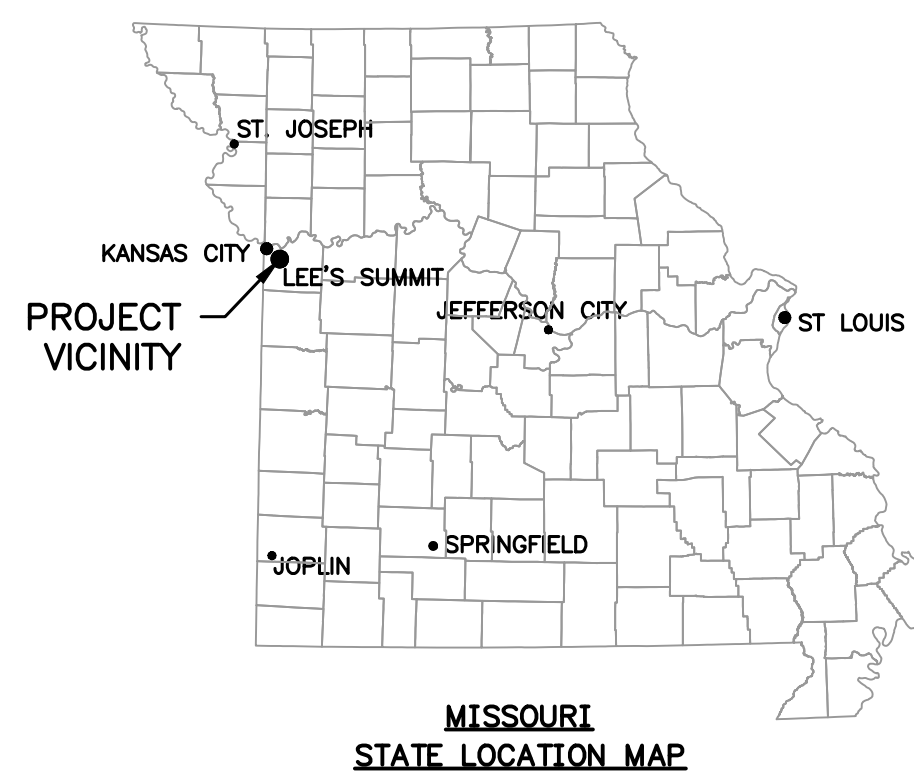


SUMMIT VIEW FARMS 4TH PLAT
LOTS 75-120 AND TRACT D

WATER LINE PLANS

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
SECTION 26, TOWNSHIP 47 N, RANGE 32W
LAMP RYNEARSON NO. 0318050.02



CALL OR CLICK 3 DAYS BEFORE YOU DIG!
1-800-DIG-RITE OR 811
MISSOURI ONE CALL SYSTEM
www.mo1call.com

ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER. THERE IS NO GUARANTEE ALL FACILITIES ARE SHOWN OR THAT THE LOCATION, DEPTH, AND SIZE OF EACH FACILITY IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION. COORDINATE NECESSARY RELOCATIONS WITH UTILITY COMPANIES.

OWNER CONTACT
BILL KENNEY
SUMMIT VIEW FARMS DEVELOPMENT GROUP, LLC
P.O. BOX 291
LEE'S SUMMIT, MO 64063
billkenney9@gmail.com
(816) 838-0552

CONSULTANT CONTACT
DAN MCGHEE
LAMP RYNEARSON
9001 STATE LINE ROAD, SUITE 200
KANSAS CITY, MO 64114
Dan.McGhee@lamprynearson.com
(816) 361-0440



LOCATION MAP

UTILITIES		
ELECTRIC:	EVERGY	(816) 471-5275
GAS:	SPIRE ENERGY	(816) 756-5252
TELEPHONE:	AT&T	(816) 325-5607
CABLE:	SPECTRUM	(816) 358-8833
WATER:	LEE'S SUMMIT WATER UTILITIES	(816) 969-1900
SEWER:	LEE'S SUMMIT WATER UTILITIES	(816) 969-1900

ESTIMATED SUMMARY OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT
1	6" WATER MAIN (PVC AWWA C900)	414	LF
2	8" WATER MAIN (PVC AWWA C900)	2,365	LF
3	8" X 8" TEE (DUCTILE IRON)	4	EA
4	6" 11.25, 22.5, OR 45 DEGREE BEND	7	EA
5	8" 11.25, 22.5, OR 45 DEGREE BEND	25	EA
6	THRUST BLOCKS	57	EA
7	8" GATE VALVE	6	EA
8	8"x6" REDUCER	3	EA
9	6" RESTRAINED CAP	1	EA
10	8" RESTRAINED CAP	2	EA
11	FIRE HYDRANT ASSEMBLY	6	EA

INDEX OF SHEETS

- 01 COVER SHEET
- 02 GENERAL LAYOUT PLAN SHEET
- 03 WATER LINE PLAN AND PROFILE LINE 4-01 SHEET
- 04 WATER LINE PLAN AND PROFILE LINES 4-02 AND 4-03 SHEET
- 05 WATER LINE PROFILE LINES 4-04 AND 4-05 SHEET
- 06 WATER DETAILS SHEET



9001 State Line Rd., Ste. 200
Kansas City, MO 64114
816.361.0440
LampRynearson.com

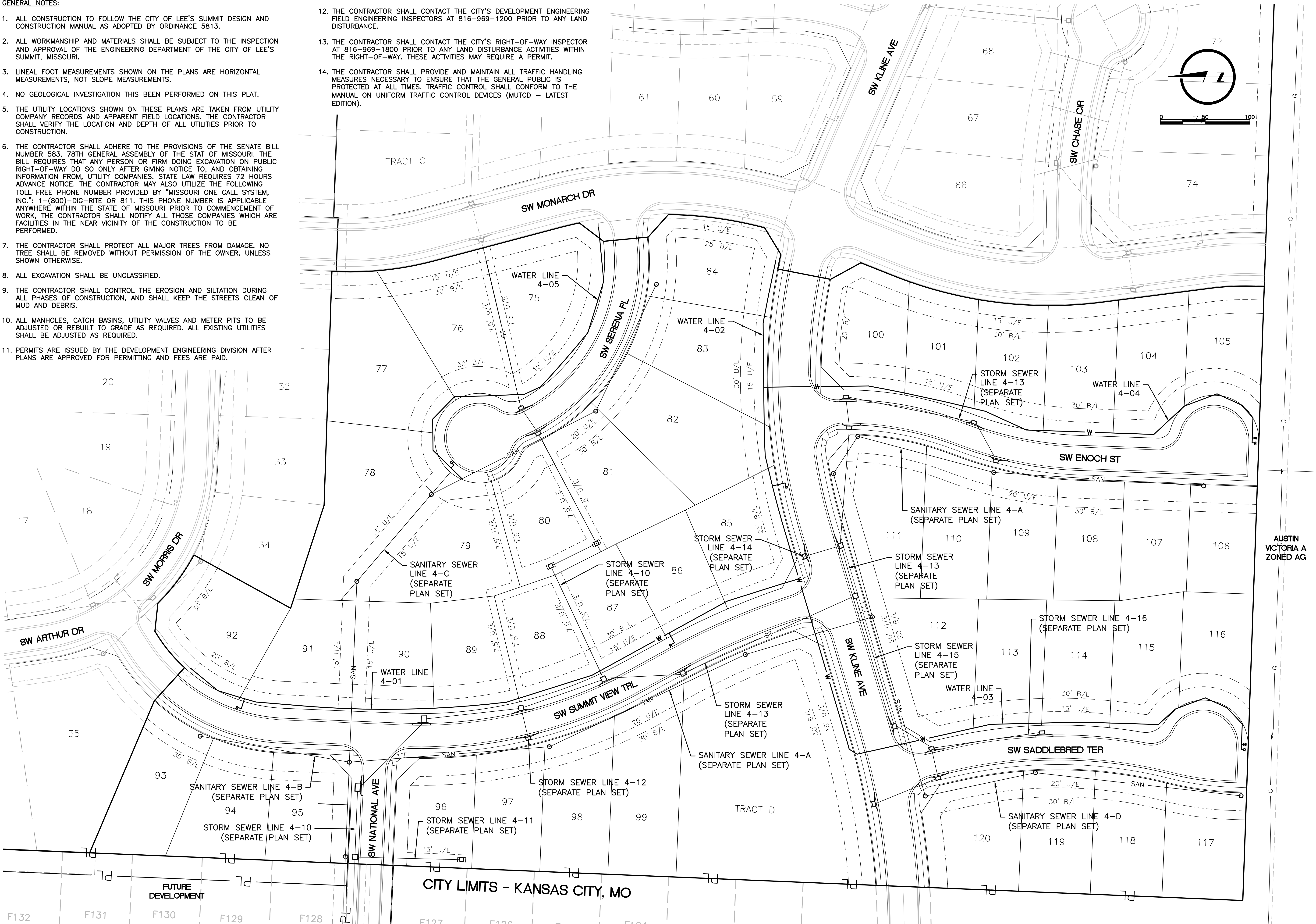


APPROVED: _____ DATE: 04-03-2020
MARK DANIEL MCGHEE JR., PE

GENERAL NOTES:

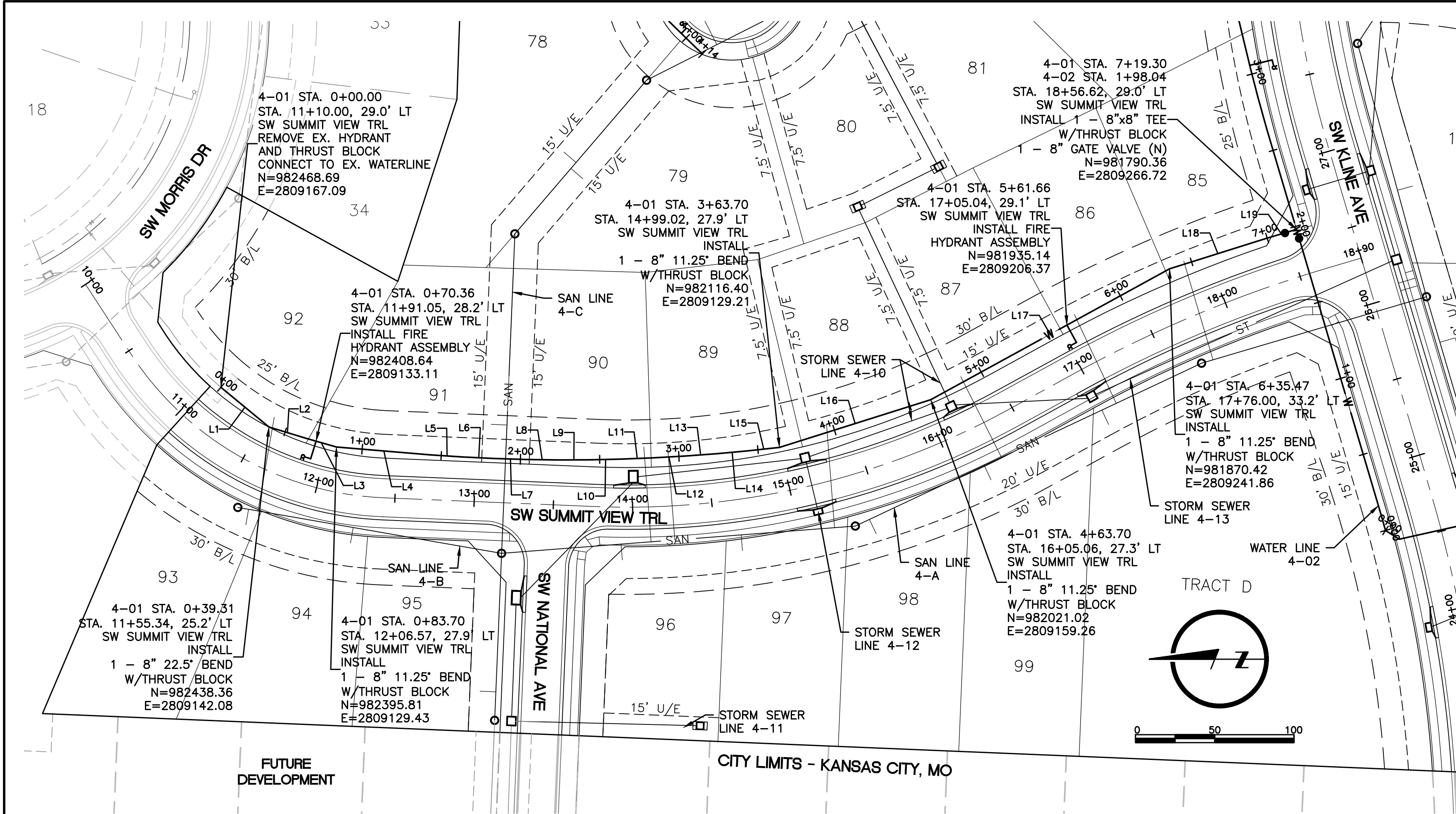
1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION THIS BEEN PERFORMED ON THIS PLAT.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STAT OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 72 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-(800)-DIG-RITE OR 811. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH ARE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
8. ALL EXCAVATION SHALL BE UNCLASSIFIED.
9. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
10. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. ALL EXISTING UTILITIES SHALL BE ADJUSTED AS REQUIRED.
11. PERMITS ARE ISSUED BY THE DEVELOPMENT ENGINEERING DIVISION AFTER PLANS ARE APPROVED FOR PERMITTING AND FEES ARE PAID.

12. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT ENGINEERING FIELD ENGINEERING INSPECTORS AT 816-969-1200 PRIOR TO ANY LAND DISTURBANCE.
13. THE CONTRACTOR SHALL CONTACT THE CITY'S RIGHT-OF-WAY INSPECTOR AT 816-969-1800 PRIOR TO ANY LAND DISTURBANCE ACTIVITIES WITHIN THE RIGHT-OF-WAY. THESE ACTIVITIES MAY REQUIRE A PERMIT.
14. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD - LATEST EDITION).



LAMP RYNEARSON MO CERT. NO. 2013011903 STATE OF MISSOURI MARK DANIEL MCGHEE JR. REGISTERED PROFESSIONAL ENGINEER PE - 2008019568 04/03/2020 REVISIONS 01/07/2020 PER CITY COMMENTS 03/18/2020 ADDED DEFLECTIONS 04/03/2020 PER CITY COMMENTS 9001 State Line Rd., Ste. 200 Kansas City, MO 64114 816.361.0440 LampRynearson.com LAMP RYNEARSON	
SUMMIT VIEW FARMS 4TH PLAT	LEE'S SUMMIT, MISSOURI
WATER LINE PLANS	GENERAL LAYOUT PLAN SHEET
DESIGNER / DRAFTER AJM DATE 11/20/2019 PROJECT NUMBER 0318050.02 BOOK AND PAGE SHEET 02 of 06	

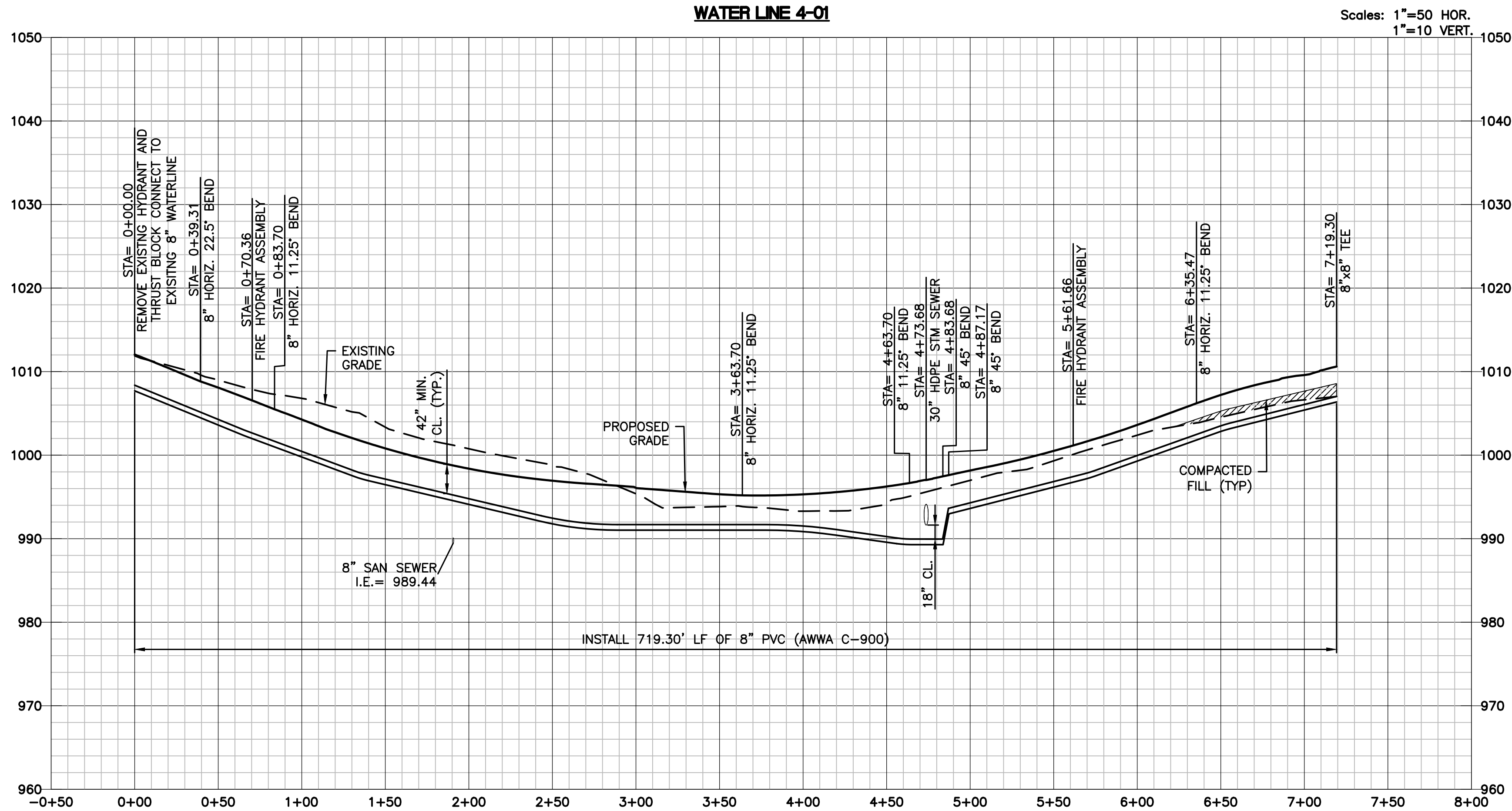
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WATER MAIN NOTES:

1. WATER MAINS AND SANITARY SEWER MAINS (INCLUDING STRUCTURES) SHALL HAVE AT LEAST 10'-FT OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
2. WATER MAINS AND SANITARY SEWERS SHALL HAVE AT LEAST 18-INCHES OF VERTICAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE WATER MAIN JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER MAIN JOINTS.
3. CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT ALL HORIZONTAL FITTING, VERTICAL FITTING, AND FIRE HYDRANT ASSEMBLY LOCATIONS IN ACCORDANCE WITH CITY STANDARD DETAILS WAT-1, WAT-2, AND WAT-8.
4. COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF PIPE PRIOR TO INSTALLATION.

ALIGNMENT TABLE 4-01					
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING	
L1	39.31	S39° 30' 33.58"W	N=982468.69/E=2809167.09	N=982438.36/E=2809142.08	
L2	24.40	S17° 00' 33.58"W	N=982438.36/E=2809142.08	N=982415.03/E=2809134.95	
L3	20.00	S16° 00' 33.58"W	N=982415.03/E=2809134.95	N=982395.81/E=2809129.43	
L4	60.00	S04° 45' 33.58"W	N=982395.81/E=2809129.43	N=982336.01/E=2809124.45	
L5	20.00	S03° 45' 33.58"W	N=982336.01/E=2809124.45	N=982316.06/E=2809123.14	
L6	20.00	S02° 45' 33.58"W	N=982316.06/E=2809123.14	N=982296.08/E=2809122.18	
L7	20.00	S01° 45' 33.58"W	N=982296.08/E=2809122.18	N=982276.09/E=2809121.57	
L8	20.00	S00° 45' 33.58"W	N=982276.09/E=2809121.57	N=982256.09/E=2809121.30	
L9	20.00	S00° 14' 26.42"E	N=982256.09/E=2809121.30	N=982236.09/E=2809121.38	
L10	20.00	S01° 14' 26.42"E	N=982236.09/E=2809121.38	N=982216.10/E=2809121.82	
L11	20.00	S02° 14' 26.42"E	N=982216.10/E=2809121.82	N=982196.11/E=2809122.60	
L12	20.00	S03° 14' 26.42"E	N=982196.11/E=2809122.60	N=982176.14/E=2809123.73	
L13	20.00	S04° 14' 26.42"E	N=982176.14/E=2809123.73	N=982156.20/E=2809125.21	
L14	20.00	S05° 14' 26.42"E	N=982156.20/E=2809125.21	N=982136.28/E=2809127.04	
L15	20.00	S06° 14' 26.42"E	N=982136.28/E=2809127.04	N=982116.40/E=2809129.21	
L16	100.00	S17° 29' 26.42"E	N=982116.40/E=2809129.21	N=982021.02/E=2809159.26	
L17	171.77	S28° 44' 26.42"E	N=982021.02/E=2809159.26	N=981870.42/E=2809241.86	
L18	63.83	S17° 29' 18.51"E	N=981870.42/E=2809241.86	N=981809.54/E=2809261.04	
L19	20.00	S16° 30' 30.51"E	N=981809.54/E=2809261.04	N=981790.36/E=2809266.72	



LAMP RYNEARSON
MO CERT. NO. 2013011903

04/03/2020
MARK DANIEL MCGHEE JR.
PE - 2008019568

REVISIONS
01/07/2020 PER CITY COMMENTS
03/18/2020 ADDED DEFLECTIONS
04/03/2020 PER CITY COMMENTS

9001 State Line Rd., Ste. 200
Kansas City, MO 64114
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SUMMIT VIEW FARMS 4TH PLAT

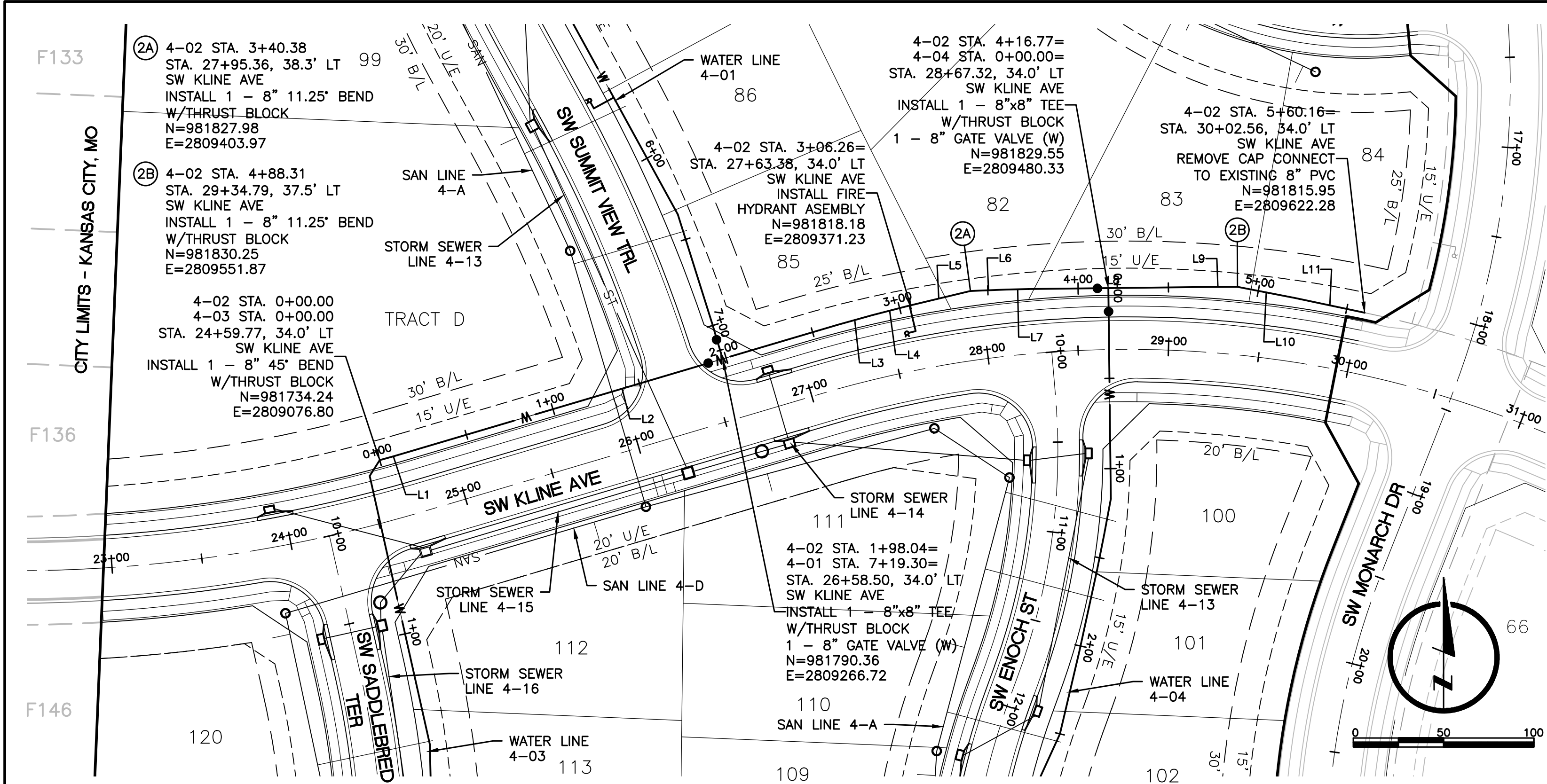
LEE'S SUMMIT, MISSOURI

WATER LINE PLANS
WATER LINE PLAN AND PROFILE
WATER LINE 4-01

DESIGNER / DRAFTER
AJM
DATE
11/20/2019
PROJECT NUMBER
0318050.02
BOOK AND PAGE

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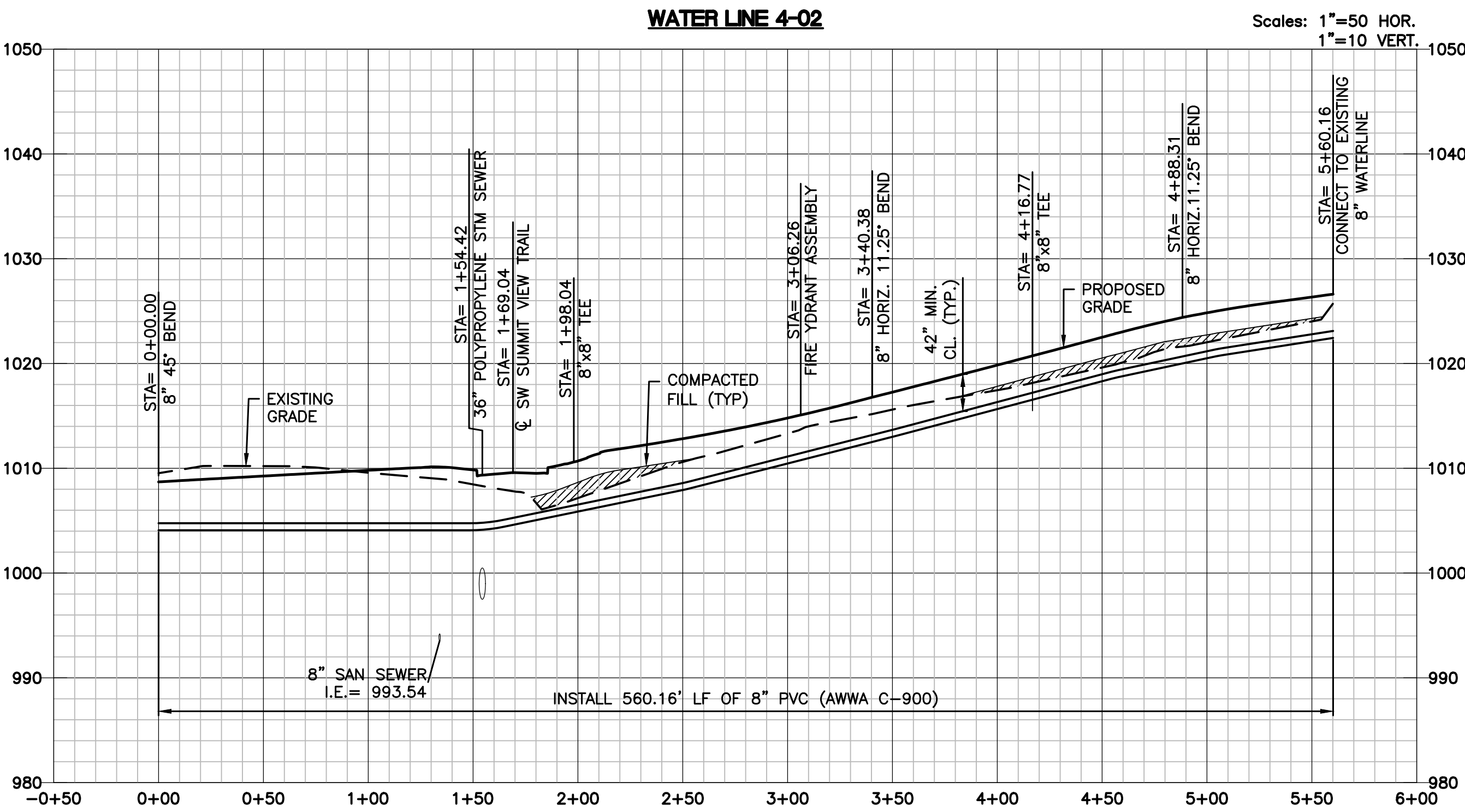
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ALIGNMENT TABLE 4-02				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L1	15.65	N74° 04' 36.55"E	N=981734.24/E=2809076.80	N=981738.54/E=2809091.85
L2	248.64	N73° 29' 29.49"E	N=981738.54/E=2809091.85	N=981809.19/E=2809330.24
L3	20.00	N74° 29' 29.49"E	N=981809.19/E=2809330.24	N=981814.54/E=2809349.51
L4	20.00	N75° 29' 29.49"E	N=981814.54/E=2809349.51	N=981819.55/E=2809368.88
L5	36.09	N76° 29' 29.49"E	N=981819.55/E=2809368.88	N=981827.98/E=2809403.97
L6	20.00	N87° 44' 29.49"E	N=981827.98/E=2809403.97	N=981828.77/E=2809423.95
L7	12.30	N88° 44' 29.49"E	N=981828.77/E=2809423.95	N=981829.04/E=2809436.24
L8	93.86	N89° 20' 06.04"E	N=981829.04/E=2809436.24	N=981830.13/E=2809530.10

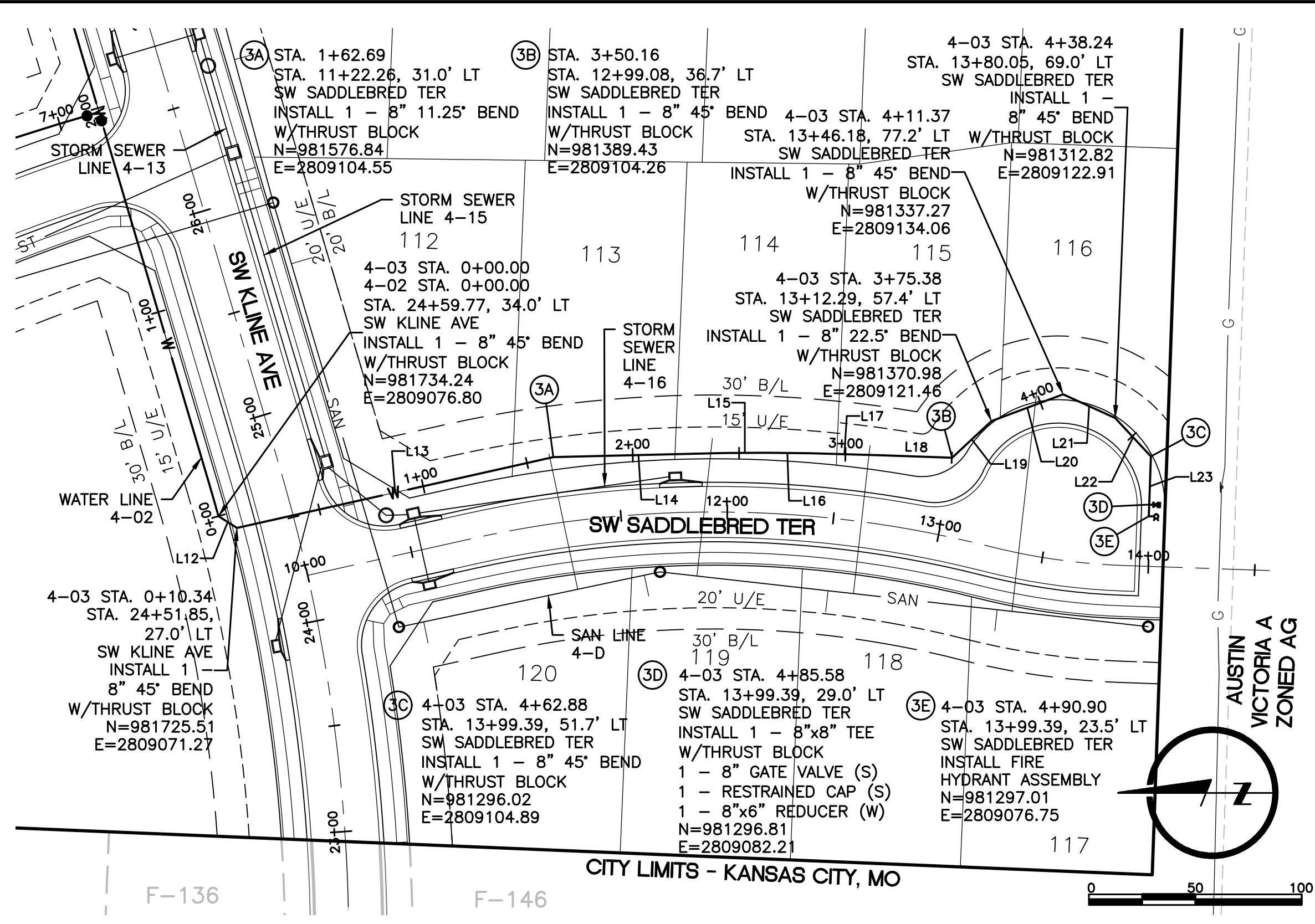
ALIGNMENT TABLE 4-02				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L9	21.77	N89° 40' 49.31"E	N=981830.13/E=2809530.10	N=981830.25/E=2809551.87
L10	32.39	S79° 04' 10.69"E	N=981830.25/E=2809551.87	N=981824.11/E=2809583.67
L11	39.47	S78° 04' 10.69"E	N=981824.11/E=2809583.67	N=981815.95/E=2809622.28

ALIGNMENT TABLE 4-03				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L12	10.34	S32° 22' 45.20"W	N=981734.24/E=2809076.80	N=981725.51/E=2809071.27
L13	152.35	S12° 37' 14.80"E	N=981725.51/E=2809071.27	N=981576.84/E=2809104.55
L14	80.00	S01° 22' 14.80"E	N=981576.84/E=2809104.55	N=981496.86/E=2809106.47

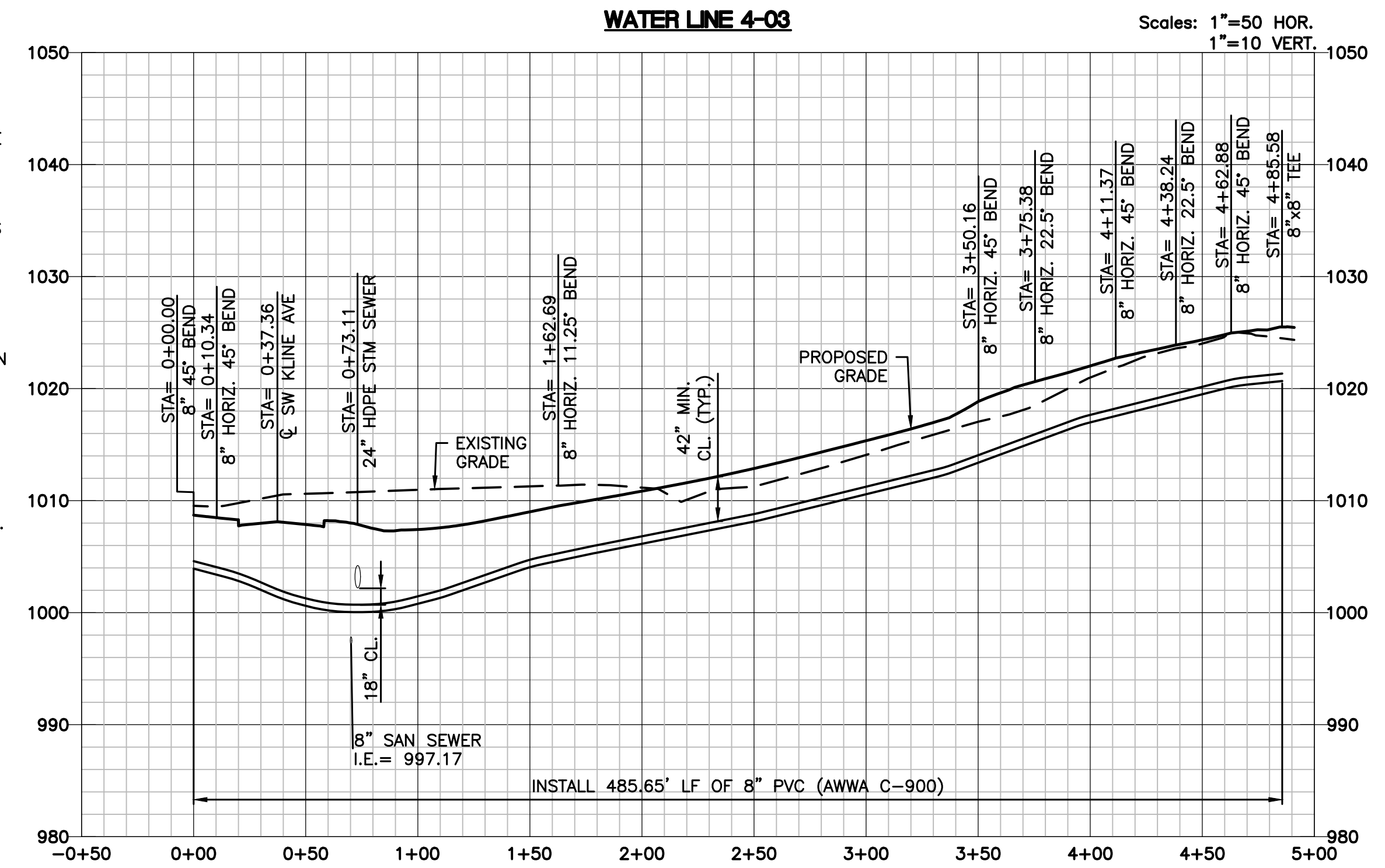


WATER MAIN NOTES:

1. WATER MAINS AND SANITARY SEWER MAINS (INCLUDING STRUCTURES) SHALL HAVE AT LEAST 10'-FT OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
2. WATER MAINS AND SANITARY SEWERS SHALL HAVE AT LEAST 18"-INCHES OF VERTICAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE WATER MAIN JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER MAIN JOINTS.
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4. COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF PIPE PRIOR TO INSTALLATION.



ALIGNMENT TABLE 4-03				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L15	20.00	S00° 22' 14.80"E	N=981496.86/E=2809106.47	N=981476.86/E=2809106.60
L16	20.00	S00° 37' 45.20"W	N=981476.86/E=2809106.60	N=981456.86/E=2809106.38
L17	33.60	S01° 37' 45.20"W	N=981456.86/E=2809106.38	N=981423.28/E=2809105.42
L18	33.87	S01° 57' 29.64"W	N=981423.28/E=2809105.42	N=981389.43/E=2809104.26
L19	25.22	S42° 59' 30.55"E	N=981389.43/E=2809104.26	N=981370.98/E=2809121.46
L20	35.99	S20° 29' 30.55"E	N=981370.98/E=2809121.46	N=981337.27/E=2809134.06
L21	26.87	S24° 30' 29.45"W	N=981337.27/E=2809134.06	N=981312.82/E=2809122.91
L22	24.64	S47° 00' 29.45"W	N=981312.82/E=2809122.91	N=981296.02/E=2809104.89
L23	28.16	N87° 59' 30.55"W	N=981296.02/E=2809104.89	N=981297.01/E=2809076.75



LAMP RYNEARSON
MO CERT. NO. 2013019003

MARK DANIEL MCQUEEN, JR.
PE - 208019568

REVISIONS

01/07/2020	PER CITY COMMENTS
03/18/2020	ADDED DEFLECTIONS
04/03/2020	PER CITY COMMENTS
10/02/2020	ADDED HDS UNITS

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Kansas City, MO 64114
816.361.0440
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SUMMIT VIEW FARMS 4TH PLAT

LEE'S SUMMIT, MISSOURI

WATER LINE PLANS

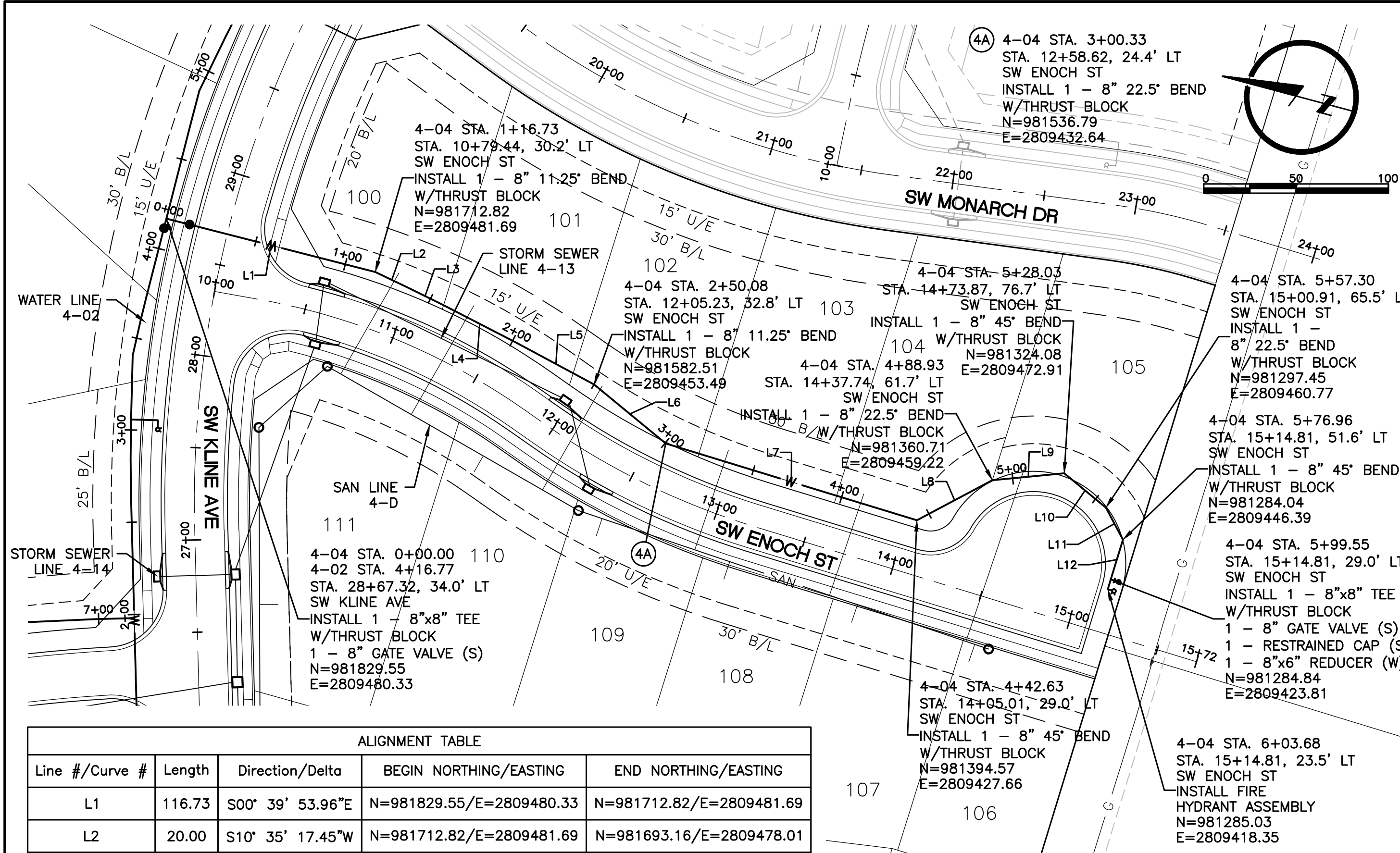
WATER LINE PLAN AND PROFILE

WATER LINE 4-02 AND 4-03

DESIGNER / DRAFTER
AJM
DATE
11/20/2019
PROJECT NUMBER
0318050.02
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04 OF 06

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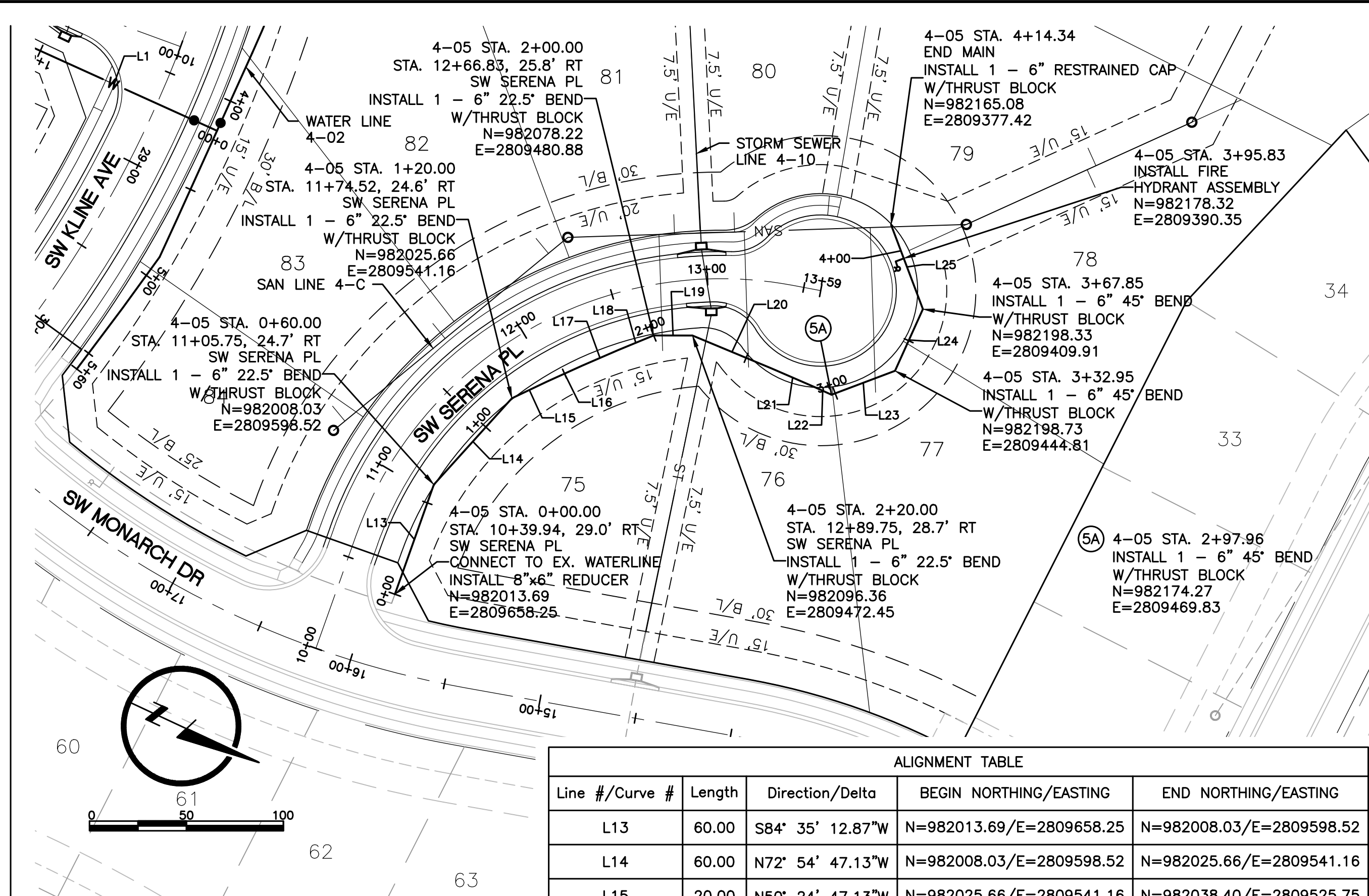
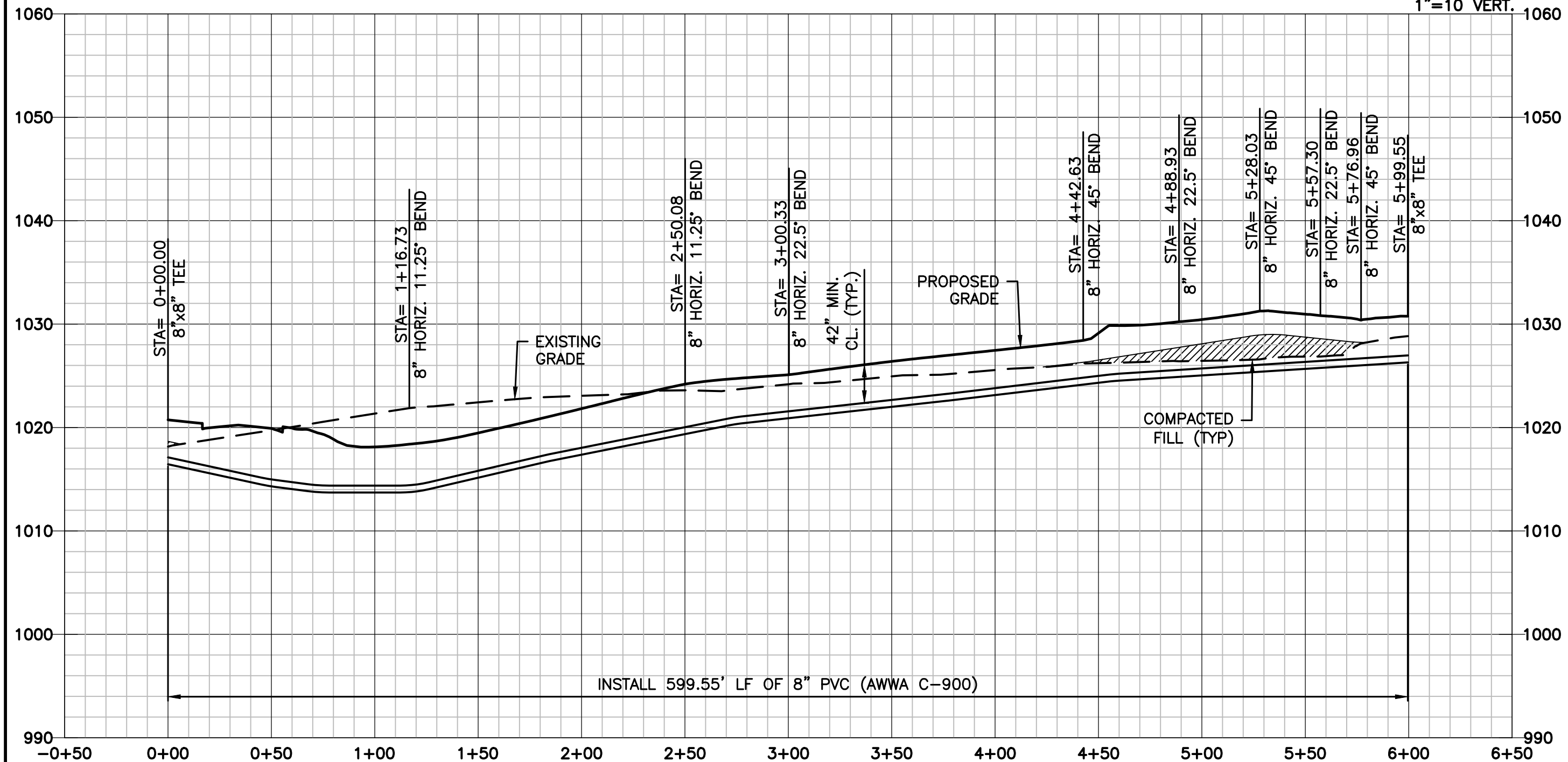
ALIGNMENT TABLE				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L1	116.73	S00° 39' 53.96"E	N=981829.55/E=2809480.33	N=981712.82/E=2809481.69
L2	20.00	S10° 35' 17.45"W	N=981712.82/E=2809481.69	N=981693.16/E=2809478.01
L3	20.01	S11° 15' 29.45"W	N=981693.16/E=2809478.01	N=981673.54/E=2809474.11
L4	46.37	S12° 15' 29.45"W	N=981673.54/E=2809474.11	N=981628.23/E=2809464.26
L5	46.96	S13° 15' 29.45"W	N=981628.23/E=2809464.26	N=981582.51/E=2809453.49
L6	50.25	S24° 30' 29.45"W	N=981582.51/E=2809453.49	N=981536.79/E=2809432.64
L7	142.30	S02° 00' 29.45"W	N=981536.79/E=2809432.64	N=981394.57/E=2809427.66
L8	46.29	S42° 59' 30.55"E	N=981394.57/E=2809427.66	N=981360.71/E=2809459.22
L9	39.10	S20° 29' 30.55"E	N=981360.71/E=2809459.22	N=981324.08/E=2809472.91
L10	29.27	S24° 30' 29.45"W	N=981324.08/E=2809472.91	N=981297.45/E=2809460.77
L11	19.66	S47° 00' 29.45"W	N=981297.45/E=2809460.77	N=981284.04/E=2809446.39
L12	22.59	N87° 59' 30.55"W	N=981284.04/E=2809446.39	N=981284.84/E=2809423.81

WATER MAIN NOTES:

1. WATER MAINS AND SANITARY SEWER MAINS (INCLUDING STRUCTURES) SHALL HAVE AT LEAST 10'-FT OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
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4. COMPACTED FILL SHALL BE PLACED TO A MINIMUM 18" ABOVE THE TOP OF PIPE PRIOR TO INSTALLATION.

WATER LINE 4-04

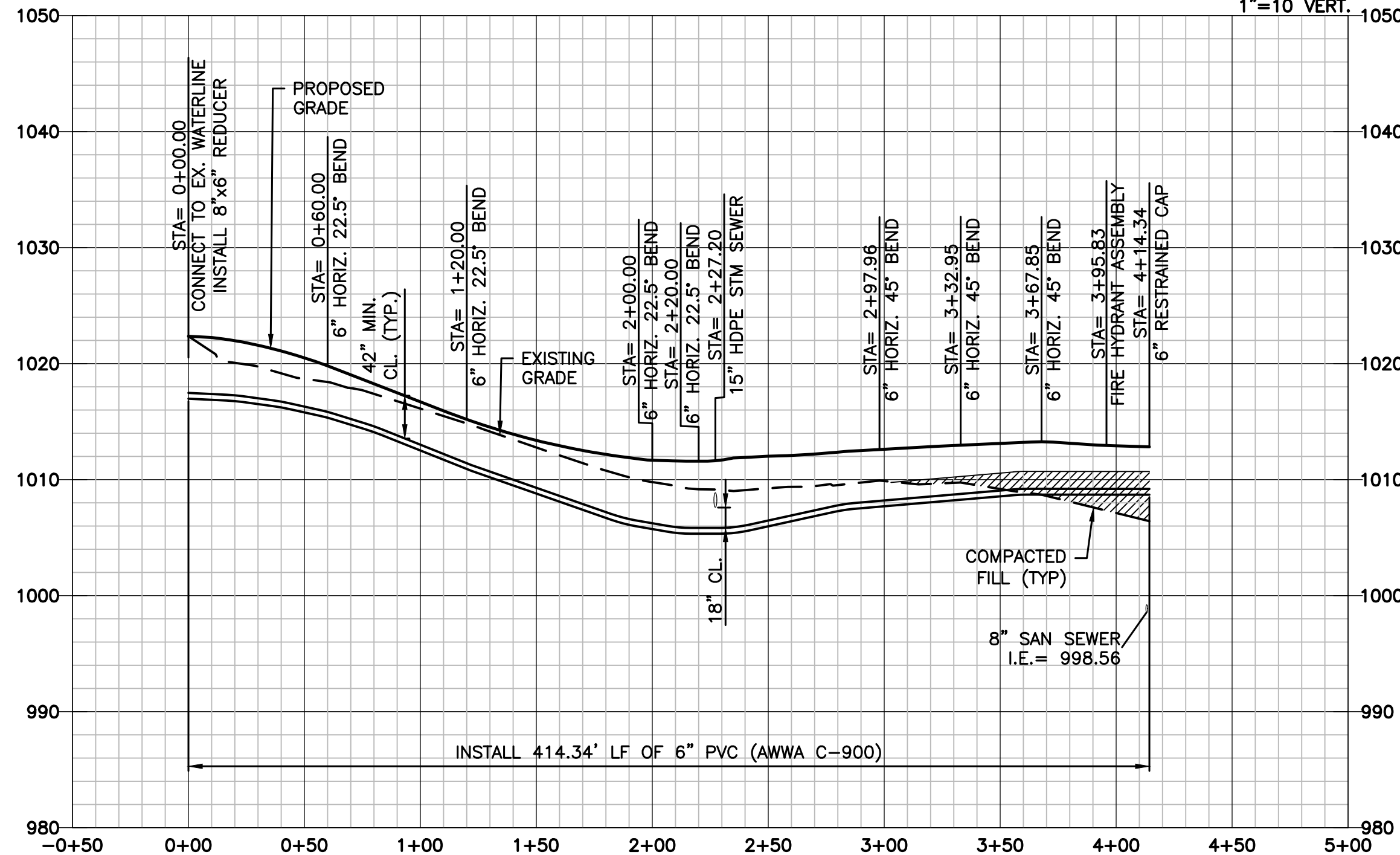
Scales: 1"=50 HOR.
1"=10 VERT.



ALIGNMENT TABLE				
Line #/Curve #	Length	Direction/Delta	BEGIN NORTHING/EASTING	END NORTHING/EASTING
L13	60.00	S84° 35' 12.87"W	N=982013.69/E=2809658.25	N=982008.03/E=2809598.52
L14	60.00	N72° 54' 47.13"W	N=982008.03/E=2809598.52	N=982025.66/E=2809541.16
L15	20.00	N50° 24' 47.13"W	N=982025.66/E=2809541.16	N=982038.40/E=2809525.75
L16	20.00	N49° 24' 47.13"W	N=982038.40/E=2809525.75	N=982051.41/E=2809510.56
L17	20.00	N48° 24' 47.13"W	N=982051.41/E=2809510.56	N=982064.69/E=2809495.60
L18	20.00	N47° 24' 47.13"W	N=982064.69/E=2809495.60	N=982078.22/E=2809480.88
L19	20.00	N24° 54' 47.13"W	N=982078.22/E=2809480.88	N=982096.36/E=2809472.45
L20	44.14	N02° 24' 47.13"W	N=982096.36/E=2809472.45	N=982140.47/E=2809470.59
L21	23.82	N01° 33' 16.58"W	N=982140.47/E=2809470.59	N=982164.28/E=2809469.95
L22	10.00	N00° 39' 40.37"W	N=982164.28/E=2809469.95	N=982174.27/E=2809469.83
L23	34.99	N45° 39' 40.37"W	N=982174.27/E=2809469.83	N=982198.73/E=2809444.81
L24	34.90	S89° 20' 19.63"W	N=982198.73/E=2809444.81	N=982198.33/E=2809409.91
L25	46.48	S44° 20' 19.63"W	N=982198.33/E=2809409.91	N=982165.08/E=2809377.42

WATER LINE 4-05

Scales: 1"=50 HOR.
1"=10 VERT.



LAMP RYNEARSON
MO CERT. NO. 2013011903

04/03/2020
MARK DANIEL MCHUGH JR.
PE - 2008019568

REVISIONS
01/07/2020 PER CITY COMMENTS
03/18/2020 ADDED DEFLECTIONS
04/03/2020 PER CITY COMMENTS

9001 State Line Rd., Ste. 200
Kansas City, MO 64114
816.361.0440
LampRynearson.com

LAMP RYNEARSON

SUMMIT VIEW FARMS 4TH PLAT

LEE'S SUMMIT, MISSOURI

DESIGNER / DRAFTER
AJM
DATE
11/20/2019
PROJECT NUMBER
0318050.02
BOOK AND PAGE

WATER LINE PLAN AND PROFILE
WATER LINE 4-04 AND 4-05

SHEET
05 OF 06

LS:\Engineering\0318050 SYSD Summitt View Forms 3rd Print\0318050.02-WAT-DET.dwg, 4/27/2020 4:32:43 PM, JAMIE MCQUARRY, LAMP RYNEARSON

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

HORIZONTAL THRUST BLOCKS

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-1
Rev: 1/14
Rev:

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	65.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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VERTICAL THRUST BLOCKS

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-2
Rev: 1/14
Rev:

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VALVE STEM EXTENSION AND VALVE BOX

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-9
Rev: 1/14
Rev:

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STRADDLE BLOCK

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-3
Rev: 1/14
Rev:

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UNDERGROUND PIPE INSTALLATION
FOR WATER MAIN LINES
SCALE: NOT TO SCALE

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-8
Rev: 1/14
Rev:

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HYDRANT WITH 90 DEGREE BEND

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-8
Rev: 1/14
Rev:

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WATER PIPE ENCASEMENT

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-4
Rev: 1/14
Rev:

MARK RYNEARSON
MO CERT. NO. 2013011903

04/03/2020
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SUMMIT VIEW FARMS 4TH PLAT
LEE'S SUMMIT, MISSOURI

WATER LINE PLANS
WATER LINE DETAILS

DESIGNER / DRAFTER
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