

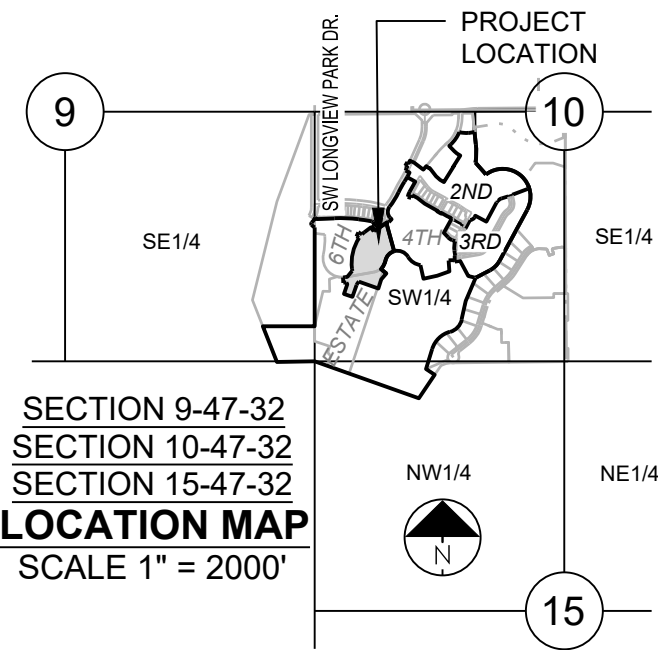
WATER MAIN PLANS
FOR
PERGOLA PARK 5TH PLAT
IN THE CITY OF LEE'S SUMMIT
JACKSON COUNTY, MISSOURI

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL LAYOUT
3	LINE 1 PLAN & PROFILE
4	LINES 2 & 3 PLAN & PROFILE
5	DETAIL SHEET

LEGEND:

- | | |
|------------|---------------------------------------|
| A/E | - ACCESS EASEMENT |
| BC | - BACK OF CURB |
| B/B | - BACK TO BACK |
| BM | - BENCHMARK |
| BL or B.L. | - BUILDING LINE |
| CO | - CLEANOUT |
| TJB | - TELEPHONE JUNCTION BOX |
| C&G | - CURB AND GUTTER |
| D/E | - DRAINAGE EASEMENT |
| E/E | - ELECTRICAL EASEMENT |
| EL | - ELEVATION |
| FL | - FLOW LINE |
| G/E | - GAS LINE EASEMENT |
| HDPE | - HIGH-DENSITY POLYETHYLENE |
| L/E | - LANDSCAPE EASEMENT |
| MSFE | - MINIMUM SERVICEABLE FLOOR ELEVATION |
| PVC | - POLYVINYL CHLORIDE |
| P/L | - PROPERTY LINE |
| PUB/E | - PUBLIC EASEMENT |
| RCP | - REINFORCED CONCRETE PIPE |
| ROW or R/W | - RIGHT-OF-WAY |
| S/E | - SANITARY SEWER EASEMENT |
| SL | - SERVICE LINE |
| SW | - SIDEWALK |
| TE | - TOP ELEVATION |
| UI/E | - UTILITY EASEMENT |
| WSE | - WATER SURFACE ELEVATION |
| WE | - WATERLINE EASEMENT |

	ASPHALT PAVEMENT - EXISTING
	ASPHALT PAVEMENT - PROPOSED
	CONCRETE PAVEMENT - EXISTING
	ASPHALT PAVEMENT - EXISTING
	CONCRETE SIDEWALK - EXISTING
	CONCRETE SIDEWALK - PROPOSED
	CURB & GUTTER
	CURB & GUTTER - EXISTING
	TREELINE
	EXISTING LOT AND R/W LINES
	EXISTING PLAT LINES
	PROPERTY LINES
	RIGHT-OF-WAY
	SANITARY SEWER MAIN
	SANITARY SEWER MAIN - EXIST.
	STORM SEWER
	STORM SEWER - EXISTING
	CABLE TV - EXISTING
	FIBER OPTIC CABLE - EXISTING
	TELEPHONE LINE - EXIST.
	ELECTRIC LINE - EXISTING
	OVERHEAD POWER LINE - EXIST.
	UNDERGROUND ELECTRIC - EX.
	GAS LINE - EXISTING
	WATERLINE - EXISTING
	LIGHT - EXISTING
	EXISTING MANHOLE
	CLEANOUT
	EXISTING SANITARY MANHOLE
	PROPOSED SANITARY MANHOLE
	EXISTING AREA INLET
	EXISTING CURB INLET
	EXISTING GRATE INLET
	EXISTING JUNCTION BOX
	EXISTING STORM MANHOLE

**UTILITY CONTACTS:**MISSOURI DEPARTMENT OF
TRANSPORTATION (MODOT)

Steve Holloway
600 NE Colbern Road
Lee's Summit, MO 64086
(816) 607-2186

MISSOURI GAS ENERGY (MGE)

Brent Jones
3025 SE Clover Drive
Lee's Summit, MO 64082
(816) 399-9633
brent.jones@spireenergy.

EVERGY

Ron DeJarnette
1300 SE Hamblin Road
Lee's Summit, MO 64081
Office: (816) 347-4316
Cell: (816) 810-5234
ron.dejarnette@evergy.com

CITY OF LEES SUMMIT PUBLIC WORKS

220 SE Green Street
Lee's Summit, MO 64063
(816) 969-1800

AT&T

Mark Manion or Marty Loper
500 E. 8th Street, Room 370
Kansas City, MO 64106
(816) 275-2341 or (816) 275-1550

COMCAST CABLE

John Meadows
4700 Little Blue Parkway
Independence, MO 64057
(816) 795-2257

CITY OF LEE'S SUMMIT WATER UTILITIES

Mark Schaufler
1200 SE Hamblen Road
Lee's Summit, MO 64081
(816) 969-1900

SUMMARY OF QUANTITIES

	ITEM	QUANTITY	UNITS
1	CONNECT TO EXISTING WATER LINE	2	EA
2	FIRE HYDRANT ASSEMBLY	3	EA
3	END OF LINE TEMPORARY FIRE HYDRANT ASSEMBLY	3	EA
4	REMOVE TEMPORARY FIRE HYDRANT ASSEMBLY	2	EA
5	8" C-900 PVC	1,492	LF
6	8" GATE VALVE	9	EA
7	8" X 8" TEE	3	EA
8	8" 11.25" PVC BEND	7	EA
9	8" 22.5" PVC BEND	3	EA
10	8" 45" PVC BEND	3	EA
11	8" 45" VERTICAL PVC BEND	4	EA
12	8" 90" PVC BEND	3	EA

RECORD DRAWING

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“100-00 100.10”, “1-00% 1.15% slope”, or “8-inch HDPE PVC pipe” are all typical examples of revisions that indicate that design data has been replaced with “as-built” information. All other data is as designed and has not been field verified.

Date: 5/17/2023
 Certified by: BAL
 Title: Design Engineer
 Firm: Schlagel and Associates, P.A.

EARTHWORK:

1. PRIOR TO EARTHWORK ACTIVITIES, PRE-DISTURBANCE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PER THE STORM WATER POLLUTION PREVENTION PLAN AND/OR THE EROSION AND SEDIMENT CONTROL PLAN PREPARED FOR THIS SITE.
2. ALL BACKFILL MATERIAL SHALL BE PLACED IN MAXIMUM 6-INCH LIFTS AND COMPACTED TO 95-PERCENT OF MAXIMUM DENSITY AS DEFINED USING A STANDARD PROCTOR TEST (AASHTO 1998/ASTM 698).
3. BACKFILL MATERIALS SHALL NOT INCLUDE ORGANIC MATTER, DEBRIS OR TOPSOIL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING THE TOPSOIL OVER PROPOSED TURF AND LANDSCAPED AREAS TO A MINIMUM DEPTH OF 6-INCHES BELOW FINAL GRADE.
5. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, UNLESS NOTED OTHERWISE THE FOLLOWING GRADES SHALL APPLY:
 - A. TURF AREAS - 2.5% MINIMUM, 4H:1V MAXIMUM
 - B. ALL DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IMMEDIATELY AFTER EXCAVATION ACTIVITIES HAVE CEASED. SEEDING SHALL BE PER THE EROSION AND SEDIMENT CONTROL PLAN AND/OR LANDSCAPE PLAN. IF NOT SPECIFIED SEEDING SHALL BE PER APWA SECTION 2400, LATEST EDITION, UNLESS OTHERWISE NOTED. SEEDING SHALL BE SUBSIDIARY TO THE CONTRACT PRICE FOR PIPE INSTALLATION.
7. CONTRACTOR SHALL ADHERE TO THE REPORTING REQUIREMENTS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED AND KEPT CLEAN OF SILT AND DEBRIS AND IN GOOD WORKING ORDER. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS REQUIRED.

UTILITIES:

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, DUCTILE IRON PIPE, DI, SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT ON THE WATER LINE.
5. FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPILLS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION TO EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.

OWNER/DEVELOPER:

NLV DEVELOPMENT COMPANY LLC
 RUSSELL PEARSON
 3152 SW GRANDSTAND CIRCLE
 LEE'S SUMMIT, MO 64081
 p 816-589-4415
 f -
 RPEARSON@BOXDEVCO.COM

MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCH MARK:

BM JA-148, IS A STAMPED KC METRO DISK SET IN CONCRETE LOCATED 2 MILES WEST OF THE INTERSECTION OF HIGHWAY 50 AND 3RD ST. IT IS 44 FT NORTH OF THE CENTER OF 3RD ST. AND 102.5 FT WEST OF THE CENTER OF THE EXIT FROM THE ADJACENT PARKING LOT.

ELEV. 935.18

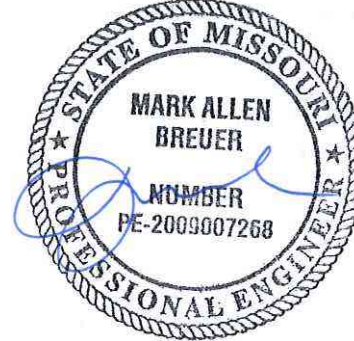
PROJECT BENCHMARK:

CHISELED "SQUARE" ON STORM CURB INLET AT NORTHWEST
INTERSECTION OF SW. TOWER PARK DRIVE AND SW. LONGVIEW
BOULEVARD.

NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

Record Drawing

PREPARED BY:



SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT

WATER MAIN PLANS

— LEE'S SUMMIT, MISSOURI

REVISION DATE	DESCRIPTION
1. 2-4-22	CITY COMMENTS
2. 3-23-22	CITY COMMENTS
3. 6-21-22	CITY COMMENTS
4. 8-16-22	CITY COMMENTS
5. 8-29-22	CITY COMMENTS
6. 9-14-22	CITY COMMENTS
7. 5-17-23	AS-BUILTS
8.	
9.	

COVER SHEET

SHEET

1

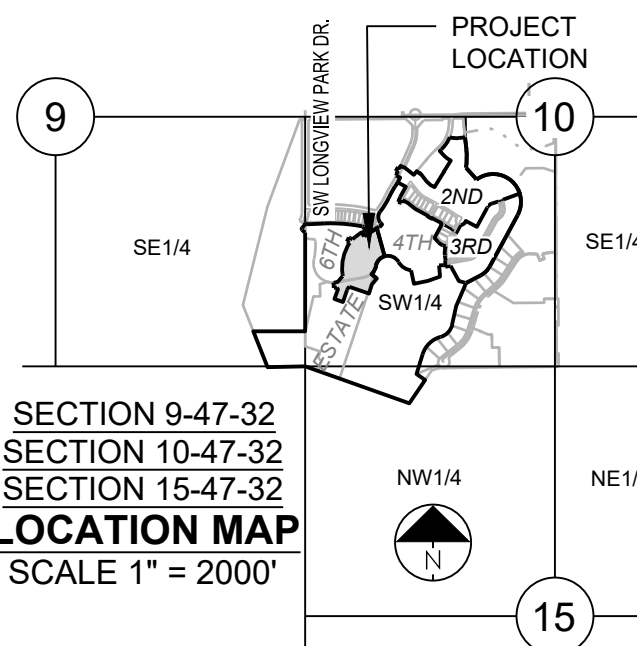
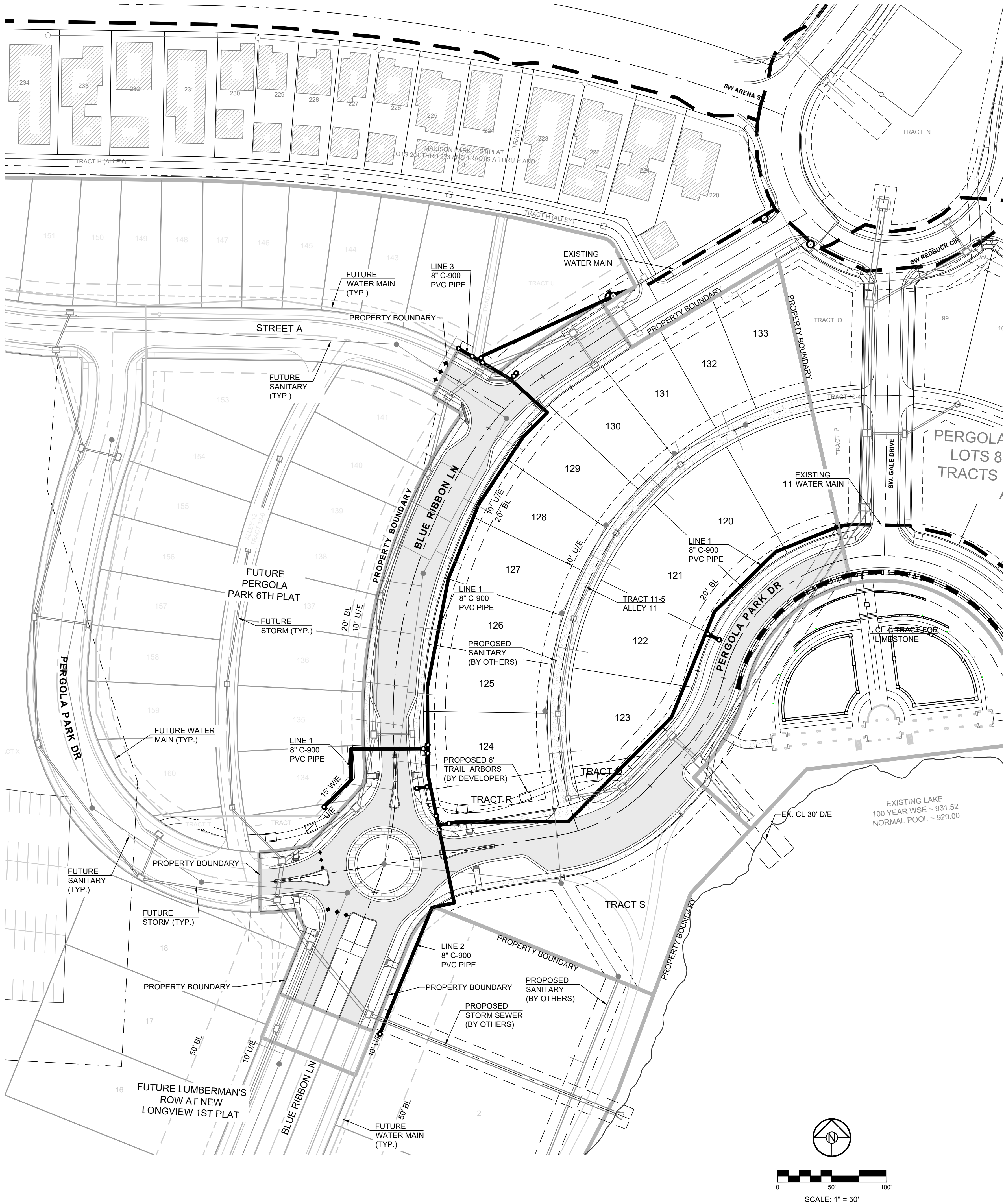
- GENERAL NOTES:
1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
 2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATIONS.
 3. FOR ALL WATER LINES THE MAXIMUM DEPTH OF COVER IS SEVEN (7) FEET.

RECORD DRAWING

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Title: Design Engineer
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MISSOURI GEOGRAPHIC REFERENCE SYSTEM
BENCH MARK:

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ELEV. 935.18

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NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09

Record Drawing

PREPARED BY:



05.17.2023

SCHLAGEL & ASSOCIATES, P.A.

PERGOLA PARK 5TH PLAT
WATER MAIN PLANS

- LEE'S SUMMIT, MISSOURI

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9-14-22	CITY COMMENTS
5-17-23	AS-BUILTS

DRAWN BY:	BAL
CHECKED BY:	MAB
DATE PREPARED:	11-17-2021
PROJ. NUMBER:	20-189

GENERAL LAYOUT
SHEET
2

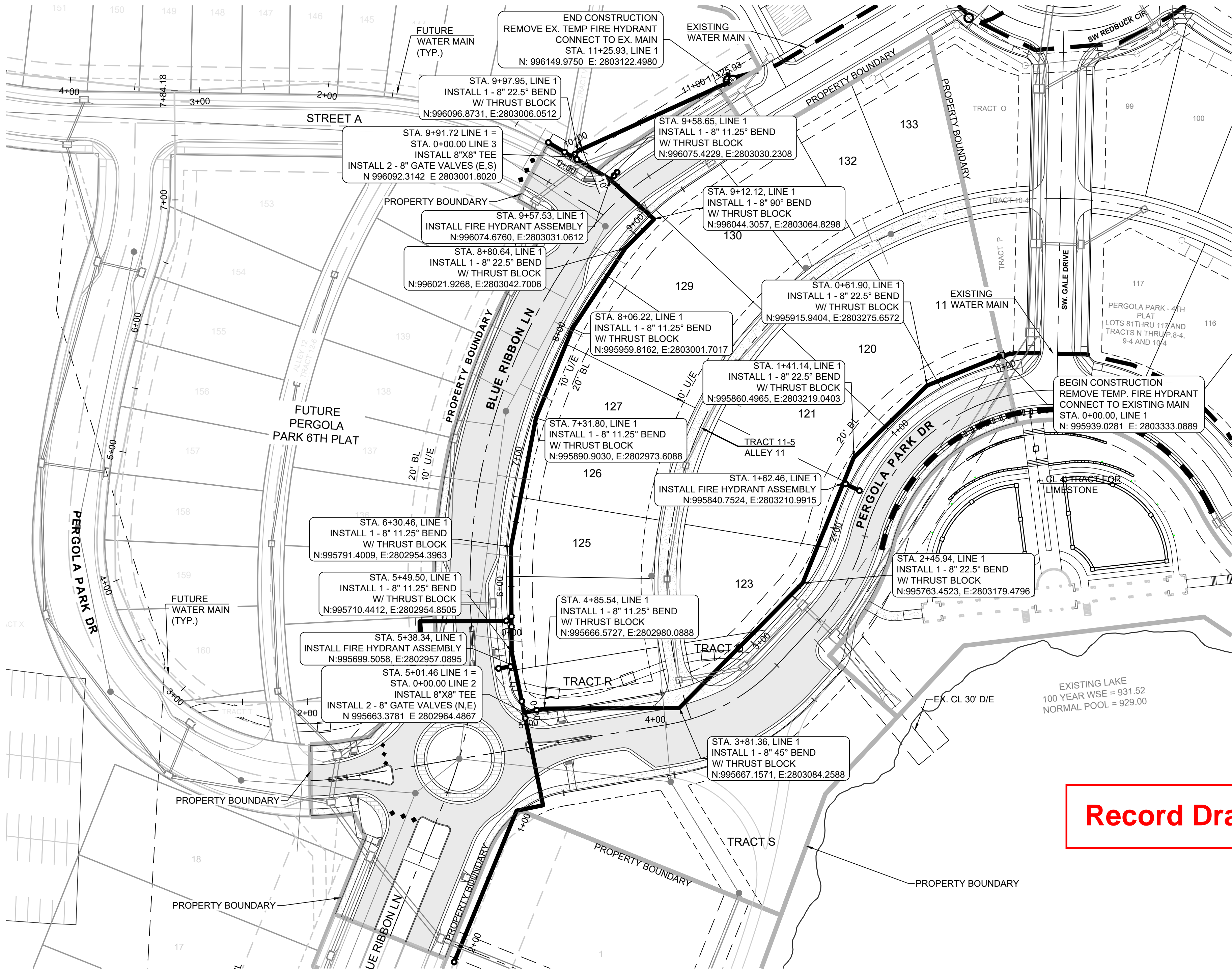
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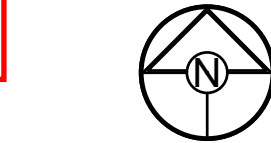
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NORTHING: 998893.4148
EASTING: 2803318.5413
ELEV. 1004.09



Record Drawing



SCALE: 1" = 50'

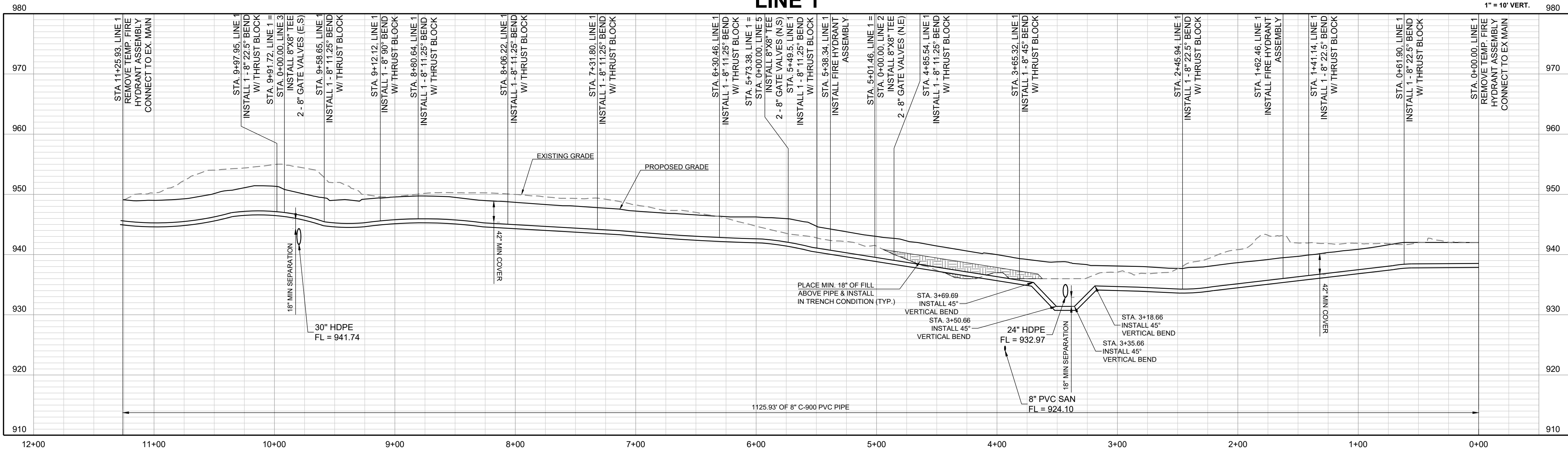
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LINE 1



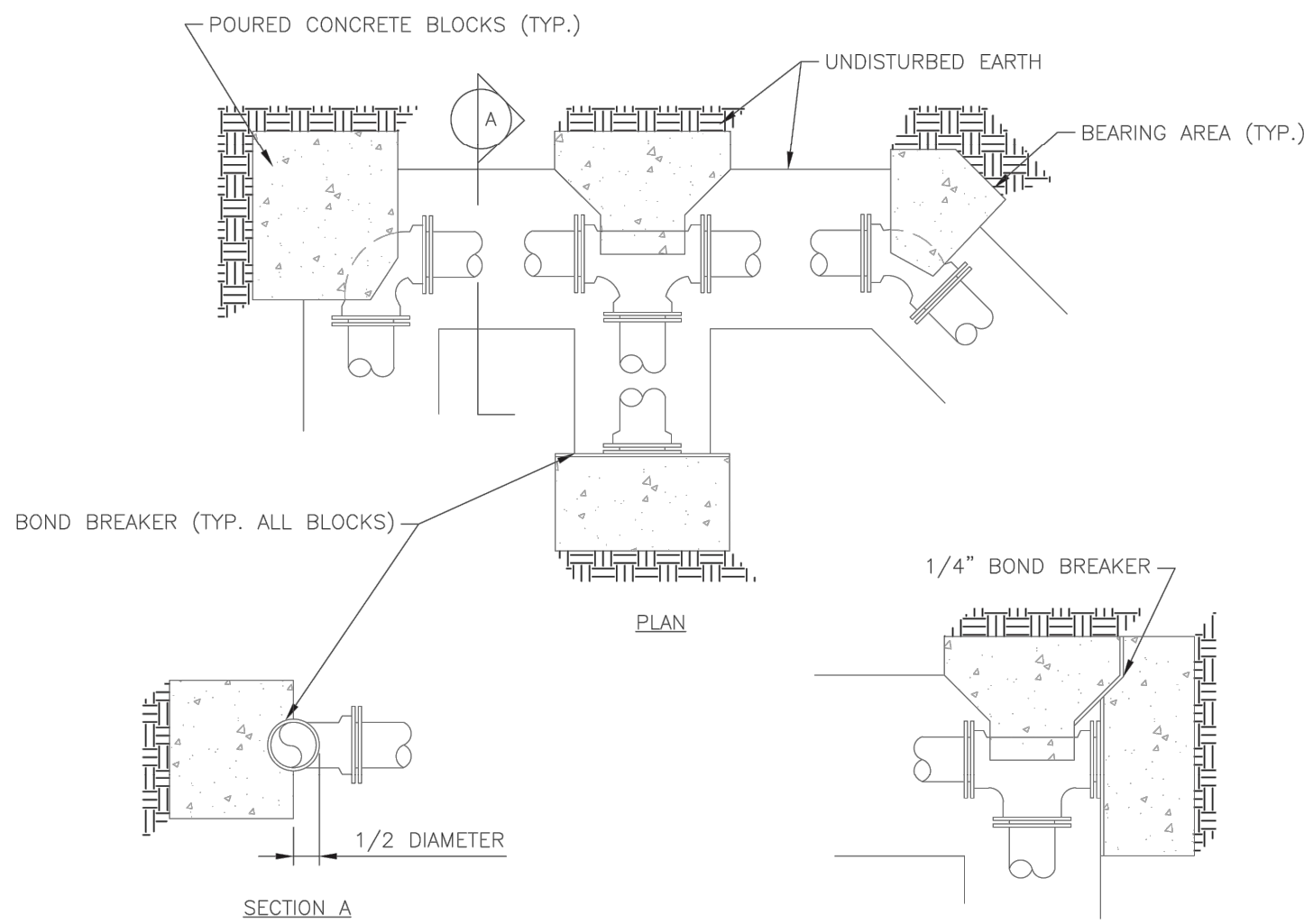
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DRAWN BY: BAL	CITY COMMENTS
CHECKED BY: MAB	CITY COMMENTS
DATE PREPARED: 11-17-2021	CITY COMMENTS
PROJ. NUMBER: 200-189	AS-BUILTS

LINE 1 PLAN & PROFILE



REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)					
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.

LS

LEE'S SUMMIT

MISSOURI

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

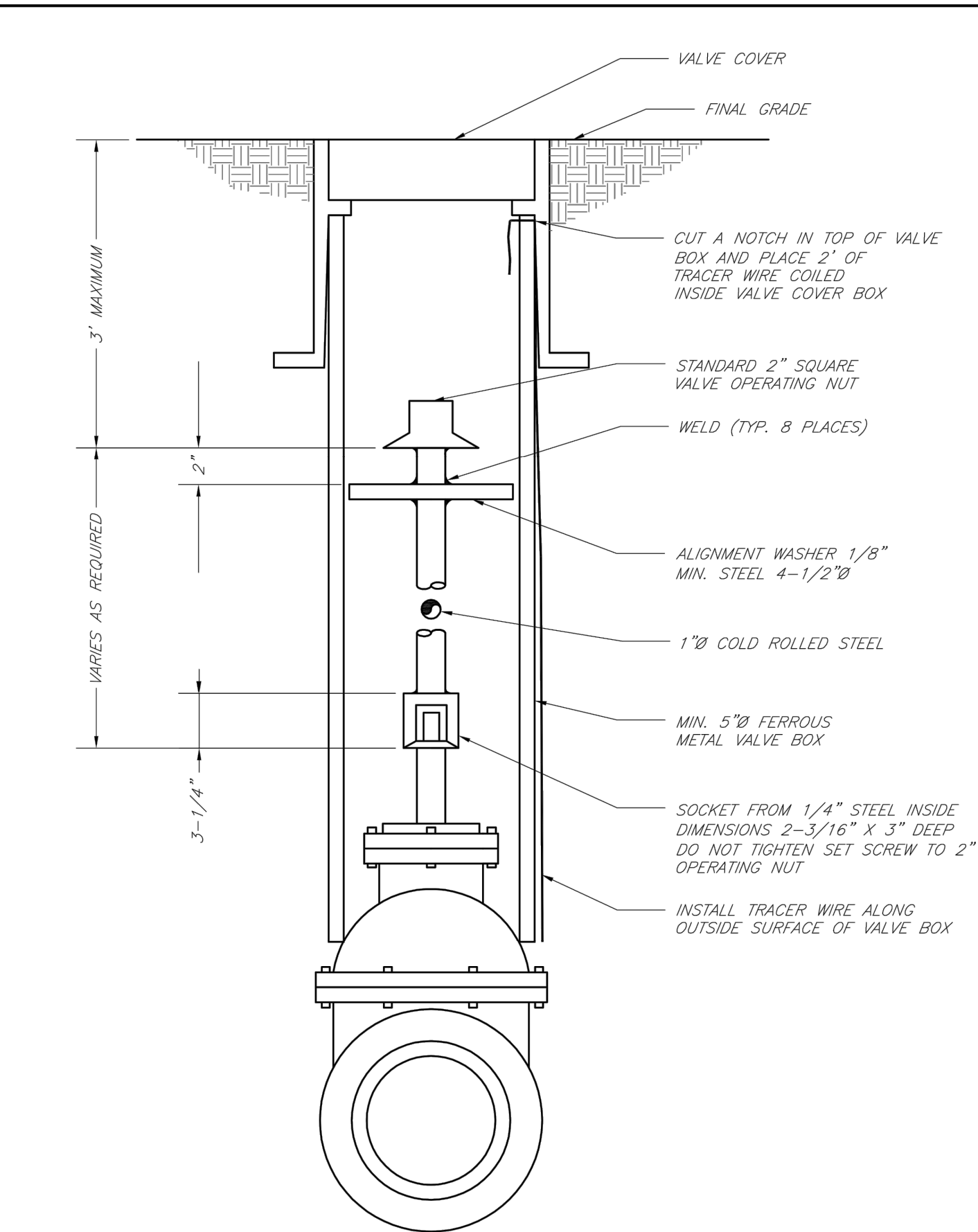
HORIZONTAL THRUST BLOCK

WAT-1

Date: 01/2016

Drawn By: JN

Checked By: DL



LS

LEE'S SUMMIT

MISSOURI

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

VALVE STEM EXTENSION AND VALVE BOX

WAT-9

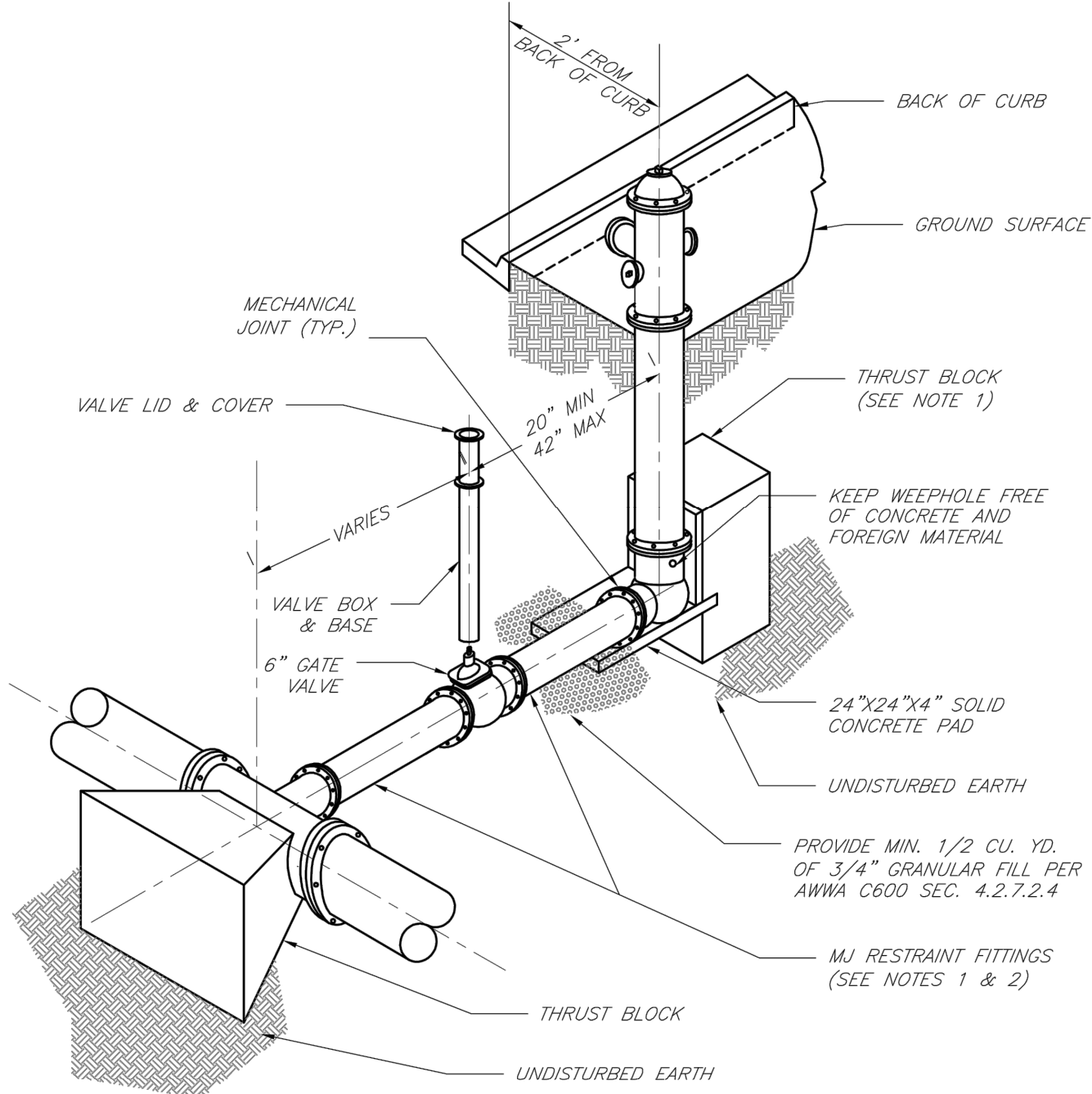
Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-9

Rev: 1/14



- NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (M) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
 2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
 3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
 4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
 5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10" FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
 6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

LS

LEE'S SUMMIT

MISSOURI

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

HYDRANT INSTALLATION – STRAIGHT SET

WAT-7

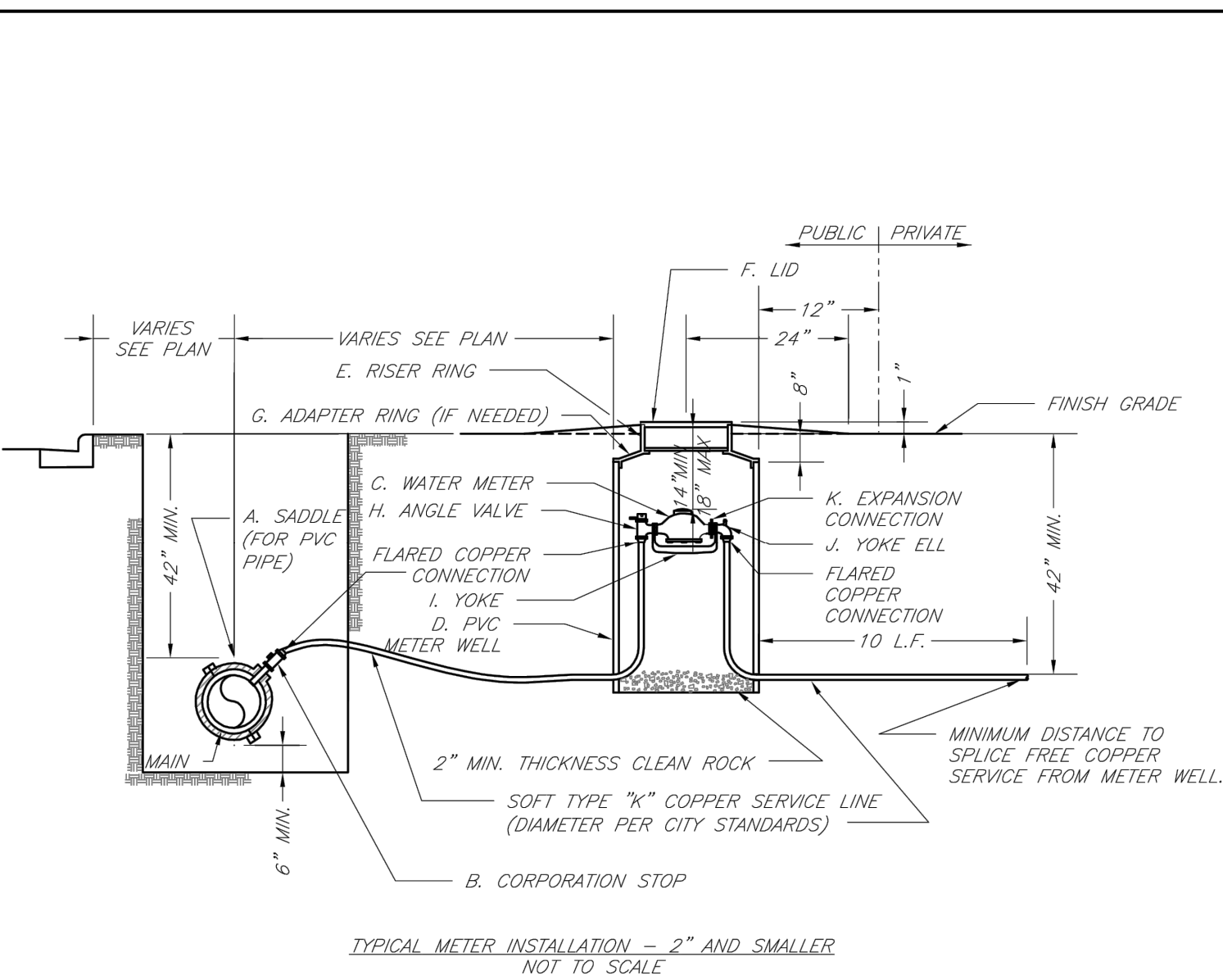
Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-7

Rev: 1/14



- NOTES:
1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
 2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
 3. CITY TO FURNISH ITEMS A-K.
 4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
 5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
 6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
 7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
 8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
 9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
 10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

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

SERVICE CONNECTION/METER WELL

WAT-11

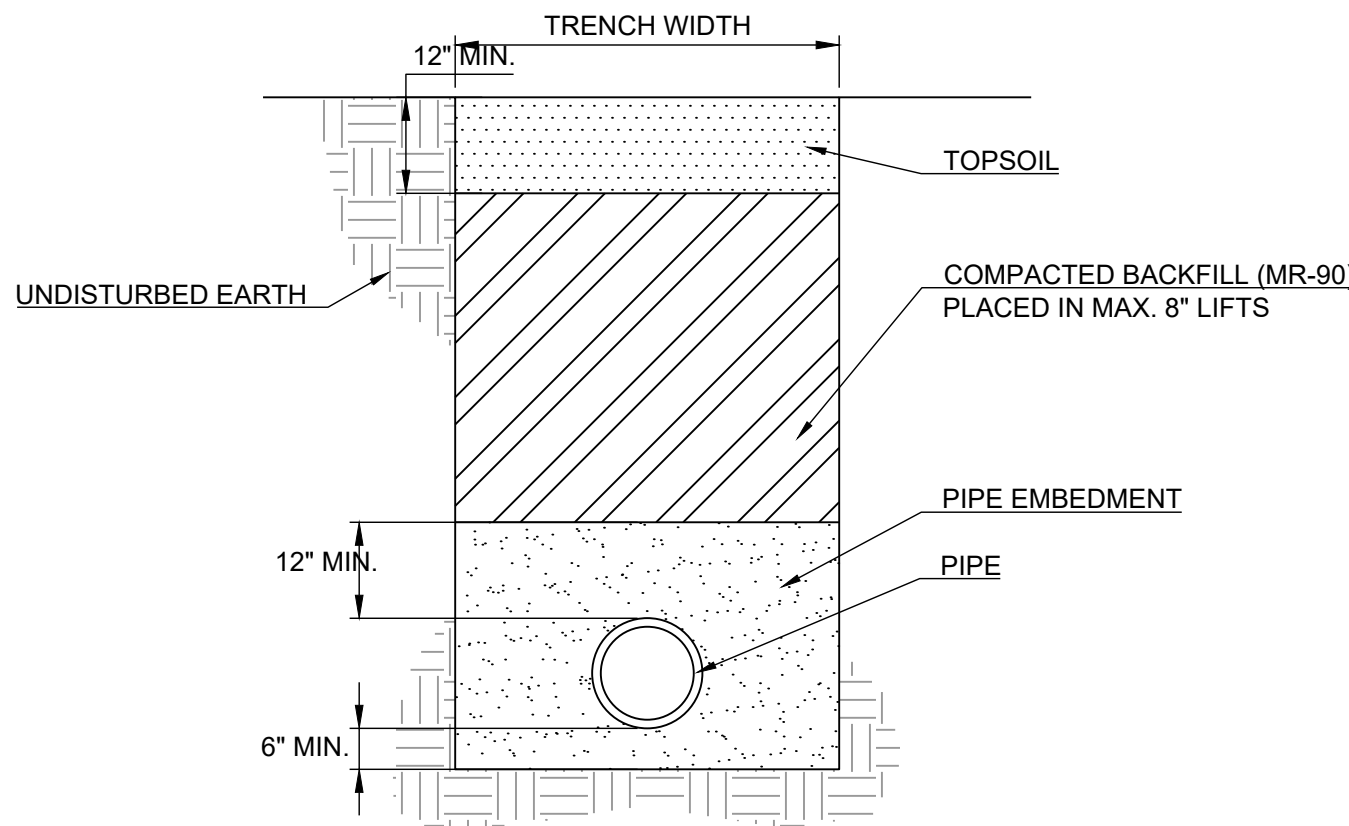
Date: 02/13

Drawn By: JN

Checked By: DL

FILE: WAT-11

Rev: 1/14



NTS
TRENCH AND BACKFILL DETAIL

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DETAIL SHEET