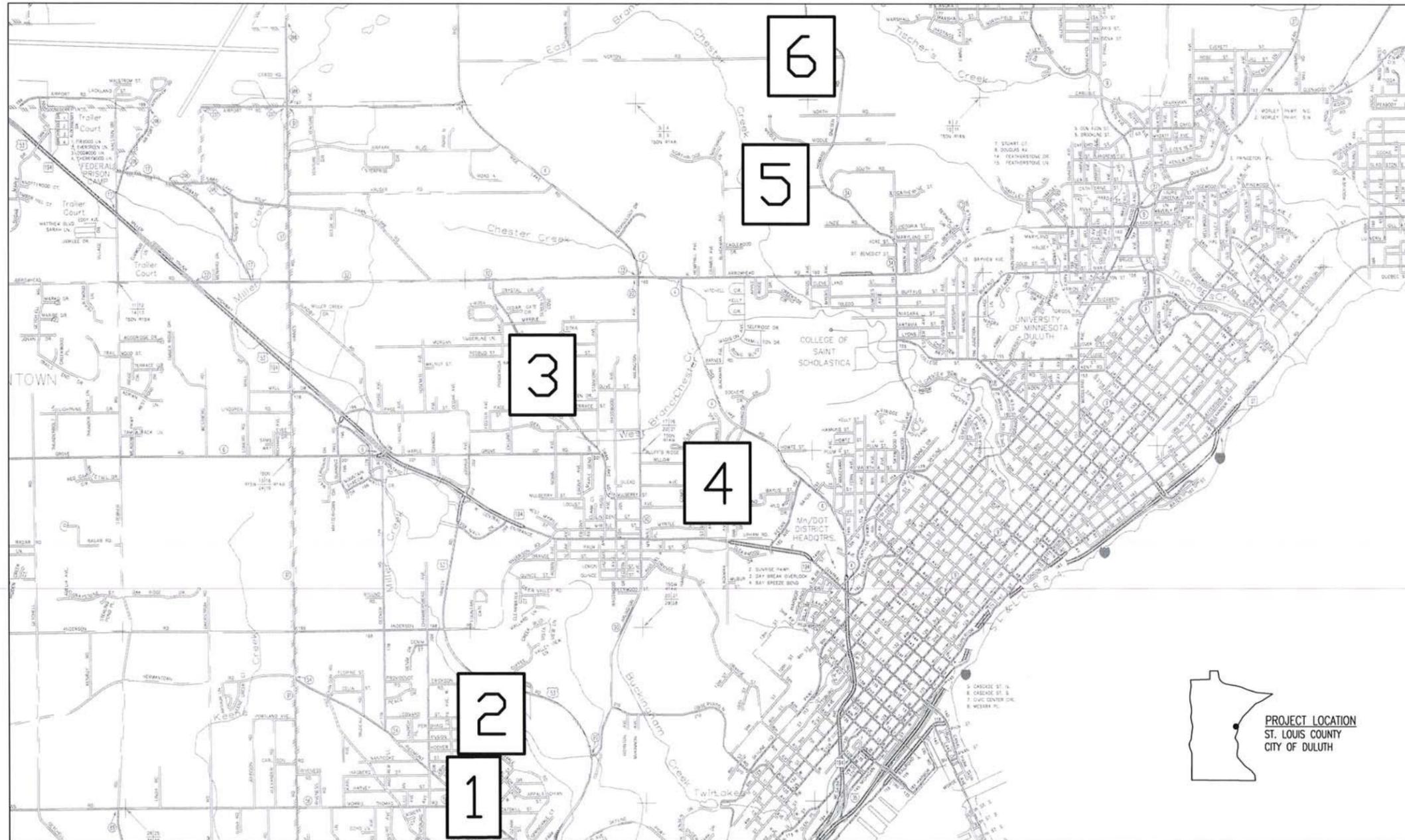
CITY OF DULUTH

DEPARTMENT OF PUBLIC WORKS AND UTILITIES ENGINEERING DIVISION

CONSTRUCTION PLANS FOR:

2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT

CITY PROJECT NO. 1501



GOVERNING SPECIFICATIONS
THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. AVAILABLE AT:
<http://www.dot.state.mn.us/pre-letting/spec/index.html>

THE 2016 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES
DEPARTMENT CONSTRUCTION STANDARDS AND SUPPLEMENTS OR ADDENDUMS SHALL
APPLY.
AVAILABLE AT:
<http://www.duluthmn.gov/engineering/standard-construction-specifications/>

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D.
THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE
38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF
EXISTING SUBSURFACE UTILITY DATA".

WARNING:
LOCATION OF UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR. CALL
BEFORE DIGGING. GOPHER STATE ONE CALL 1-800-252-1166 REQUIRED BY LAW

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THIS PLAN CONTAINS **9** SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

THOMAS M. PFEFFER
PROJECT ENGINEER (TYPED OR PRINTED NAME)

Thomas M. Pfeffer 6-1-16 22442
PROJECT ENGINEER DATE LIC. NO.

CITY APPROVAL

[Signature] 6/6/16
APPROVED CHIEF ENGINEER OF TRANSPORTATION DATE

[Signature] 6-6-16
APPROVED CHIEF ENGINEER OF UTILITIES DATE

[Signature] 6-6-16
APPROVED CITY ENGINEER DATE

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D. THIS QUALITY LEVEL
WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD
GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

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CITY OF DULUTH PROJECT NO. 1501

DRAWN BY: **JJM**

SHEET NO. 1 OF 9

STATEMENT OF ESTIMATED QUANTITIES

NOTES	LINE NUM	SPEC NUM	DESCRIPTION	UNIT	EST. QUANTITY SITE 2	EST. QUANTITY SITE 3	EST. QUANTITY SITE 4	EST. QUANTITY SITE 7	EST. QUANTITY SITE 8	EST. QUANTITY SITE 9	TOTAL EST. QUANTITY
				STREET	W 24TH	ETHEL	FARRELL	COMO	MACFARLANE	NORTON	
				NUMBER OF PIPES	2	2	2	2	3	3	14
	1	2021.501	MOBILIZATION	LUMP SUM	0.16	0.16	0.17	0.17	0.17	0.17	1.00
	2	2104.501	REMOVE METAL CULVERT	LIN FT	48	46	40	77	68	83	362
	3	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	5	-	3	-	-	-	8
	4	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	20	22	12	70	18	90	232
	5	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	14	-	12	-	-	-	26
	6	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	56	-	22	150	30	152	410
2	7	2105.603	RECONSTRUCT DRAINAGE DITCH	LIN FT	170	120	135	380	305	180	1,290
	9	2211.503	AGGREGATE BASE (LV) CLASS 5	CU YD	4	7	7	12	12	15	57
1	10	2360.503	TYPE SP 9.5 WEARING COURSE MIXTURE (3, B) 3" THICK	SQ YD	24	22	22	70	18	90	246
	11	2501.511	12" CS PIPE CULVERT	LIN FT	48	50	40	40	-	-	178
	12	2501.511	15" CS PIPE CULVERT	LIN FT	-	-	-	40	74	84	198
5	14	2563.601	TRAFFIC CONTROL	LUMP SUM	0.16	0.16	0.17	0.17	0.17	0.17	1.00
3	15	2574.508	FERTILIZER, TYPE 1	LB	8	6	6	17	14	8	59
	16	2574.525	COMMON TOPSOIL BORROW	CU YD	16	11	13	35	28	17	120
	17	2575.523	EROSION CONTROL BLANKET CATEGORY 3	SQ YD	190	130	150	420	340	200	1,430
	18	2575.501	SEEDING	ACRE	0.04	0.03	0.03	0.09	0.07	0.04	0.30
4	19	2575.502	SEED MIXTURE 25-131	LB	9	6	7	20	16	9	67

NOTES:

- 1 ASPHALT SHALL BE PLACED IN TWO LIFTS. PLACE TACK COAT BETWEEN LIFTS, APPLIED AT 0.05 GALLONS PER SQ YD.
- 2 ADJUSTING CURB BOXES SHALL BE INCIDENTAL TO THIS ITEM
- 3 APPLIED AT A RATE OF 200 POUNDS PER ACRE
- 4 SPREAD AT A RATE OF 220 POUNDS PER ACRE
- 5 TEMPORARY TRAFFIC CONTROL LAYOUTS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW 3 DAYS PRIOR TO WORK

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: Thomas M. Pfeffer LIC. NO: 22442 DATE: 6-1-16
 THOMAS M. PFEFFER, P.E.



CITY OF DULUTH
 ENGINEERING DIVISION
 411 W. 1ST ST. STE. 211
 DULUTH, MN 55802

2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT

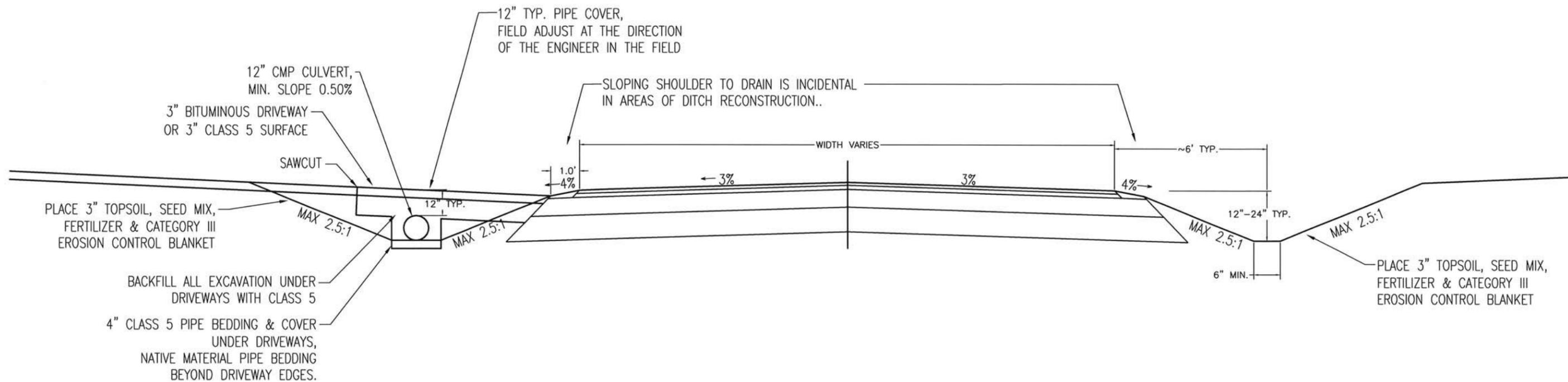
CITY PROJECT NO.: 1501

STATE AID PROJECT NO.:

DRAWN BY: JJM

SEQ

SHEET NO. 2 OF 9



TYPICAL SECTION FOR DITCHING & CULVERTS

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SIGNATURE: Thomas M. Pfeffer LIC. NO.: 22442 DATE: 6-1-16

THOMAS M. PFEFFER, P.E.



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2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT

CITY PROJECT NO.: 1501

STATE AID PROJECT NO.:

DRAWN BY: JJM

DETAILS

SHEET NO. 3 OF 9

SITE LOCATION MAP

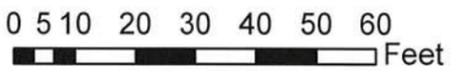
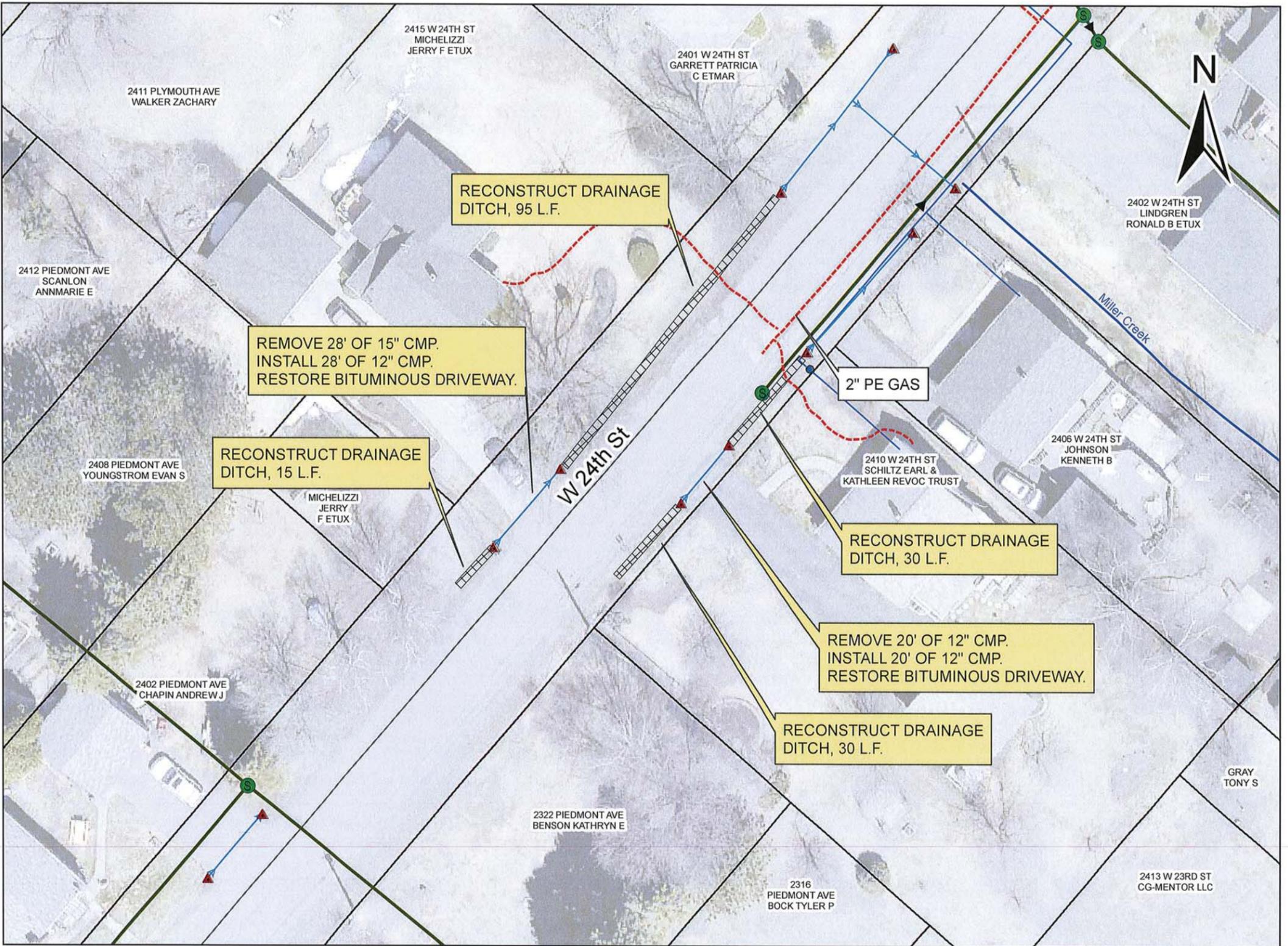


SITE NOTES

- 1) ADJUST WATER SERVICE VALVES AS NEEDED.
- 2) PRIVATE WATER LINES PRESENT, ALIGNMENTS UNKNOWN.

Legend

- Storm Manhole
- Storm Catch Basin
- Storm Gravity Main
- Sanitary Manhole
- Sanitary Gravity Mains
- Gas Valve
- Gas Main
- Hydrant
- Water Valve
- Water Main



SITE 1 - 2410 & 2415 W 24TH ST

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SIGNATURE: LIC. NO. 22442 DATE: 6-1-16

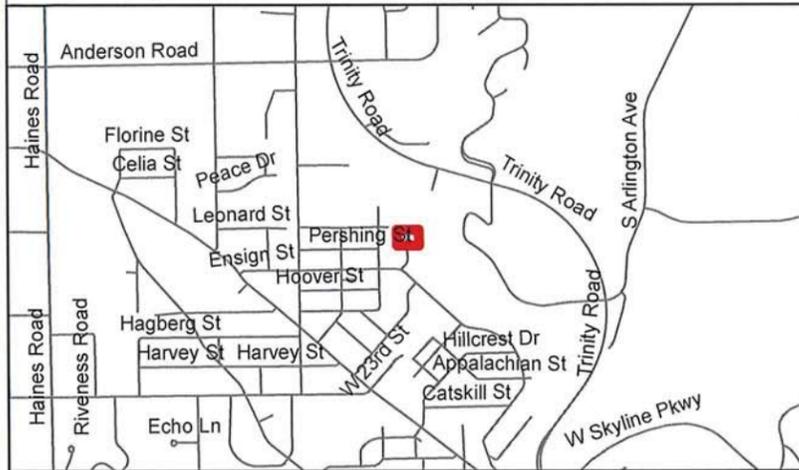


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2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT
CITY PROJECT NO.: 1501

DRAWN BY: JJM
SHEET NO. 4 OF 9

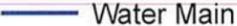
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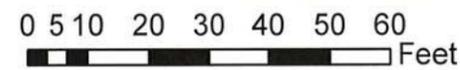
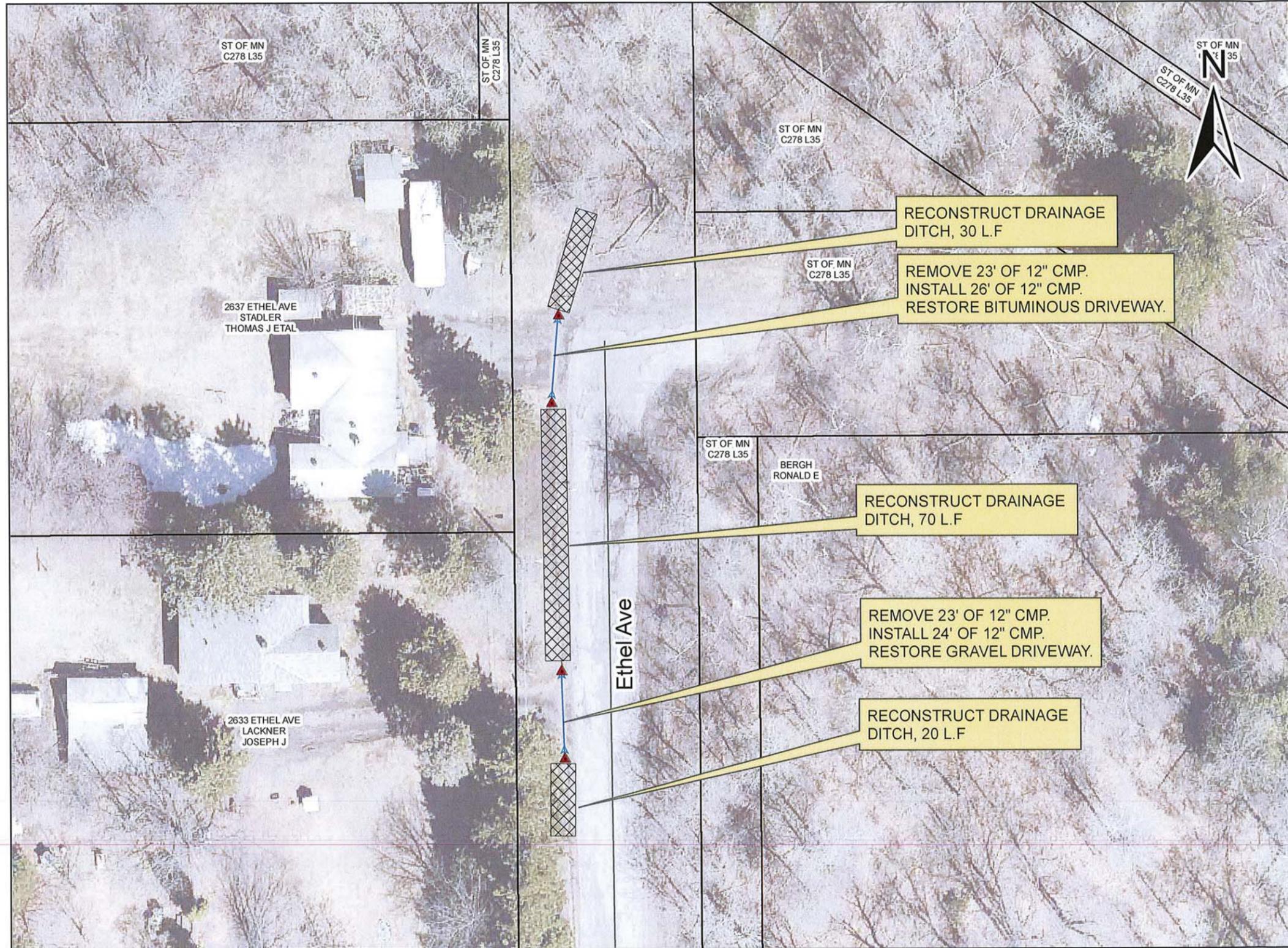


SITE NOTES

1) PRIVATE WATER ONSITE, ALIGNMENT UNKNOWN.

Legend

-  Storm Manhole
-  Storm Catch Basin
-  Storm Gravity Main
-  Sanitary Manhole
-  Sanitary Gravity Mains
-  Gas Valve
-  Gas Main
-  Hydrant
-  Water Valve
-  Water Main



SITE 2 - 2633 & 2637 ETHEL AVE

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *Joseph J. Lackner* LIC. NO: 22442 DATE: 6-1-16



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**2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT
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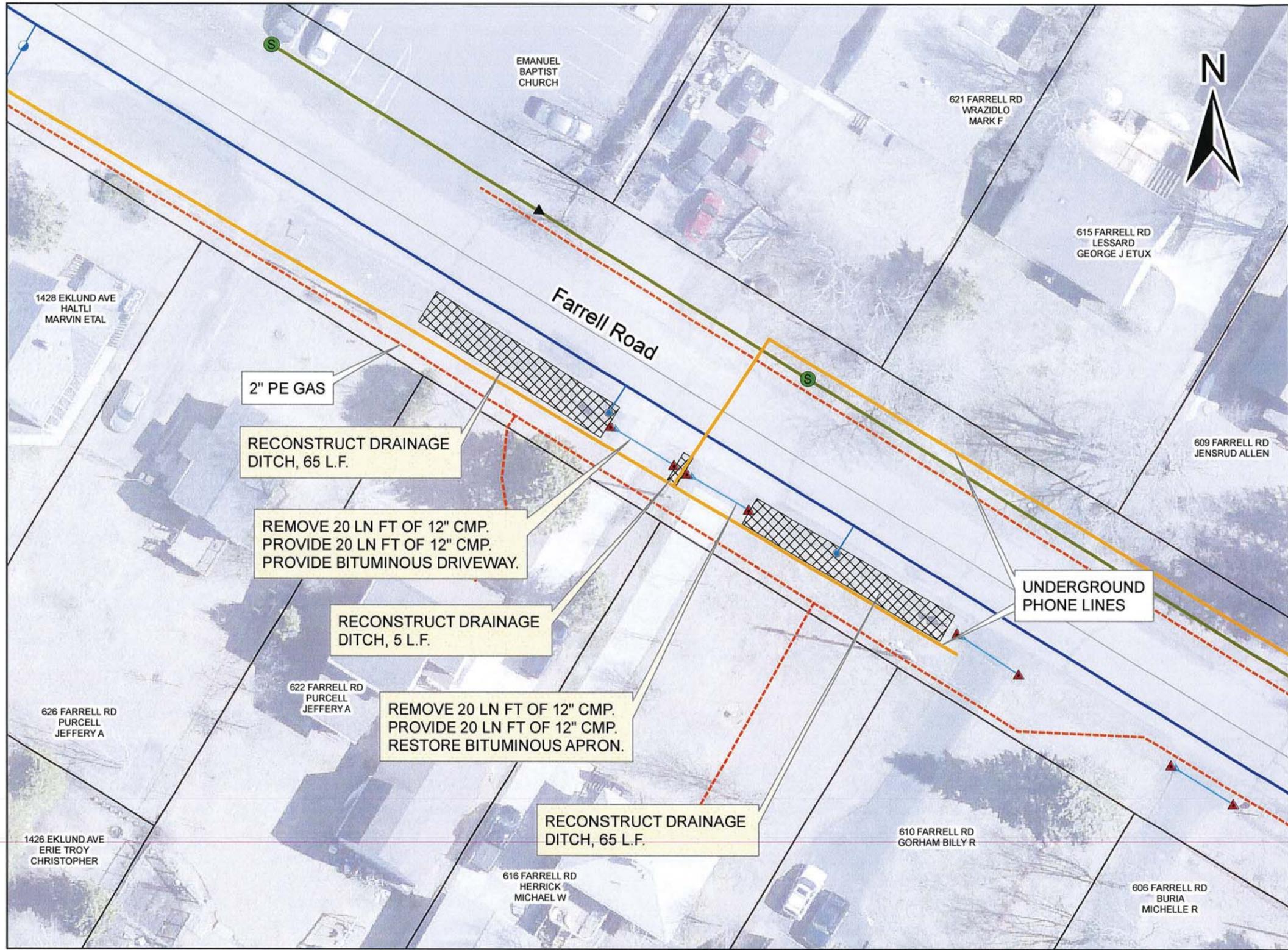
DRAWN BY: JJM
SHEET NO. 5 OF 9

SITE LOCATION MAP



SITE NOTES

1) ADJUST WATER SERVICE VALVES AS NEEDED.



Legend

- Storm Manhole
- Storm Catch Basin
- Storm Gravity Main
- Sanitary Manhole
- Sanitary Gravity Mains
- Gas Valve
- Gas Main
- Hydrant
- Water Valve
- Water Main

SITE 3 - 616 & 622 FARRELL RD

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *John M. R...* LIC. NO: 22442 DATE: 6-1-16



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2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT
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DRAWN BY: JJM
 SHEET NO. 6 OF 9

SITE LOCATION MAP

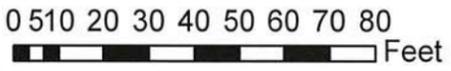
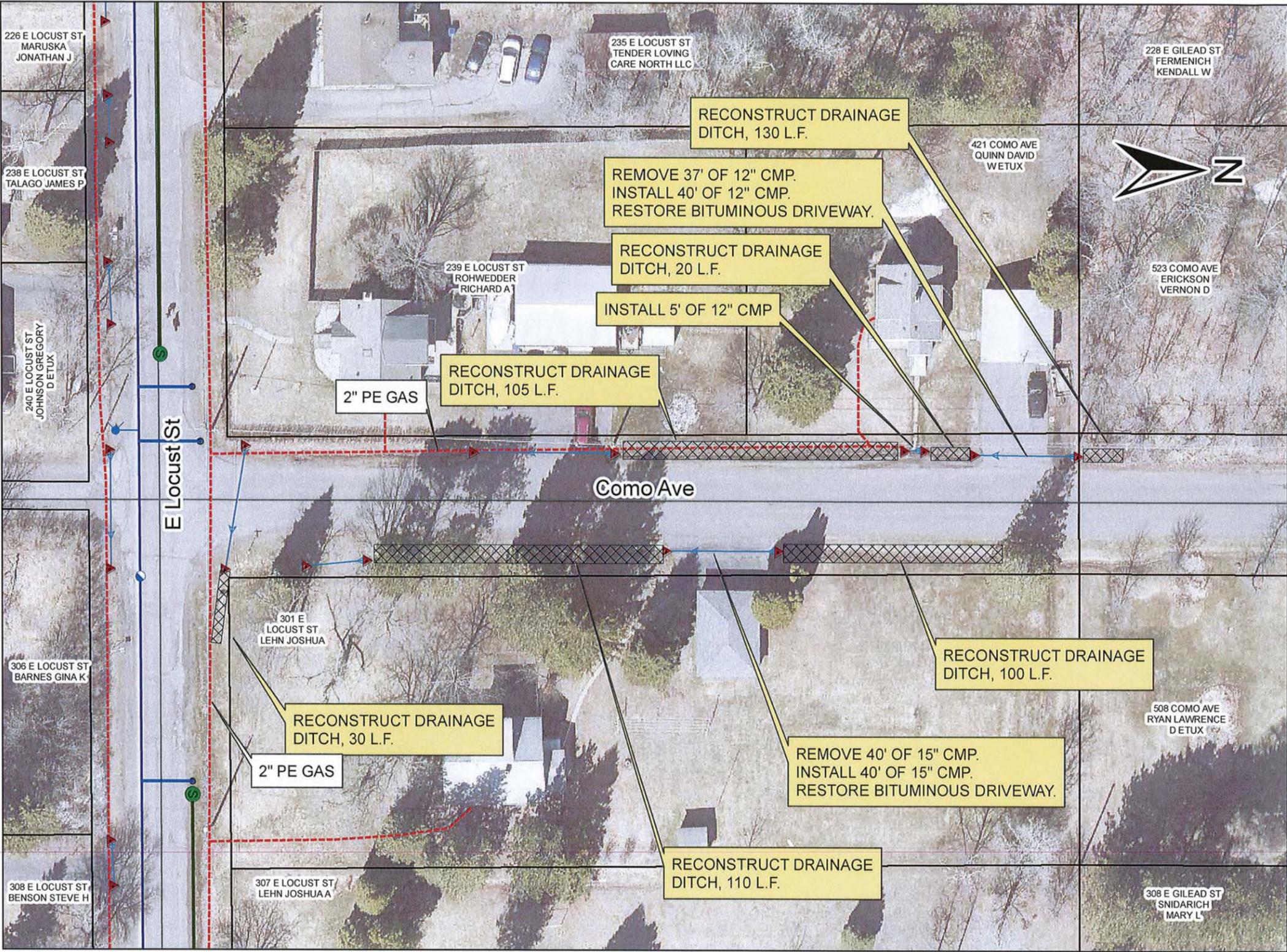


SITE NOTES

1) PRIVATE WATER PRESENT, ALIGNMENT UNKNOWN.

Legend

- Storm Manhole
- Storm Catch Basin
- Storm Gravity Main
- Sanitary Manhole
- Sanitary Gravity Mains
- Gas Valve
- Gas Main
- Hydrant
- Water Valve
- Water Main



SITE 4 - 421 COMO AVE & 301 LOCUST ST

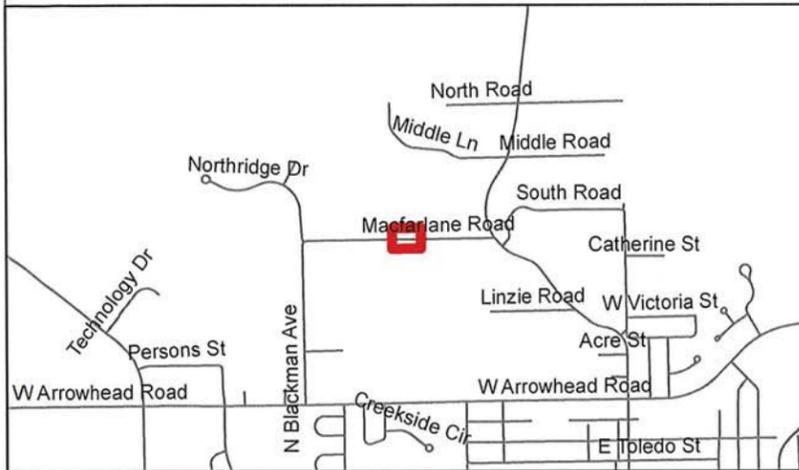
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 SIGNATURE: LIC. NO: 22742 DATE: 6-1-16

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2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT AND DITCHING PROJECT
 CITY PROJECT NO.: 1501

DRAWN BY: JJM
 SHEET NO. 7 OF 9

SITE LOCATION MAP

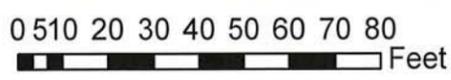
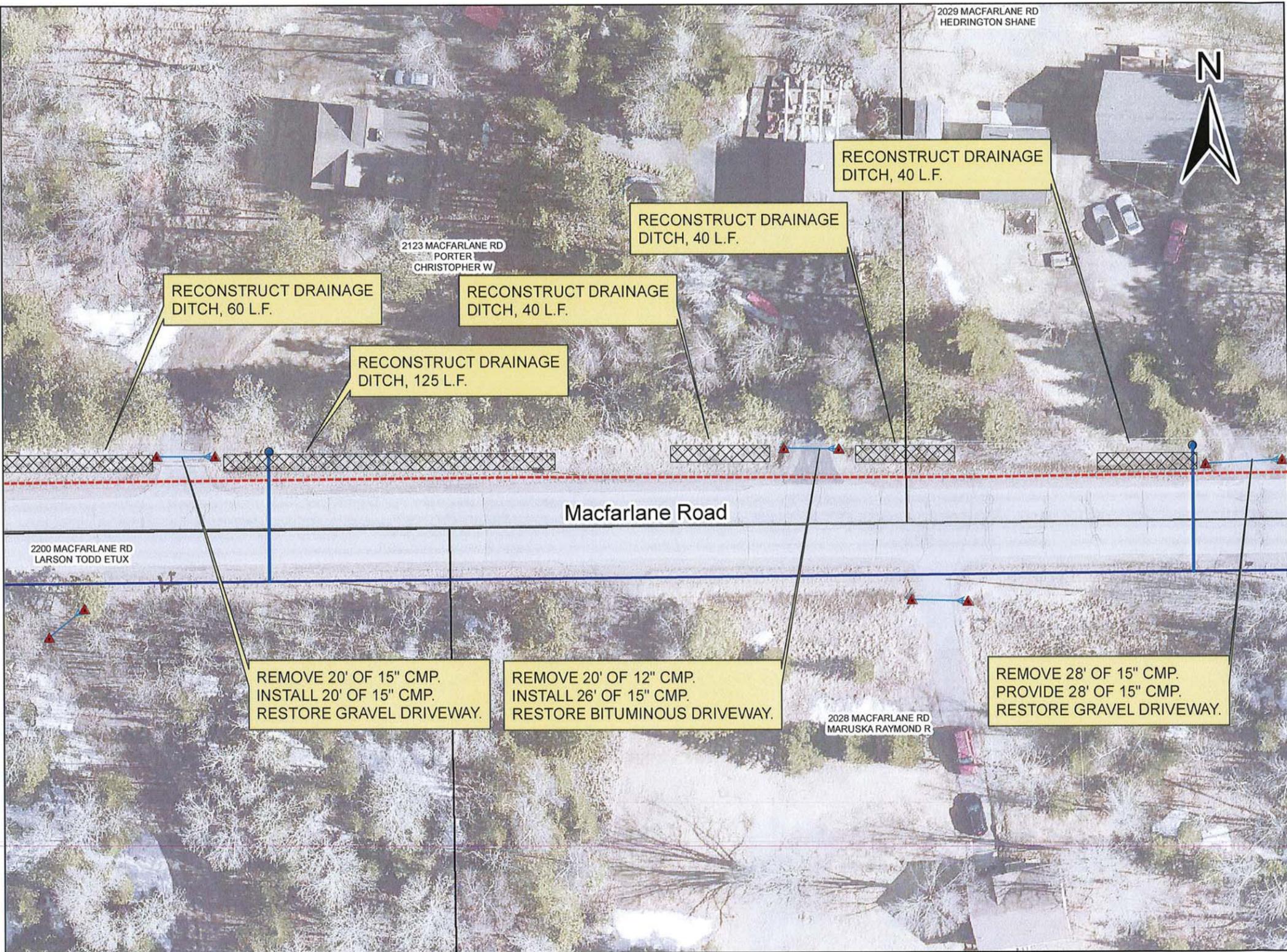


SITE NOTES

1) ADJUST WATER SERVICE VALVES AS NECESSARY.

Legend

- Storm Manhole
- Storm Catch Basin
- Storm Gravity Main
- Sanitary Manhole
- Sanitary Gravity Mains
- Gas Valve
- Gas Main
- Hydrant
- Water Valve
- Water Main



SITE 5 - 2029 & 2123 MACFARLANE AVE

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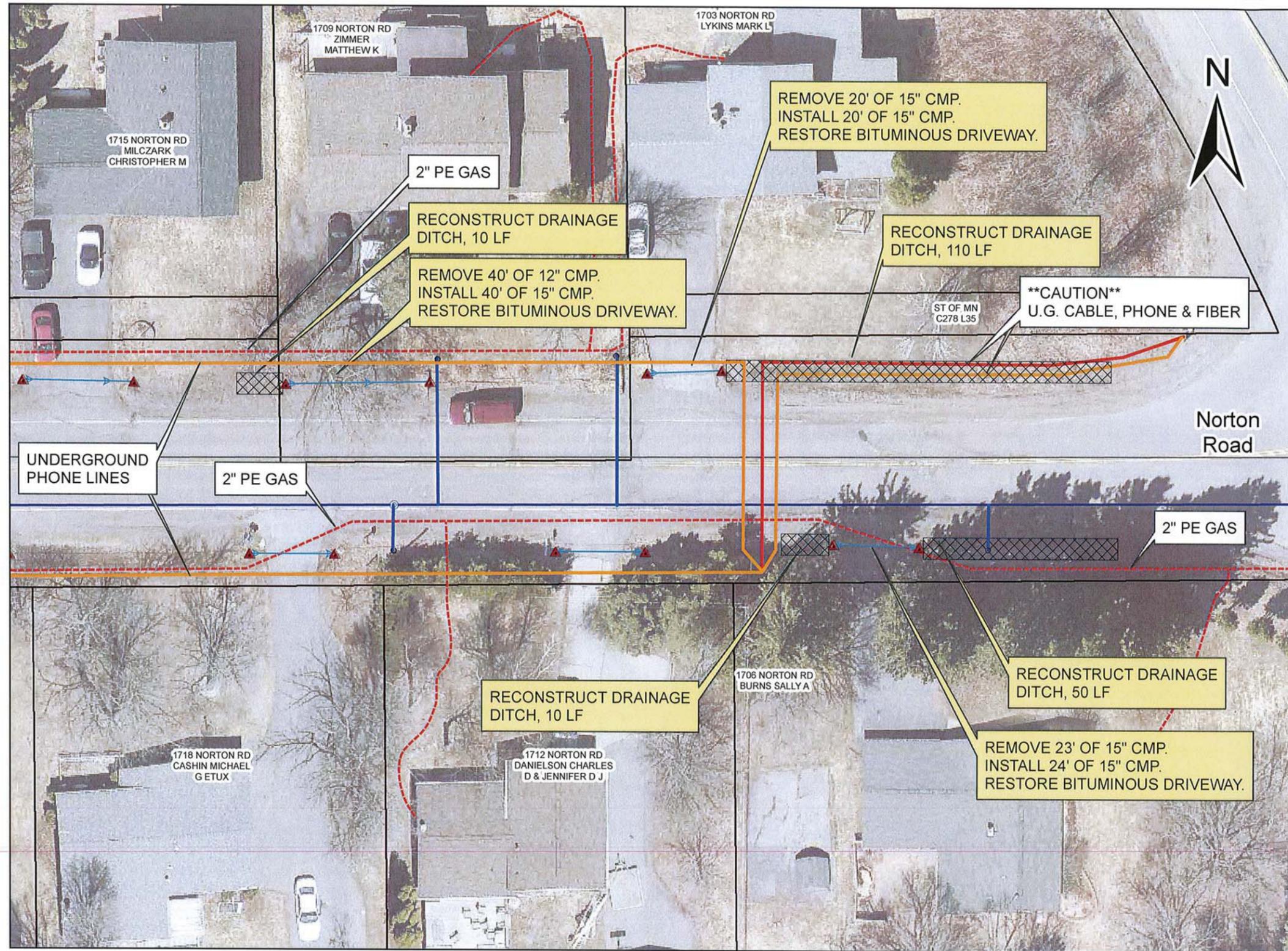


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**2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT
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CITY PROJECT NO.: 1501

DRAWN BY: JJM
SHEET NO. 8 OF 9

SITE LOCATION MAP

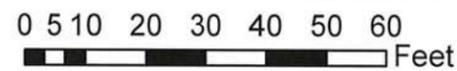


SITE NOTES

- 1) UNDERGROUND CABLE AND FIBER PRESENT.
- 2) ADJUST WATER SERVICE VALVES AS NECESSARY.
- 3) CONTRACTOR TO PRESERVE AS MUCH OF THE PRIVATE TIMBER SLUICEWAY AS POSSIBLE AT 1709 NORTON RD.

Legend

- | | | | |
|--|------------------------|--|-------------|
| | Storm Manhole | | Gas Valve |
| | Storm Catch Basin | | Gas Main |
| | Storm Gravity Main | | Hydrant |
| | Sanitary Manhole | | Water Valve |
| | Sanitary Gravity Mains | | Water Main |



SITE 6 - 1703, 1706 & 1709 NORTON RD

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *[Signature]* LIC. NO: 22442 DATE: 6-1-16



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**2016 CITYWIDE DRIVEWAY CULVERT REPLACEMENT
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DRAWN BY: JJM
SHEET NO. 9 OF 9