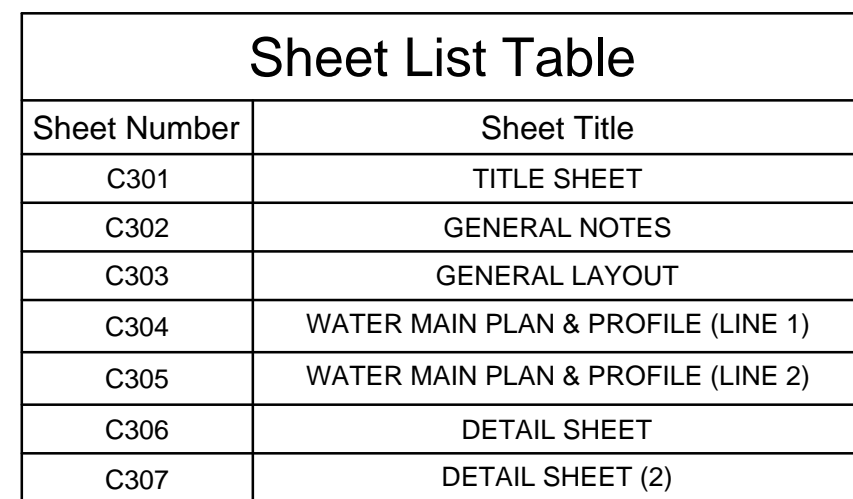


NE 1/4 SECTION 35, TOWNSHIP 47 N, RANGE 32 W.
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



☒ NOT FOR CONSTRUCTION

☐ REVIEWED FOR CONSTRUCTION



ALL OF THE WEST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE FIFTH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY MISSOURI EXCEPT THAT PART IN MISSOURI STATE HIGHWAY NO. 150 RIGHT-OF-WAY

ALSO

A TRACT OF LAND IN THE WEST HALF OF THE SOUTHWEST QUARTER AND EAST HALF OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 35, TOWNSHIP 47 NORTH, RANGE 32 WEST OF THE 5TH PRINCIPAL MERIDIAN IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI BEING BOUNDED AND DESCRIBED BY OR UNDER THE DIRECT SUPERVISION OF JASON S. ROUBEUSH, (PLS. 2002014092), AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 88°07'14" WEST, ON THE NORTH LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 1,319.40 FEET TO THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE SOUTH 02°10'22" WEST, ON THE WEST LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 659.27 FEET TO THE NORTHWEST CORNER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE SOUTH 88°08'29" EAST, ON THE WEST LINE OF SAID PROPOSED QUARTER OF SAID NORTHEAST QUARTER, 1,319.40 FEET TO THE WEST LINE OF SAID PROPOSED QUARTER OF SAID NORTHEAST QUARTER, 2ND PLAT; THENCE SOUTH 88°08'29" EAST ON THE NORTH LINE OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, AND ALONG SAID WESTERLY LINE, 326.96 FEET TO THE NORTHEAST CORNER OF SAID WEST HALF OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER, AND SAID NORTHEAST QUARTER, ALSO BEING THE SOUTHWEST CORNER OF SAID EAST HALF OF SAID NORTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°09'46" EAST ON THE WEST LINE OF SAID EAST HALF OF SAID NORTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER, 326.96 FEET TO THE WEST LINE OF SAID WEST HALF OF SAID SOUTHWEST QUARTER OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE SOUTH 88°08'29" EAST, ALONG THE NORTH LINE OF PROPOSED TRACT I, A DISTANCE OF 366.13 FEET; THENCE NORTH 88°17'07" WEST, ALONG SAID EASTERLY LINE, 353.36 FEET TO A POINT ON SAID WEST LINE OF SAID NORTHEAST QUARTER OF SAID NORTHEAST QUARTER; THENCE NORTH 02°10'22" EAST ON SAID WEST LINE, 20.25 FEET TO THE POINT OF BEGINNING. CONTAINING 14,798 SQUARE FEET OR 0.34 ACRES. MORE OR LESS.

BENCHMARK NO. 1
CHISELED PLUS ON THE EAST FLANGED BOLT OF THE FIRE HYDRANT ON THE WEST SIDE OF SW PRYOR RD. ON ADJOINING PROPERTY SOUTH OF THE
SOUTHWEST CORNER OF SUBJECT PROPERTY.
ELEVATION = 1014.830

BENCHMARK NO. 2
RAILROAD SPIKE IN THE NORTH FACE OF POWER POLE LOCATED ON THE SOUTH SIDE MISSOURI STATE HIGHWAY 150 AT THE WEST SIDE OF THE DRIVEWAY TO
2025 MISSOURI STATE HIGHWAY 150, LEE'S SUMMIT, MO.
ELEVATION = 1031.313

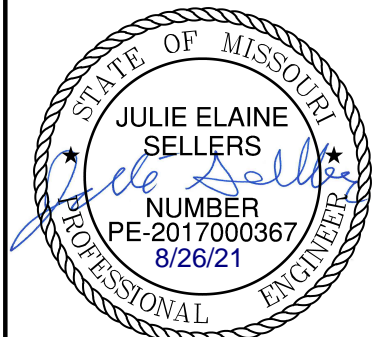
OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

JULIE E. SELLERS, P.E.
CIVIL ENGINEER
MO# PE-2019000237

8/26/21

DATE

olsson

[illegible]

TITLE SHEET

WATER MAIN EXTENSION PLANS

OSAGE 3RD PLAT

LEE'S SUMMIT, MO

REVISIONS

2021

drawn by: _____ MJD
checked by: _____ JES
designed by: _____ MJD
QA/QC by: _____ JES
project no.: _____ D19-2339
drawing no.: _____ C_TTL01_D192339
date: _____ 6/24/2021

SHEET
C301

DWG: F:\2019\2001-2500\019-2339-d\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_TTL01_D192339.dwg
DATE: Aug 26, 2021 8:40am
USER: aobdigiuliev

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
 - A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
 - B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
 - C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.
 - E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING

FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.

4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
 - A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
 - B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
 - C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
 - D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
 - E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
 - A. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - B. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

WATER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.
3. COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. ALL PRIVATE WATER LINES SHALL BE A MINIMUM OF 48 INCHES AND MAXIMUM OF 60 INCHES BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.
7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.
8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
9. ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODES AND ORDINANCES.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
	6" C900 PLASTIC PIPE	L.F.	465.59	
	8" C900 PLASTIC PIPE	L.F.	329.70	
	8" X 6" TEE	EA.	1	
	STRAIGHT SET HYDRANT ASSEMBLY	EA.	1	
	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	EA.	1	
	6" GATE VALVES	EA.	1	
	8" GATE VALVES	EA.	1	
	6" HORIZONTAL BENDS	EA.	6	
	8" SOLID SLEEVE	EA.	1	
	8" PVC PLUG	EA.	1	

olsson

Olsson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116
TEL 816.361.1177
www.olsson.com

STATE OF MISSOURI
JULIE ELAINE
SELLERS
Professional Engineer
NUMBER
PE-2017000367
8/26/21

BY

REV. NO.

DATE

REVISIONS DESCRIPTION

1

08/11/2021

REVISED PER CITY COMMENTS

GENERAL NOTES
WATER MAIN EXTENSION PLANS
OSAGE 3RD PLAT

2021

LEE'S SUMMIT, MO

drawn by: MJD
checked by: JES
designed by: MJD
QA/QC by: JES
project no.: D19-2339
drawing no.: C_TTL01_D192339
date: 8/24/2021

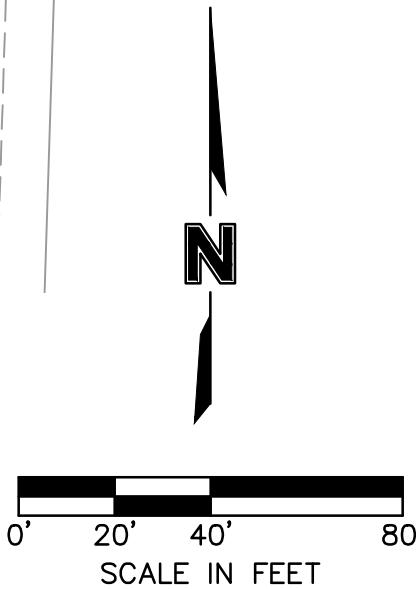
SHEET
C302

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE STANDARDS AND SPECIFICATIONS FOR WATER MAIN EXTENSIONS OF THE LEE'S SUMMIT, MISSOURI WATER SERVICES DEPARTMENT. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.

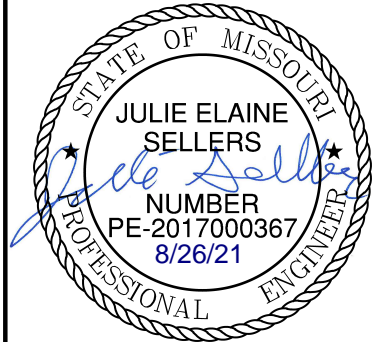
2. AREAS WITH LESS THAN 4 FEET OF DEPTH FROM EXISTING GRADE TO PROPOSED TOP OF PIPE SHALL BE FILLED TO AN ELEVATION OF 4 FEET ABOVE THE PROPOSED TOP OF PIPE, COMPACTED 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 PRIOR TO TRENCHING FOR PIPE INSTALLATION.

Legend for water main symbols:

- PROPERTY LINE
- PROPOSED WATER MAIN
- FIRE HYDRANTS ASSEMBLY
- STRAIGHT SET HYDRANT ASSEMBLY
- STRADDLE BLOCK
- GATE VALVE



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1301 Burlington Street
North Kansas City, MO 64116

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GENERAL LAYOUT WATER MAIN EXTENSION PLANS	OSAGE 3RD PLAT
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LEE'S SUMMIT, MO

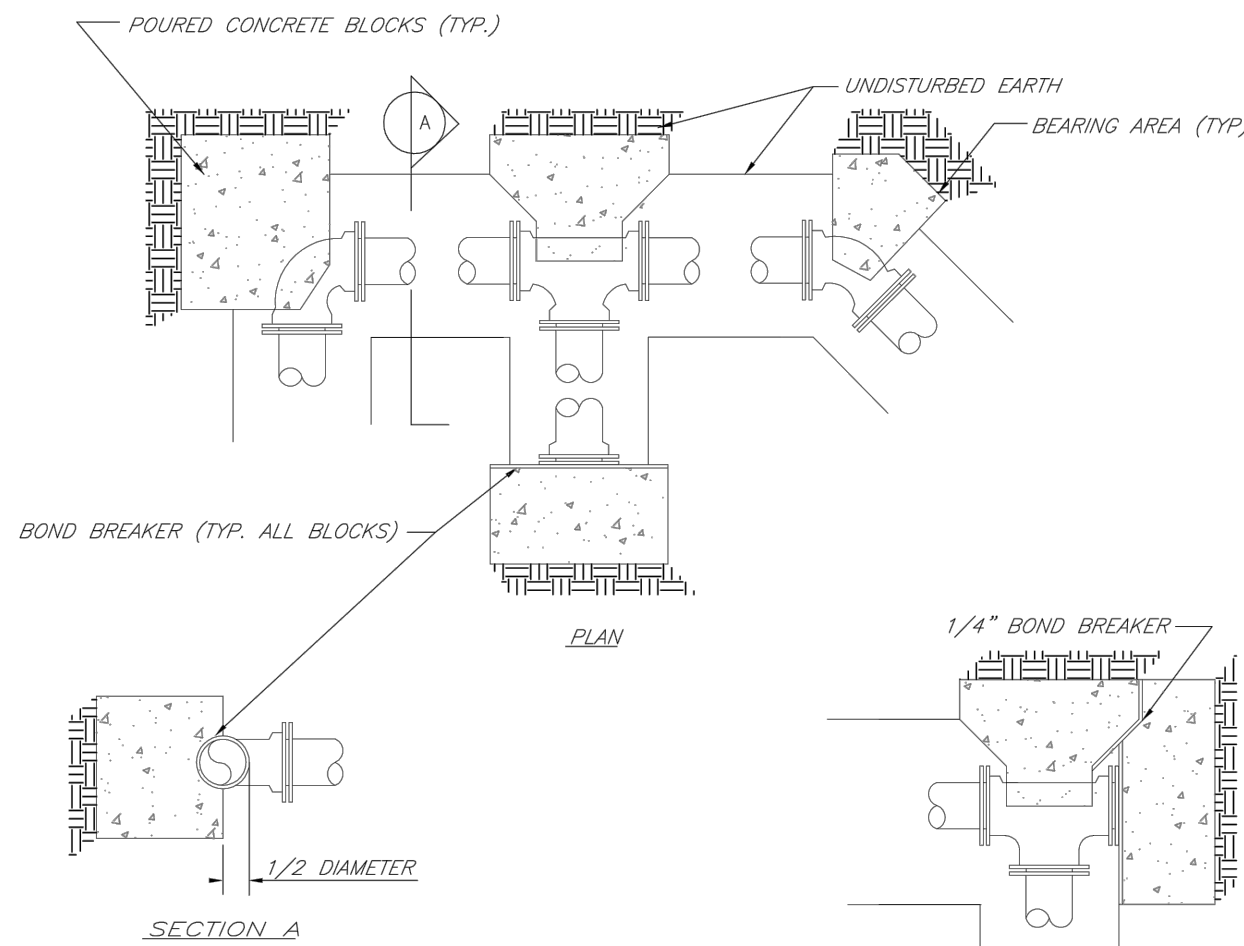
drawn by: _____ MJD
checked by: _____ JES
designed by: _____ MJD
QA/QC by: _____ JES
project no.: _____ D19-2339
drawing no.: C_GEN01_D192339
date: _____ 6/24/2021

SHEET
C303

REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)						
NOM. DIA. (INCHES)	180 TEE	90 PLUG	45 BEND	22.5 BEND	11.25 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0	4.0
8	8.1	11.8	6.4	4.0	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0	4.0
12	18.0	26.7	14.4	7.4	5.1	4.0
14	22.7	36.3	19.6	10.0	5.1	4.0
16	33.5	47.4	25.6	13.1	6.6	5.0
18	42.4	REST. JT.	32.9	16.5	8.3	5.0
20	REST. JT.	REST. JT.	40.1	20.4	10.4	8.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8	11.8

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.

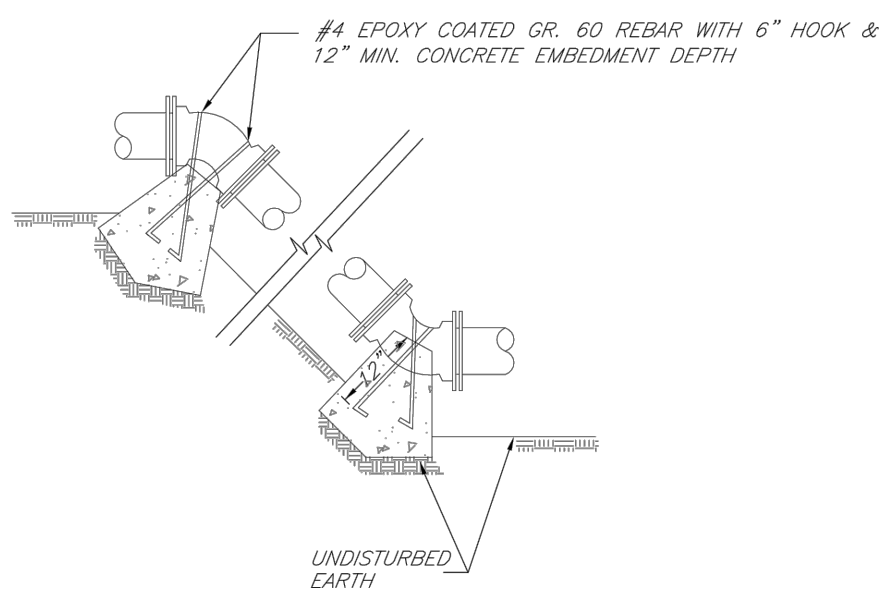


	<h1 style="text-align: center;">LEE'S SUMMIT</h1> <h2 style="text-align: center;">MISSOURI</h2> <p style="text-align: center;">PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</p>		Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-1
	<h3>HORIZONTAL THRUST BLOCKS</h3>		Rev: 1/14 Rev:

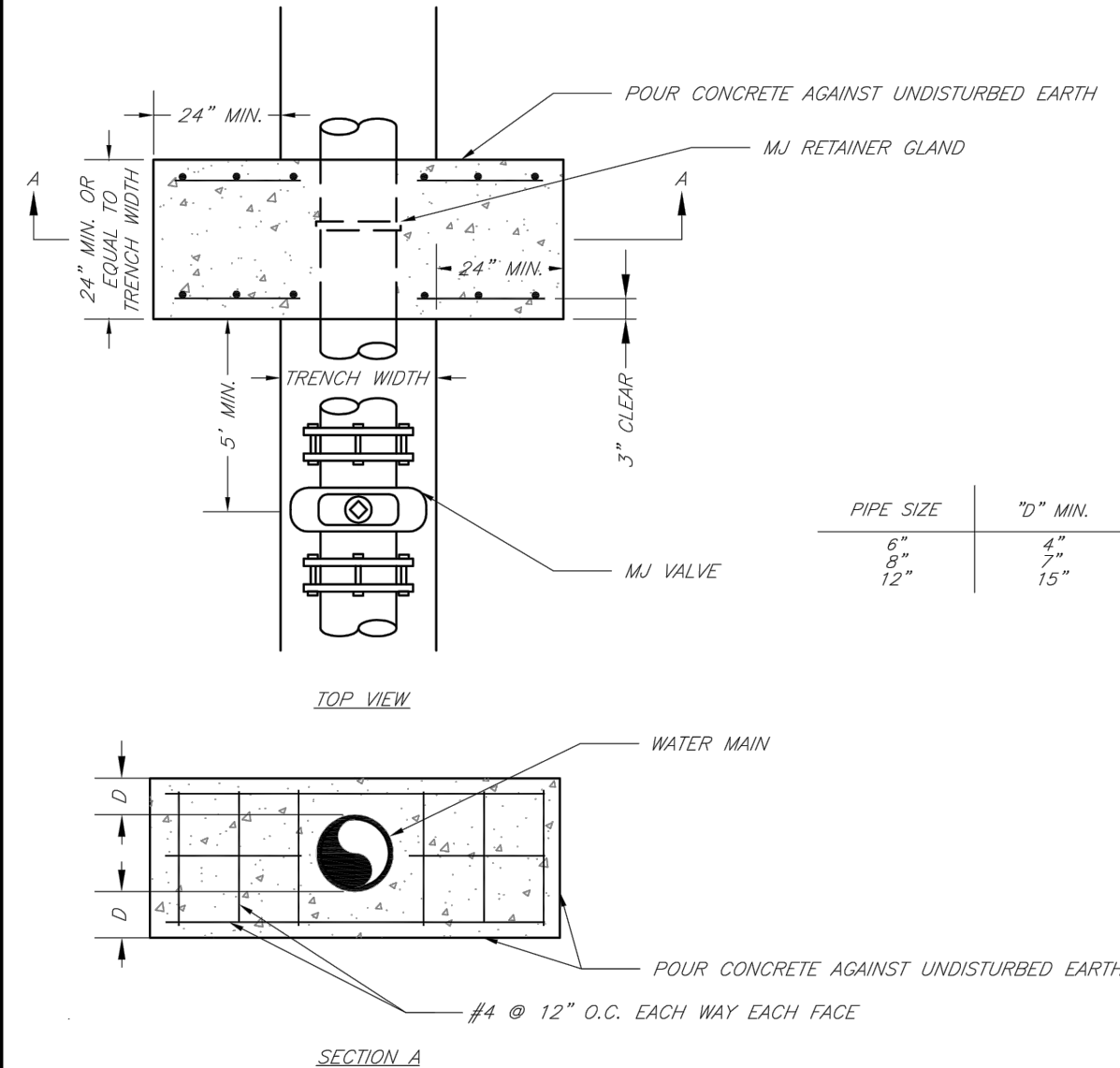
REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)						
NOM. DIA. (INCHES)	180 PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND	
6	55	71.4	35.7	17.8	8.9	
8	89.8	126.9	68.7	35.0	17.5	
10	140.2	198.3	107.3	54.7	27.6	
12	202.0	282.5	153.9	78.9	39.4	
14	REST. JT.	REST. JT.	210.4	107.3	53.9	
16	REST. JT.	REST. JT.	REST. JT.	140.7	70.4	
18	REST. JT.	REST. JT.	REST. JT.	177.3	88.7	
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	118.8	
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	159.1	

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.

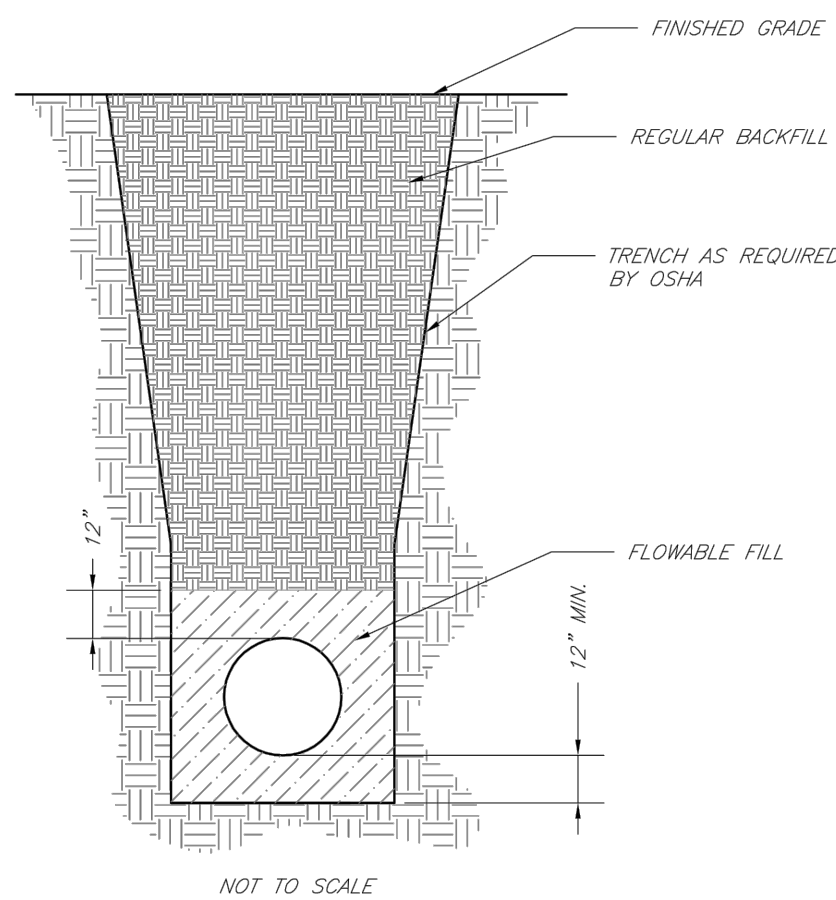


	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 1200 SE GREEN STREET LEE'S SUMMIT, MO 64063		Date: 02/13
			Drawn By: JN
			Checked By: DL
			FILE: WAT-2
VERTICAL THRUST BLOCKS			Rev: 1/14
			Rev:



NOTE:
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"

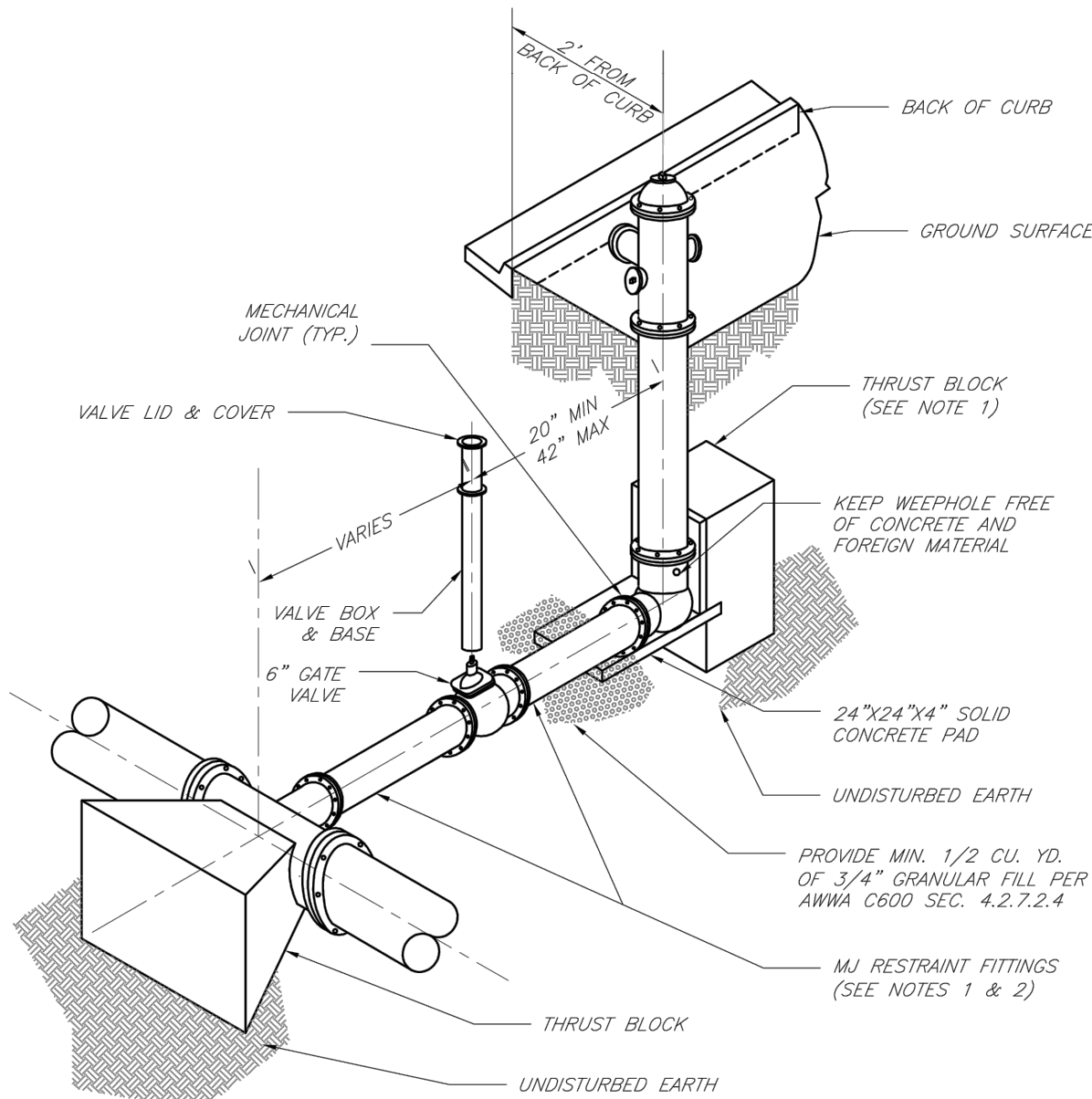
	<p align="center">LEE'S SUMMIT MISSOURI</p> <p align="center">PUBLIC WORKS ENGINEERING DIVISION 2205 SE GREEN STREET LEE'S SUMMIT, MO 64063</p>	<p>Date: 02/13</p> <p>Drawn By: JN</p> <p>Checked By: DL</p> <p>FILE: WAT-3</p>
	<p>STRADDLE BLOCK</p>	<p>Rev: 1/14</p> <p>Rev:</p>



NOTES:

1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

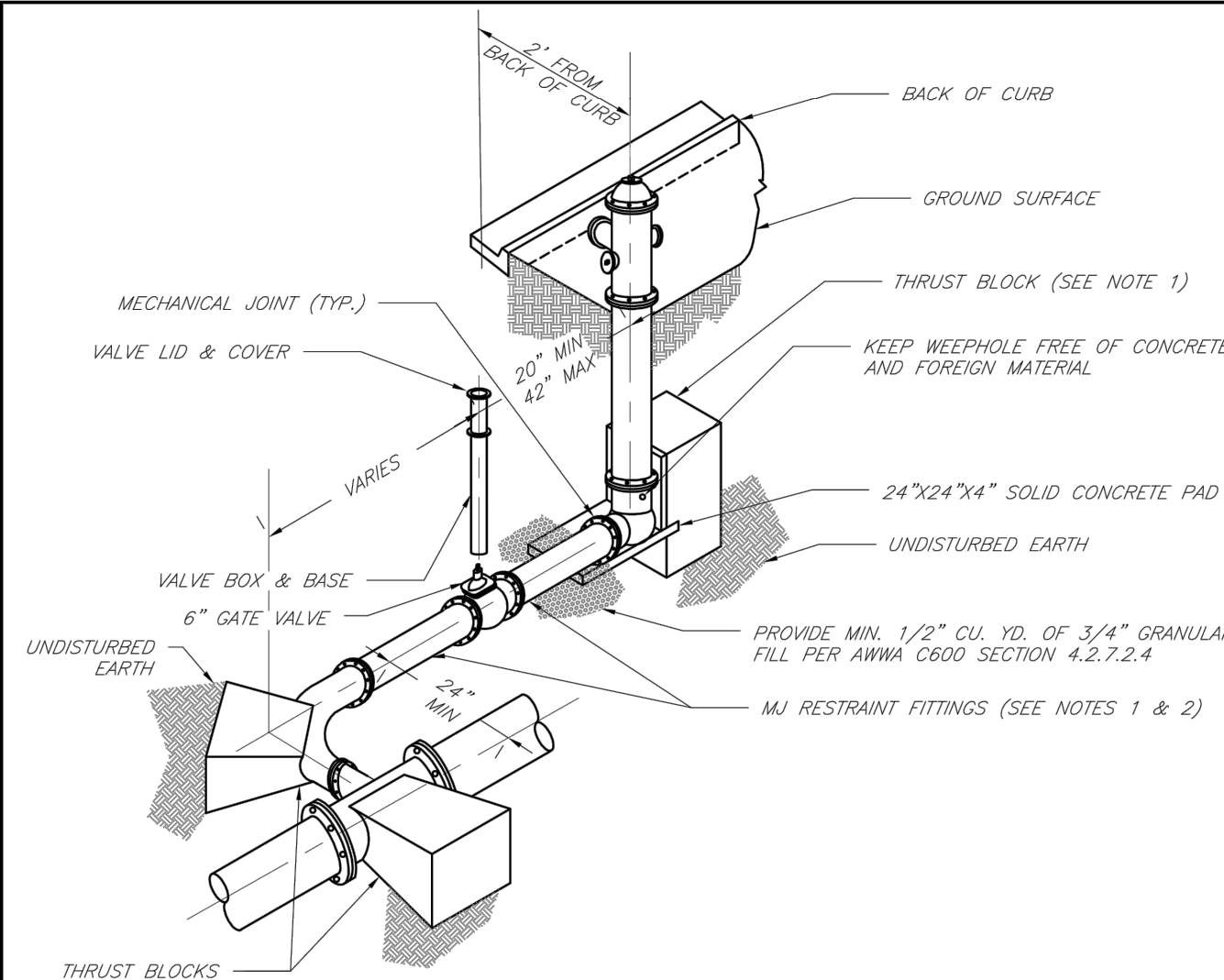
	<p>LEE'S SUMMIT MISSOURI</p> <p>PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64065</p>	<p>Date: 02/13</p> <p>Drawn By: JN</p> <p>Checked By: DL</p> <p>File#: WAT-6</p>
	<p>TRENCH CHECK</p>	<p>Rev: 1/14</p> <p>Rev:</p>



NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BOLTS ARE REQUIRED.
2. GATE VALVE MAY BE DRILLED DIRECTLY TO MJ RESTRAINT TEE.
3. GATE VALVE PRODUCTS ARE LIST FOR WATER UTILITY, FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. GATE VALVE SHALL BE PLACED AT LEAST 10' FROM ANY ADJACENT UTILITY.
6. FOR STREETS WITHOUT CURBS FIRE HYDRANT 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.
7. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

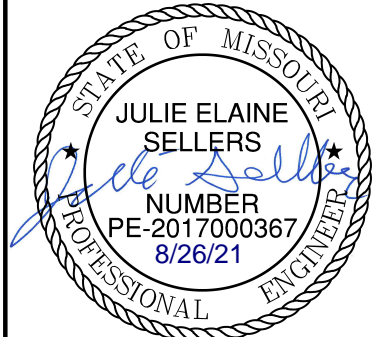
	<h1 style="text-align: center;">LEE'S SUMMIT</h1> <h2 style="text-align: center;">MISSOURI</h2> <p style="text-align: center;">PUBLIC WORKS ENGINEERING DIVISION 220 SC GREEN STREET LEE'S SUMMIT, MO 64063</p>		Date: 02/13 Drawn By: jh Checked By: DL File: NAT-7
	<h3 style="text-align: center;">HYDRANT INSTALLATION – STRAIGHT SET</h3>		Rev: 1/14 Rev:



NOTES:

1. WHEN RESTRAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BOLTS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO AN RESTRAINT TEE.
3. FIRE HYDRANT PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BURIED RESTRAINT FLANGE SHALL BE 3" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANT 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.

	<p align="center">LEE'S SUMMIT MISSOURI</p> <p align="center">PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063</p>	<p>Date: 02/13</p> <p>Drawn By: JH</p> <p>Checked By: DL</p> <p>FILE: WAT-B</p>
	<p align="center">HYDRANT WITH 90 DEGREE BEND</p>	<p>Rev: 1/14</p>

[illegible]

<p> DETAIL SHEET WATER MAIN EXTENSION PLANS </p>	
<p>OSAGE 3RD PLAT</p>	
<p>LEE'S SUMMIT, MO</p>	<p>2021</p>

