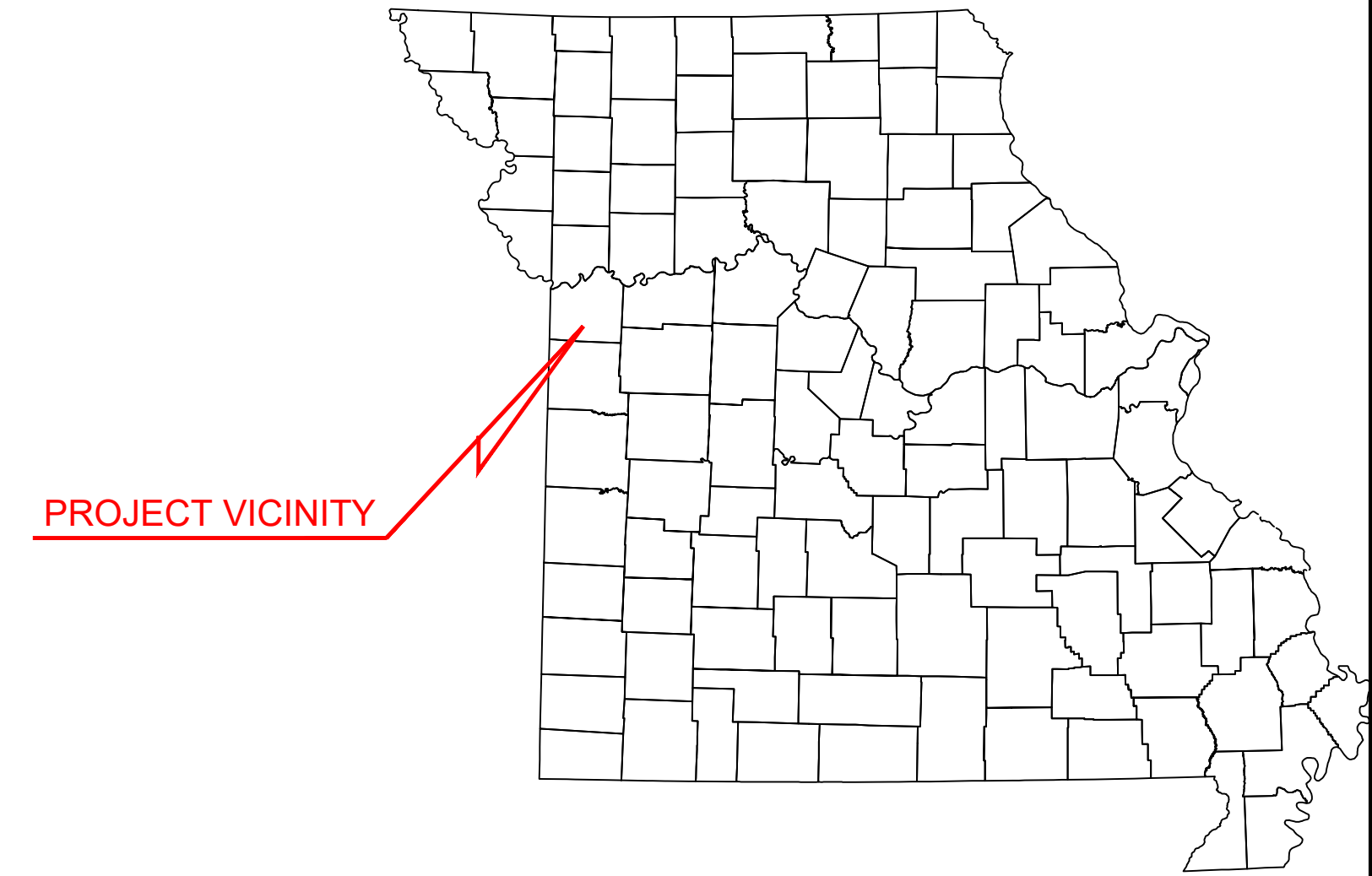
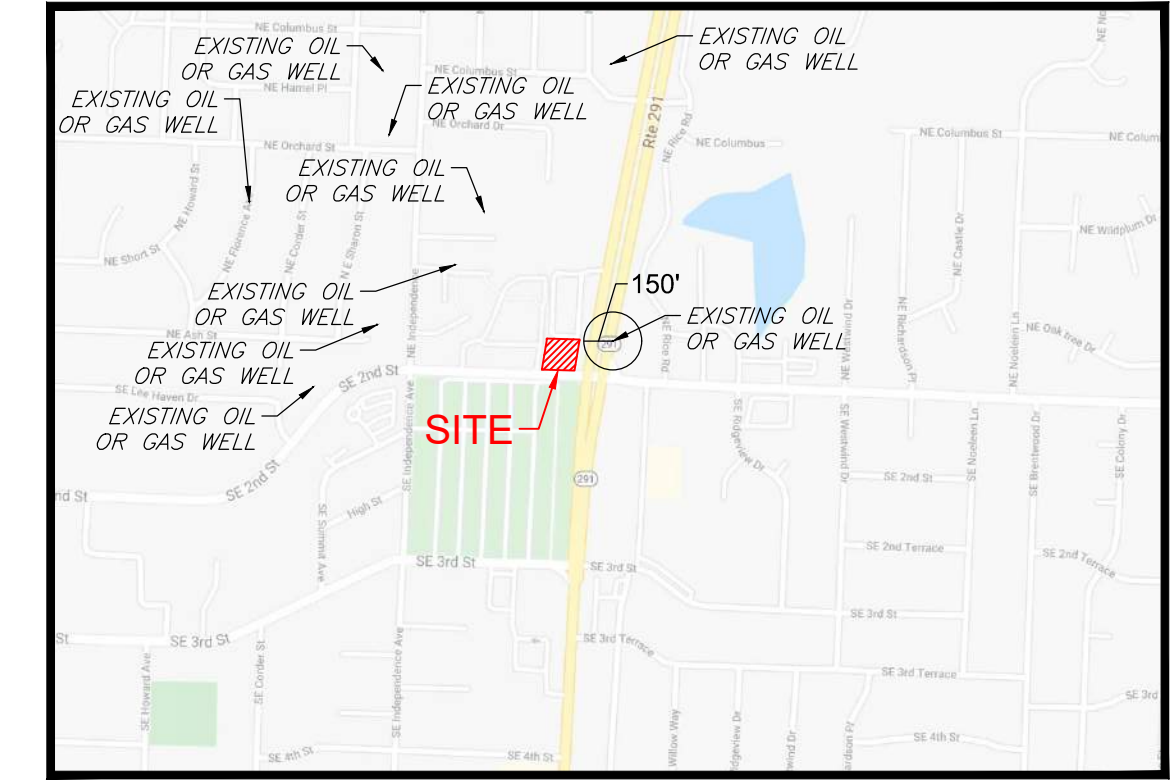


# PUBLIC WATER MAIN RELOCATION PLAN FOR

## CITY OF LEE'S SUMMIT CHASE BANK HIGHWAY 291 & NE LANGSFORD 890 NE LANGSFORD ROAD LEE'S SUMMIT, MO 64063 JACKSON COUNTY, MISSOURI



VICINITY MAP  
SCALE: 1" = 2,000'



OIL/GAS WELL MAP  
SCALE: 1" = 1,000'

SHEET INDEX						
SHEET NUMBER	DESCRIPTION	REV 1	REV 2	REV 3	REV 4	
C1	COVER SHEET					
C2	GENERAL NOTES		Δ			
C3	EROSION AND SEDIMENTATION CONTROL PLAN PHASE I		Δ			

**DESIGN AND DEVELOPMENT CONTACTS:**  
 OWNER / DEVELOPER: JP MORGAN CHASE  
 1111 POLARIS PARKWAY  
 COLUMBUS, OH 43240  
 CONTACT: MARGARET TROIA  
 10 S DEARBORN STREET, FLOOR 15  
 CHICAGO, IL 60603  
 312-732-7980  
 CIVIL ENGINEER: CORE STATES GROUP  
 3039 PREMIERE PARKWAY, SUITE 700  
 DULUTH, GA 30097  
 CONTACT: CHAD FAIRBANKS, P.E.  
 TEL: 314-270-5203  
 SURVEYOR: SWT DESIGN, INC.  
 772 BIG BEND BOULEVARD  
 ST. LOUIS, MO 63119  
 CONTACT: JAMES DEGENHARDT, P.L.S.  
 TEL: 314-644-5700

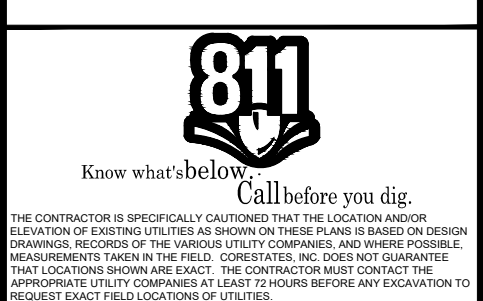
**GOVERNING AGENCIES CONTACTS:**  
 PLANNING AND ZONING: LEE'S SUMMIT DEVELOPMENT SERVICES  
 220 SE GREEN  
 LEE'S SUMMIT, MO 64063  
 TEL: 816-969-1238  
 BUILDING DEPARTMENT: LEE'S SUMMIT DEVELOPMENT SERVICES  
 220 SE GREEN  
 LEE'S SUMMIT, MO 64063  
 TEL: 816-969-1241  
 FIRE DEPARTMENT: LEE'S SUMMIT FIRE DEPARTMENT  
 9939 DIAMOND DRIVE  
 ST. LOUIS, MO 63137  
 CONTACT: ASSISTANT CHIEF JIM EDEN  
 TEL: 816-969-7407  
 TRANSPORTATION DEPARTMENT: MISSOURI DEPARTMENT OF TRANSPORTATION  
 600 NE COLBERN ROAD  
 LEE'S SUMMIT, MO 64086  
 CONTACT: DEREK OLSON  
 TEL: 816-607-2107  
 TRANSPORTATION DEPARTMENT: LEE'S SUMMIT PUBLIC WORKS DEPARTMENT  
 220 SE GREEN STREET  
 LEE'S SUMMIT, MO 64063  
 TEL: 816-969-1800  
 WATER/WASTEWATER: LEE'S SUMMIT WATER UTILITIES  
 1200 SE HAMBLEN ROAD  
 LEE'S SUMMIT, MO 64081  
 TEL: 816-969-1900  
 STORMWATER: STORMWATER (LEE'S SUMMIT PUBLIC WORKS DEPARTMENT)  
 220 SE GREEN STREET  
 LEE'S SUMMIT, MO 64063  
 TEL: 816-969-1800

**UTILITY CONTACTS:**  
 ELECTRIC COMPANY: EVERGY  
 P.O. BOX 219330  
 KANSAS CITY, MO 64121  
 TEL: 816-556-2200  
 GAS COMPANY: SPIRE ENERGY  
 3025 SE CLOVER DRIVE  
 LEE'S SUMMIT, MO 64082  
 TEL: 816-969-2200  
 TELEPHONE / INTERNET: CHARTER / SPECTRUM  
 188 NW OLDFHAM PARKWAY  
 LEE'S SUMMIT, MO 64081  
 TEL: 866-874-2389  
 SOLID WASTE: WASTE MANAGEMENT  
 2404 S 88TH STREET  
 KANSAS CITY, KS 66111  
 TEL: 866-570-4702

**SITE DATUM ELEVATION:**  
 ELEVATIONS SHOWN ARE IN FEET ABOVE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) BASED ON MODOT VRS NETWORK. CONVERSION FROM NAVD 88 TO NGVD 29, NAVD 88 - 0.302' = NGVD 29.  
**FLOOD NOTE:**  
 THIS PROPERTY IS LOCATED IN AN AREA DETERMINED TO BE OUTSIDE THE 0.1% ANNUAL CHANGE FLOOD (100-YEAR) AS DETERMINED BY THE NATIONAL FLOOD INSURANCE PROGRAM. FLOOD INSURANCE RATE MAP FOR THE CITY OF LEE'S SUMMIT, MISSOURI, MAP NUMBER 29095C0436G EFFECTIVE DATE 01/20/2017.  
**ALERT TO CONTRACTOR:**  
 1. THE SITE WORK FOR THE PROPOSED DEVELOPMENT SHALL MEET OR EXCEED ALL CITY AND/OR COUNTY AND STATE STANDARDS FOR SITE WORK.  
 2. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO PROJECT COMPLETION.



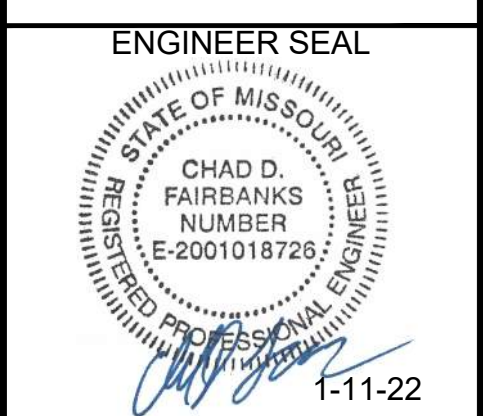
DOCUMENTS PREPARED BY CORE STATES, INC. INCLUDING THIS DOCUMENT ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORE STATES, INC. IS DONE UNLAWFULLY AND AT THE USER'S OWN RISK. IF USED IN A MANNER OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORE STATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.



REVISIONS			
REV	DATE	COMMENT	BY
1	1-10-22	CITY COMMENT	CDF

DOCUMENT  
WATER MAIN  
RELOCATION PLANS

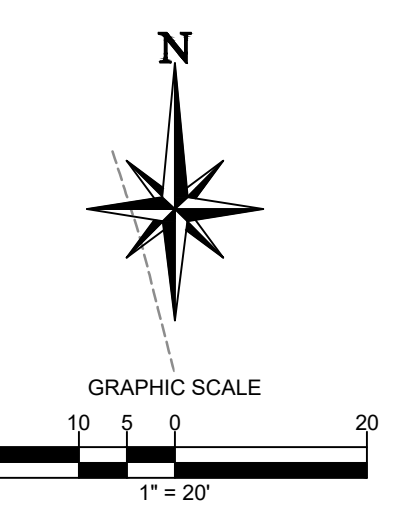
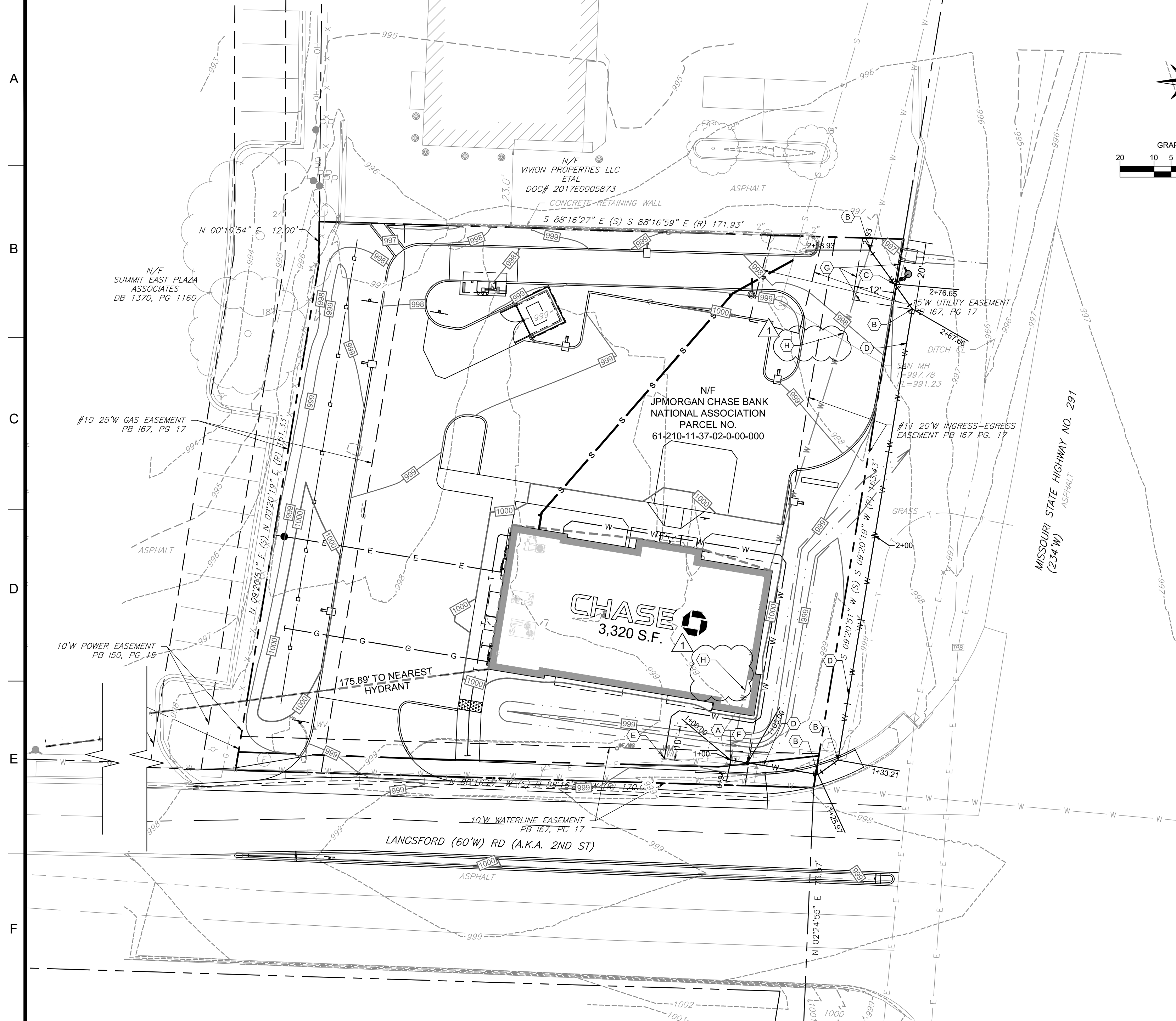
SITE LOCATION  
890 NE  
LANGSFORD ROAD  
LEE'S SUMMIT, MO  
64063



SHEET TITLE  
COVER SHEET

JOB #: JPM-27135-001  
 DATE: 12/22/2021  
 SCALE: AS NOTED  
 DRAWN BY: CDF  
 CHECKED BY: CDF

SHEET NO.  
**C1**



**UTILITY LEGEND**

	EXISTING PROPERTY BOUNDARY LINE
	EXISTING ADJOINING PROPERTY LINE
	EXISTING UTILITY EASEMENT
	EXISTING 5' INTERVAL CONTOUR LINE
	EXISTING 1' INTERVAL CONTOUR LINE
	PROPOSED 5' INTERVAL CONTOUR LINE
	PROPOSED 1' INTERVAL CONTOUR LINE
	EXISTING CURB AND GUTTER
	EXISTING EDGE OF PAVEMENT
	PROPOSED CURB AND GUTTER
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED WATER STRUCTURES
	PROPOSED STORM STRUCTURES
	PROPOSED SANITARY STRUCTURES
	PROPOSED SITE LIGHTING FIXTURES
	EXISTING STORMWATER STRUCTURES
	EXISTING SANITARY STRUCTURES
	EXISTING WATER STRUCTURE
	EXISTING GAS MAIN
	EXISTING TELEPHONE
	EXISTING SANITARY
	EXISTING STORM
	PROPOSED STORM PIPE
	PROPOSED WATER
	PROPOSED SANITARY

**UTILITY NOTES:**

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING COMPLETE OR EXACT. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- ELEVATIONS SHOWN ARE IN FEET ABOVE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) BASED ON MODOT VRS NETWORK. CONVERSION FROM NAVD 88 TO NGVD 29, NAVD 88 - 0.354' = NGVD 29.

**KEYED NOTES:**

- CONTRACTOR TO CUT OFF EXISTING WATER MAIN AND INSTALL 1-90° 8" FITTING.
- PROPOSED 45° - 8" FITTING
- PROPOSED 8"X8"X6" TEE FOR NEW HYDRANT ASSEMBLY. REFER TO DETAIL SHEET C3 FOR HYDRANT ASSEMBLY DETAIL.
- PROPOSED 8" PVC AWWA C900 WATER MAIN. INSTALLED PER CITY SPECIFICATIONS.
- CONTRACTOR TO CONFIRM LOCATION OF EXISTING TAP FOR WATER METER. IF TAP IS DISTURBED, IT SHALL BE RESET OFF OF NEW WATER LINE.
- PROPOSED 8" WATER VALVE.
- PROPOSED UTILITY EASEMENT.
- EXISTING WATER LINE TO BE REMOVED OR ABANDONED. WATER LINE CAN BE ABANDONED BY PLUGGING THE LAST FOOT OF MAIN WITH CONCRETE OR INSTALLING MECHANICAL JOINT CAPS.

**CORE STATES GROUP**  
 3039 PREMIERE PARKWAY, SUITE 700  
 DULUTH, GA 30097  
 PHONE (314) 270-5203  
 CFAIRBANKS@CORE-STATES.COM

DOCUMENTS PREPARED BY CORE STATES, INC. INCLUDING THIS DOCUMENT ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORE STATES, INC. IS DONE UNLAWFULLY AND AT THE USER'S OWN RISK. IT IS HEREBY ADVISED THAT CORE STATES, INC. HAS NO LIABILITY OTHER THAN THAT SPECIFICALLY INTENDED. USER WILL HOLD CORE STATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

**CLIENT**  
**LEE'S SUMMIT MISSOURI**

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

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

**REVISIONS**

REV	DATE	COMMENT	BY
1	1-10-22	CITY COMMENT	CDF

**DOCUMENT WATER MAIN RELOCATION PLANS**

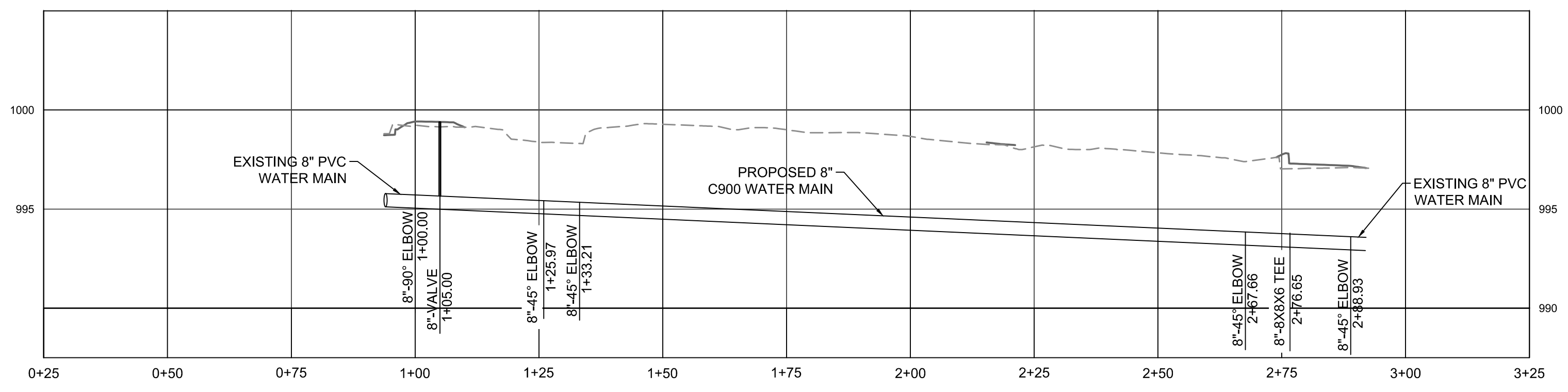
**SITE LOCATION**  
 890 NE LANGSFORD ROAD  
 LEE'S SUMMIT, MO 64063

**ENGINEER SEAL**  
 CHAD D. FAIRBANKS  
 MISSOURI PROFESSIONAL ENGINEER  
 NUMBER E-2001018726  
 1-11-22

**SHEET TITLE**  
 WATER MAIN PLAN

JOB #:	JPM-27135.001
DATE:	12/22/2021
SCALE:	1" = 20'
DRAWN BY:	CDF
CHECKED BY:	CDF

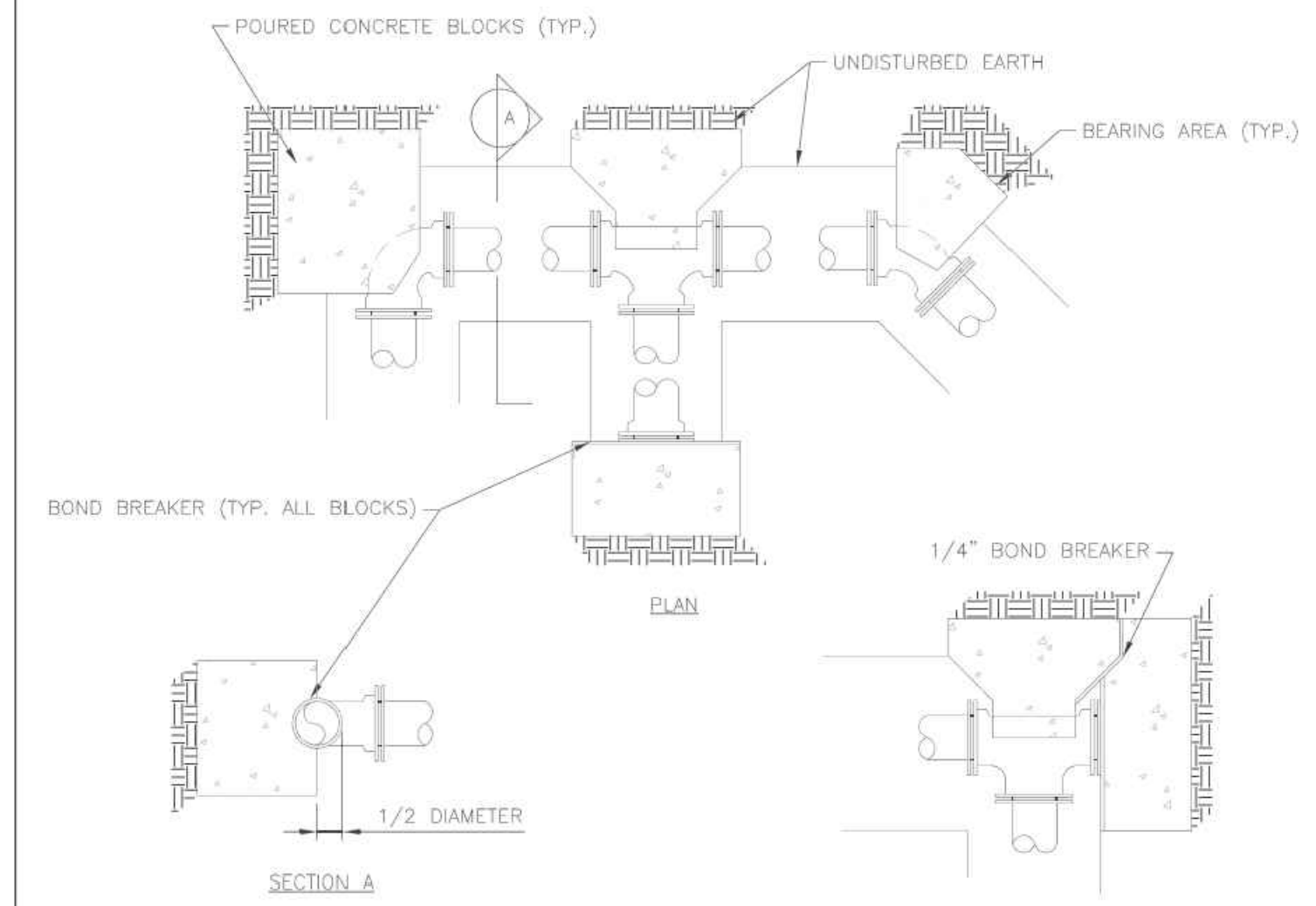
**SHEET NO.**  
**C2**



**PV - (10)**  
 SCALE  
 VERTICAL 1" = 5'  
 HORIZONTAL 1" = 20'

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.

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

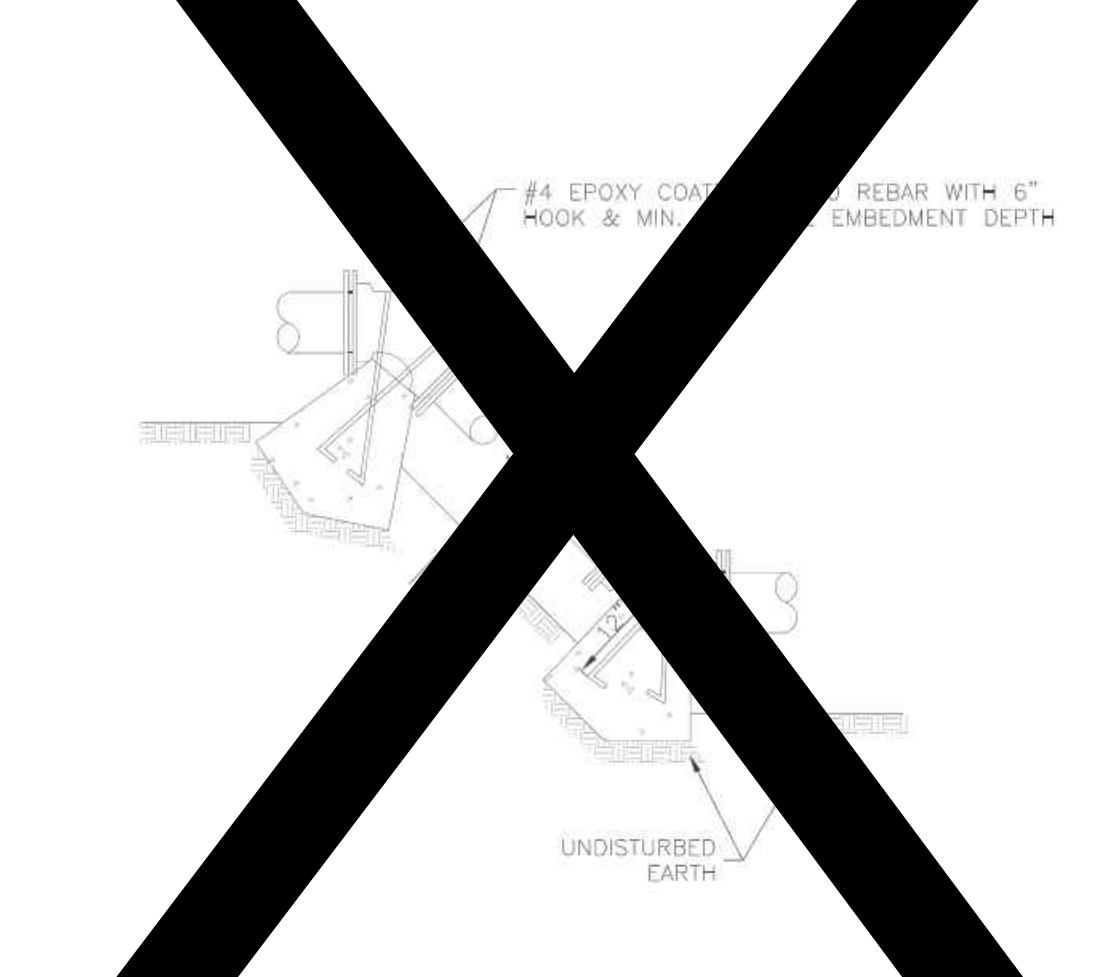
**HORIZONTAL THRUST BLOCK**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-1

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)

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	68.7	35.0	17.1
10	140.2	198.3	107.3	54.7	27.2
12	202.0	REST. JT.	154.6	78.8	39.1
14	REST. JT.	REST. JT.	210.4	107.3	52.1
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.1
18	REST. JT.	REST. JT.	REST. JT.	177.3	88.7
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.9
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	148.2



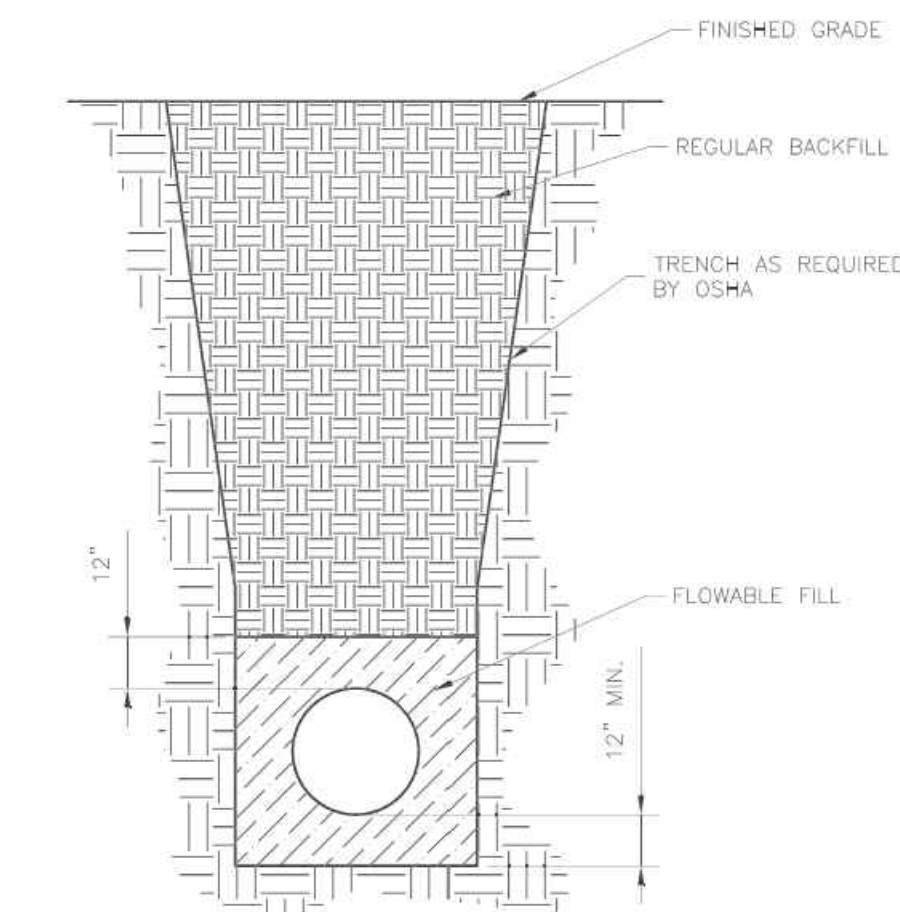
- NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
  4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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

**VERTICAL THRUST BLOCK**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-2



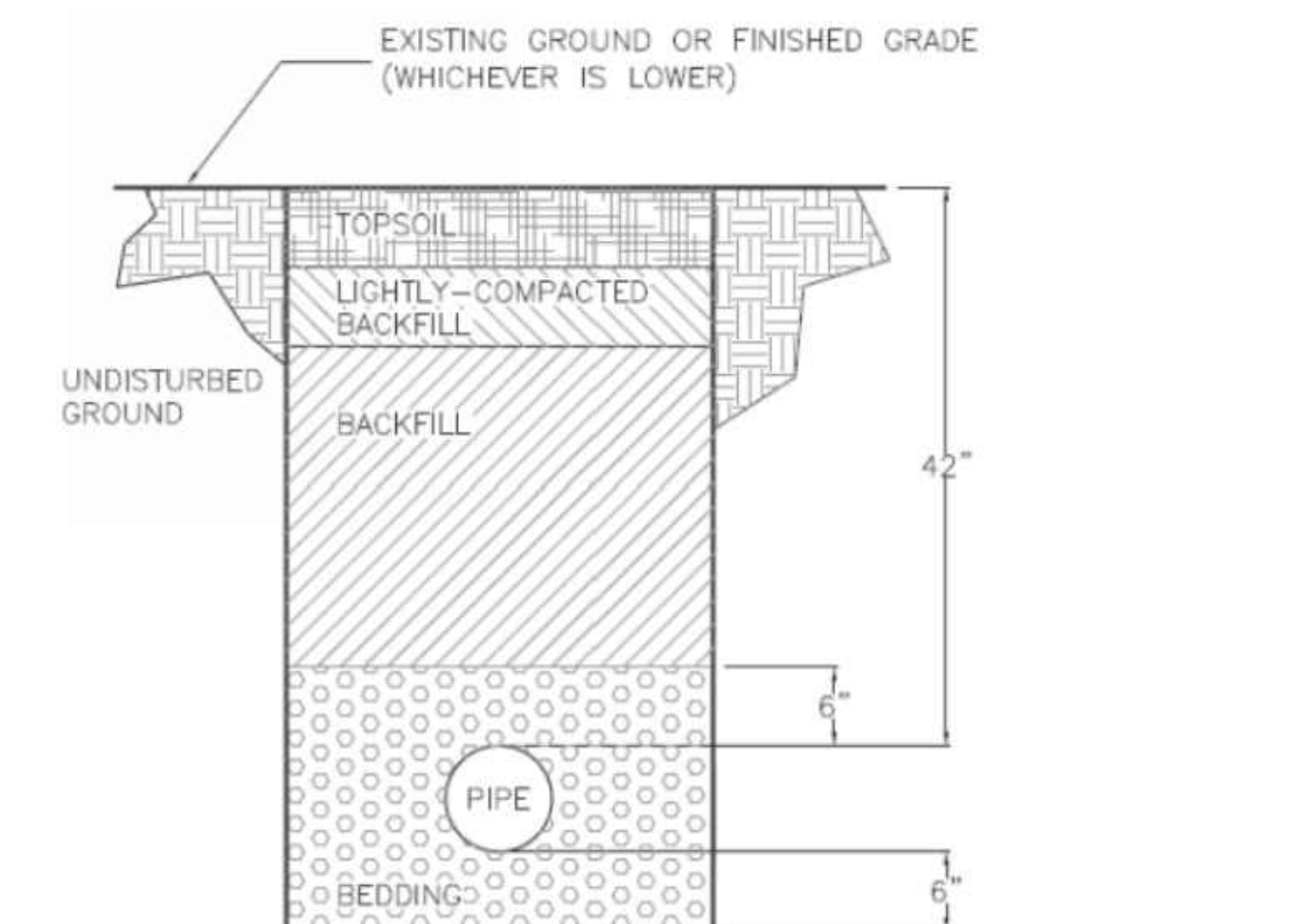
- NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
  2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
  3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE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

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

**WATER TRENCH CHECK DETAIL**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-6



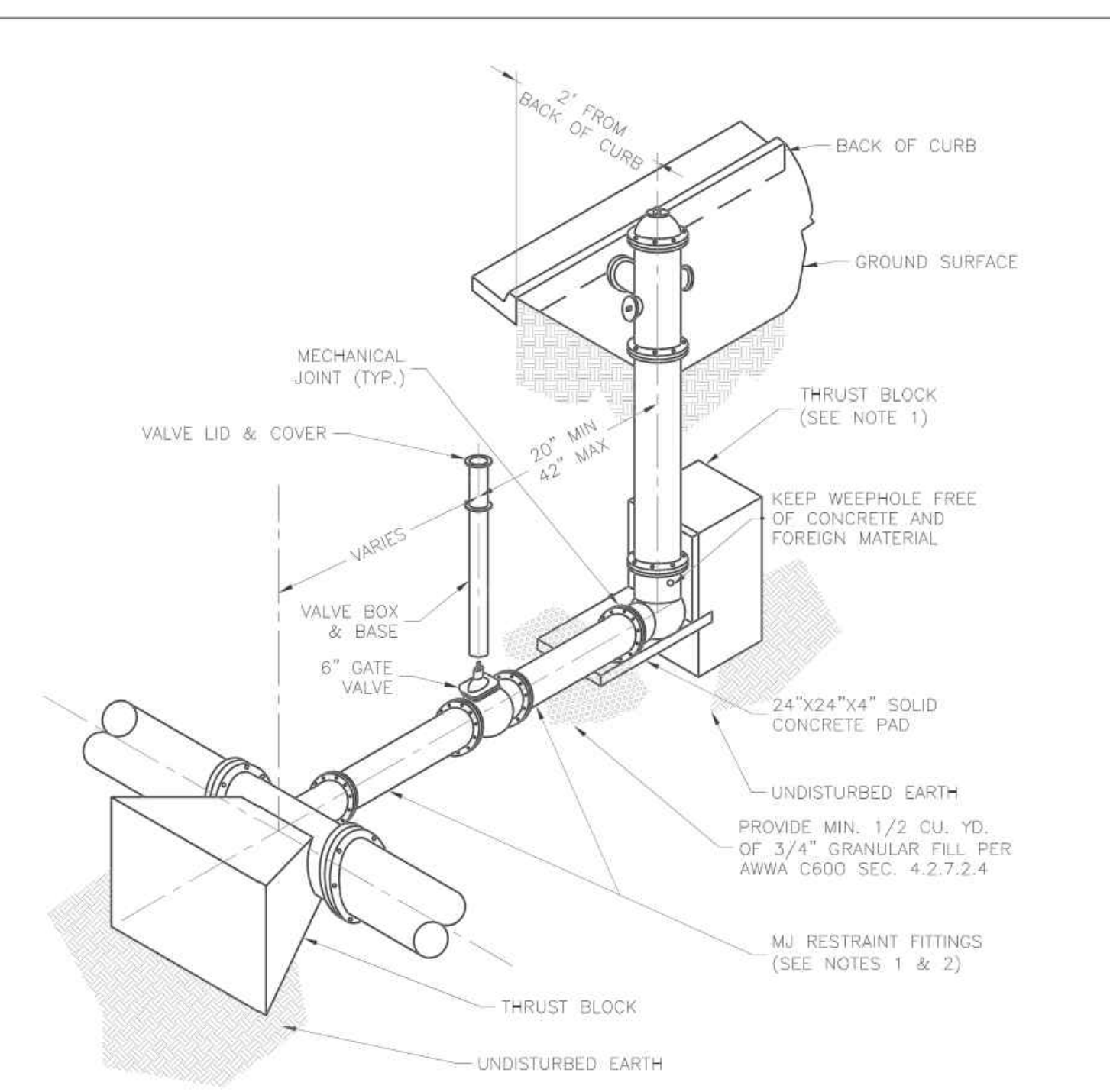
- a. Minimum Cover: A minimum of 42 inches of cover shall be over the top of the pipe. This minimum of cover shall be from the top of the pipe to the finished grade, as shown
- b. Maximum Cover: The maximum cover allowed is 7 feet.
- c. Bedding: Bedding aggregate shall be placed from a level 6 inches below the bottom of the pipe to a level 12 inches above the top of the pipe as shown above.
- d. Backfill
- i. See Section 2100.
- ii. Backfill of all pipes under roadways, curb and gutter and all other paved areas within the right of way shall consist of flowable backfill as specified in Section 2100. The flowable fill shall extend to 2 feet from back of curb to 2 feet back of curb, up to 18 inches below finished grade. For existing roadways flowable shall be extended up to the base of pavement.
- e. Topsoil: See Paragraph 2100.
- f. Trench Checks:
- iii. Impervious trench checks shall consist of flowable backfill as specified in Section 2100, and shall be placed at a maximum spacing of 500 feet. If valves are closer than 500 feet apart on the main so that the section can be isolated trench checks may be omitted.
- iv. Trench check shall extend 12 inches below the bottom of the pipe. Length shall be a minimum of 12 inches and width shall be the width of the trench. The height of the trench check shall extend to 12 inches above the top of the pipe.
- g. Conduits: No conduits, pipes or other utilities shall be located in water main trenches.

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

**TRENCH DETAIL**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-7



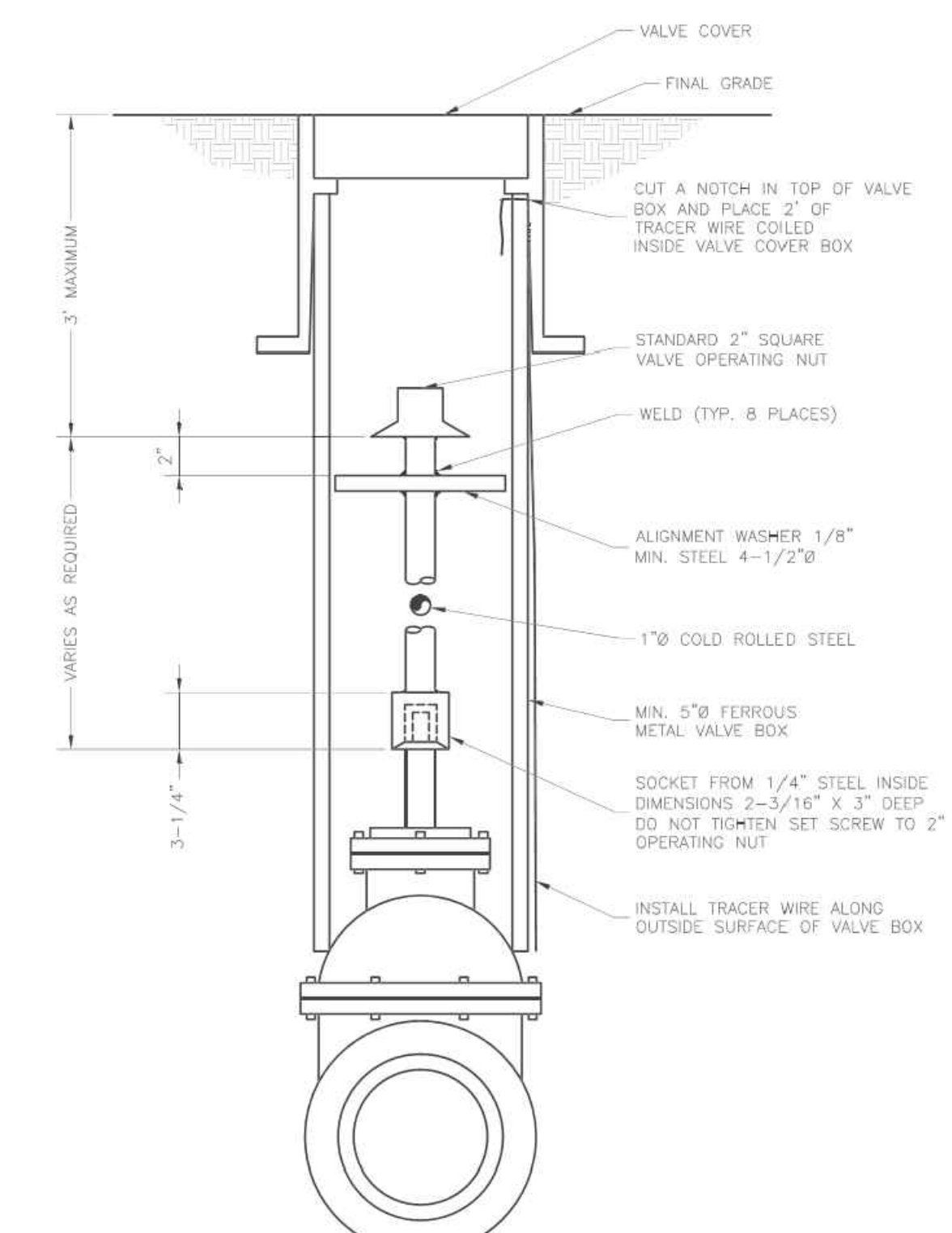
- NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  4. 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.

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

**HYDRANT - STRAIGHT SET**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-7



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

**VALVE STEM EXTENSION AND VALVE BOX**

Date: 01/2016  
Drawn By: JN  
Checked By: DL

WAT-9

**CORE STATES GROUP**  
3039 PREMIERE PARKWAY, SUITE 700  
DULUTH, GA 30097  
PHONE (314) 270-5203  
CFAIRBANKS@CORE-STATES.COM

DOCUMENTS PREPARED BY CORE STATES, INC. INCLUDING THIS DOCUMENT ARE TO BE USED ONLY FOR THE SPECIFIC PROJECT AND SPECIFIC USE FOR WHICH THEY WERE INTENDED. ANY EXTENSION OF USE TO ANY OTHER PROJECTS, BY OWNER OR BY ANY OTHER PARTY, WITHOUT THE EXPRESSED WRITTEN CONSENT OF CORE STATES, INC. IS DONE UNLAWFULLY AND AT THE USER'S OWN RISK. IF USED IN A MANNER OTHER THAN THAT SPECIFICALLY INTENDED, USER WILL HOLD CORE STATES, INC. HARMLESS FROM ALL CLAIMS AND LOSSES.

CLIENT

**LEE'S SUMMIT MISSOURI**

**LS**

811

Know what's below. Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND DEPTH OF EXISTING UTILITIES AS SHOWN ON THESE DRAWINGS IS BASED ON RECORD INFORMATION AND FIELD SURVEY. CORE STATES, INC. DOES NOT WARRANT THE ACCURACY OF THE INFORMATION PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF UTILITIES BY EXCAVATION AND DOCUMENTATION TO BE USED FOR EACH LOCATION OF UTILITIES.

REVISIONS

REV	DATE	COMMENT	BY
1	1-10-22	CITY COMMENT	CFD

DOCUMENT WATER MAIN RELOCATION PLANS

SITE LOCATION  
890 NE LANGSFORD ROAD  
LEE'S SUMMIT, MO 64063

ENGINEER SEAL

STATE OF MISSOURI  
CHAD D. FAIREBANKS  
ENGINEER  
NUMBER E-2001018726  
1-11-22

SHEET TITLE  
WATER MAIN DETAILS

JOB #: JPM-27135-001  
DATE: 12/22/2021  
SCALE: AS NOTED  
DRAWN BY: CFD  
CHECKED BY: CFD

SHEET NO.  
**C3**