

WARREN COUNTY WATER WORK STANDARDS

THE STANDARDS OUTLINED ON THIS SHEET SHALL SUPERCEDE ODOT SPECIFICATIONS FOR ITEM 638 WHERE CONFLICT EXIST. PAYMENT TO COMPLY WITH THESE STANDARDS SHALL BE INCIDENTAL TO THE PERTINENT BID ITEM.

GENERAL NOTES - WATER

1. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 4'-6".
 - A. ALL WATER SERVICE LATERALS SHALL HAVE A MINIMUM COVER OF 42".
2. ALL WATER MAINS SHALL BE DUCTILE IRON CONFORMING WITH AWWA SPEC. C-151 CLASS 52 IN SIZES 4"-16" AND PSI CLASS 350 FOR 20" AND ABOVE.
3. COMPACT FITTINGS ARE PERMITTED.
4. ALL WATER VALVES MUST OPEN LEFT. ALL VALVE BOX LIDS MUST BE CAST/ STAMPED "WCWD" IN 1 1/2" LETTERS AND BE NEENAH NF-19130002 OR EQUAL. ALL VALVE EXTENSIONS TO HAVE SET SCREWS. ALL VALVES TO BE EQUIPPED WITH BOX-LOX-2.
5. A CONCRETE SLAB MUST BE PROVIDED AT FINAL GRADE AROUND ALL MAIN VALVE BOXES. THE SLABS MUST BE EIGHTEEN INCHES (18") SQUARE/CIRCLE AND NINE INCHES (9") THICK. PRE-FABRICATED CONCRETE RINGS ARE ACCEPTABLE.
6. WATER AND SEWER LINES SHALL HAVE A MINIMUM OF TEN FEET (10') HORIZONTAL SEPARATION AND/OR TWO FEET (2') VERTICAL SEPARATION.
7. NO GATE VALVE, METER PIT, BLOW OFF OR CORPORATION STOP SHALL BE LOCATED UNDER OR WITHIN THREE FEET (3') OF DRIVEWAYS, ROADWAYS OR SIDEWALKS.
8. NO DRIVEWAY SHALL BE INSTALLED WITHIN FIVE FEET (5') OF A FIRE HYDRANT.
9. A MINIMUM OF THREE FEET (3') IS REQUIRED BETWEEN CORPORATION STOPS. NO TAP SHALL BE MADE WITHIN THREE (3') OF A BELL.
10. THE LOCATION OF WATER SERVICE LATERALS MUST BE STAMPED IN THE CURB AT THE TIME THE CURB IS PLACED TO PERMANENTLY INDICATE THE LOCATION OF SAID LATERALS.
11. ALL WATER MAINS CROSSING UNDER STORM DRAINS SHALL BE BACK-FILLED WITH GRANULAR MATERIAL, O.D.O.T. ITEM 310.02, BETWEEN MAINS AND DRAINS.
12. ALL NEW WATER MAINS SHALL BE PRESSURE TESTED FOR 2 HOURS AT 200 PSI. ALLOWABLE LEAKAGE SHALL BE PER TABLE 6A OF AWWA C-600.
13. WHERE PVC IS USED IN RURAL WATER SERVICE AREAS, DETECTABLE WATER TAPE, PRESCO #PSD3105B52, SHOULD BE PLACED 1' ABOVE WATER MAIN.
14. EACH SERVICE LATERAL MUST BE A CONTINUOUS PIECE OF PIPE FROM THE CORP STOP TO THE METER. COUPLINGS SHALL NOT BE ALLOWED. TYPE K COPPER SHALL BE USED FOR 3/4" AND 1" SERVICES. POLYETHYLENE 200 PSI (COPPER TUBE SIZE) MAY BE USED FOR 1 1/2" AND 2" SERVICES. TRACER WIRE MUST BE USED WITH POLY AND SDR 21.
15. SERVICE LINES 1" AND LARGER MUST BE EITHER TYPE K COPPER, POLY 200 PSI (ASTM D-2737) OR SDR 21 (SLIP JOINT) (ASTM-2241). TRACER WIRE MUST BE TAPED EVENLY EVERY 3' ON POLY AND SDR 21 FROM THE METER PIT INTO THE STRUCTURE BEING SERVED (A 3' LEAD IS REQUIRED INSIDE THE PIT).
16. 1 1/2" AND 2" SERVICE LINES FROM THE CORP STOP TO THE METER PIT MUST BE TYPE K COPPER OR POLYETHYLENE 200 PSI. POLY MUST HAVE A TRACER WIRE. SEE W-10B.
17. FIRE HYDRANTS MUST BE PROVIDED AT THE ENTRANCE TO ALL SUBDIVISIONS AND AT ALL STREET INTERSECTIONS.
18. AN APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED ON ALL WATER SERVICE LATERALS BY THE PROPERTY OWNER PRIOR TO ANY POINT OF CONNECTION OR USAGE. THE FOLLOWING DEVICES AND LOCATIONS ARE REQUIRED.
 - A) RESIDENTIAL DWELLING UNITS (3 FAMILY OR LESS): LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE. DUEL CHECK VALVE A.S.S.E. 1024.

- B) LANDSCAPE IRRIGATION SYSTEMS: REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY A.S.S.E. 1013. LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE.
- C) FIRE PROTECTION SYSTEMS: DOUBLE CHECK DETECTOR CHECK ASSEMBLY A.S.S.E. 1048 OR REDUCED PRESSURE PRINCIPLE DETECTOR CHECK A.S.S.E. 1047 IF SYSTEM CONTAINS ADDITIVES; A.S.S.E. 1048 LOCATED IN VAULT AND A.S.S.E. 1047 LOCATED IN BUILDING.
- D) NON-RESIDENTIAL SERVICES: REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY A.S.S.E. 1013, LOCATED IMMEDIATELY UPON ENTRY OF STRUCTURE.

21. BACFKLOW PREVENITION DEVICE THAT COMPLIES WITH A.S.S.E. 1013 IS TO BE INSTALLED AHEAD OF ANY SPRINKLER BUT NOT IN THE METER PIT.
22. NEW BACKFLOW PREVENTION DEVICES BEING INSTALLED ON EXISTING SERVICES SHALL BE INSTALLED EITHER IMMEDIATELY UPON ENTRY TO THE BUILDING, BEFORE ANY CONNECTIONS, OR IN A PIT OR ABOVE GROUND HEATED INCLOSURE (IN ACCORDANCE WITH DEVICE INSTALLATION REQUIREMENTS) A MINIMUM OF 4 FEET AWAY FROM THE EXISTING METER PIT OR VAULT.
23. SWAB PIPE WITH 50 PPM CHLORINE SOLUTION BEFORE INSTALLATION.
24. DEDUCT METERS SHALL NOT BE ALLOWED.
25. NO IRRIGATION CONNECTIONS SHALL BE ALLOWED IN THE METER PIT.
26. ALL MATERIALS USED SHALL BE DOMESTIC, MADE IN THE UNITED STATES OF AMERICA.

PROCEDURE FOR CONNECTION TO EXISTING WATER SYSTEM

1. MUST NOTIFY WARREN COUNTY WATER DEPARTMENT THREE (3) DAYS IN ADVANCE OF ANY SHUT DOWN. WARREN COUNTY WILL ISSUE THE SHUT DOWN NOTIFICATION AND/OR BOIL ADVISORY TO AFFECTED CUSTOMERS PER OHIO EPA REQUIREMENTS IF DETERMINED NECESSARY BY WARREN COUNTY.
2. EXPOSE EXISTING MAIN AT PROPOSED CONNECTION POINT. NO WET TAP SHALL BE MADE WITHIN THREE (3) FEET OF A BELL OR PIPE CONNECTION.
3. COUNTY PERSONNEL TO OPERATE CLOSING OF APPROPRIATE VALVES TO ISOLATE LINE TO BE TAPPED.
4. INSTALL PROPER TAPPING SLEEVE AND TAPPING VALVE. THE TAPPING SLEEVE AND VALVE SHALL BE TESTED AT 200 PSI FOR A PERIOD OF AT LEAST 5 MINUTES. THE PIPE SLUG MUST BE REMOVED AND INSPECTED BY COUNTY PERSONNEL.
5. IF THE TAPPING SLEEVE AND VALVE WILL BE UNDER FUTURE PAVEMENT, THE BURIED VALVE MUST BE LEFT OPEN AND A NEW VALVE SET OUT OF PAVEMENT.
6. FIELD CUT EXISTING MAIN AS NECESSARY TO ACCOMMODATE TEE AND CLOSE COUPLED VALVES AT EACH END OF TEE. CARE IS TO BE TAKEN SO AS NOT TO GET DIRT IN EXISTING MAIN.
7. THOROUGHLY CLEAN AND DISINFECT PIPE AND APPURTENANCES TO BE INSTALLED.
8. INSTALL TEE AND VALVES - DRESSER COUPLINGS CAN BE USED IF NECESSARY. PROPOSED MAIN VALVE IS TO BE CAPPED AND SHUT OFF. EXISTING MAIN IS THEN TO BE RETURNED TO SERVICE BY COUNTY PERSONNEL.
9. CONSTRUCTION OF PROPOSED MAIN IS TO BE COMPLETED WITHIN A JOINT OF CONNECTION TO TEE AND VALVES INSTALLED ABOVE.
10. ENTIRE LINE IS TO BE PRESSURE TESTED AND DISINFECTED TO COUNTY STANDARDS.
11. ENTIRE LENGTH OF PIPE IS TO BE THOROUGHLY CLEANED AND DISINFECTED PRIOR TO INSTALLATION. PERMATAX CHLORINE TABLETS TO BE USED FOR DISINFECTION. DOSAGE SHALL BE PER MANUFACTURER'S SPECIFICATIONS BASED ON PIPE MATERIAL.
12. NEW MAIN IS TO BE PUT INTO SERVICE BY COUNTY PERSONNEL.
13. TAPPING SLEEVES/SADDLES TO BE TWO-PIECE CAST IRON OR DUCTILE IRON (MUELLER H615). JCM412 OR FORD FTSS TAPPING SLEEVES

PERMITTED ON C-900. SIZE ON SIZE TAPPING SLEEVES ARE NOT PERMITTED.

14. SHUTDOWN FOR TIE IN REQUIRES 48 HOUR NOTICE TO WARREN COUNTY WATER AND SEWER. ONLY ONE (1) SHUTDOWN IS PERMITTED.



PROCEDURE FOR RELOCATING OR LOWERING SERVICE LATERAL AND RELOCATING OR BRINGING TO GRADE METER PITS

1. ALL AFFECTED USERS MUST BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE AS TO THE TIME AND DURATION OF THE SHUTOFF. ANY DISCONTINUANCE OF SERVICE MUST BE COORDINATED THROUGH WARREN COUNTY PRIOR TO ANY SHUT DOWN.
2. ALL WORK MUST BE PERFORMED ACCORDING TO ALL WARREN COUNTY SPECIFICATIONS, PARTICULARLY W-10A, W-10B, AND W-12.
3. EACH SERVICE LATERAL MUST BE A CONTINUOUS PIECE OF PIPE FROM THE CORP STOP TO THE METER. COUPLINGS SHALL NOT BE PERMITTED. TYPE K COPPER SHALL BE USED FOR 3/4" AND 1" SERVICES. POLYETHYLENE 200 PSI MAY BE USED FOR 1 1/2" AND 2" SERVICES.
4. METER PITS MUST BE ADJUSTED TO GRADE USING RING RISERS OR PIT RISERS. METERS MUST BE ADJUSTED WITH METER RESETTERS (FORD V42).
5. ALL PROCEDURES MUST BE DISCUSSED AT A PRECONSTRUCTION MEETING PRIOR TO THE INITIATION OF CONSTRUCTION.

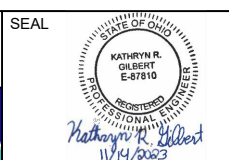
REF NO.	SHEET NO.	WATERLINE STATION		ABANDON IN PLACE EXISTING 12" MAIN	12" Water Main Ductile Iron Pipe ANSI Class 52, Mechanical Joints and Fittings (with Restrained Joints)	12" 22.50° BEND	12" 45° BEND
		FROM	TO				
W1	W-2	1+95.14	2+90.27	82	100.52	2	5

PROJECT:
STEPHENS RD WATER
DATE:
NOVEMBER 14, 2023
DRAWN BY:
K. GILBERT
REVIEWED BY:
C. WOJNICZ

WARREN COUNTY
WATER & SEWER DEPARTMENT
406 JUSTICE DRIVE
LEBANON, OH 45036

SEAL



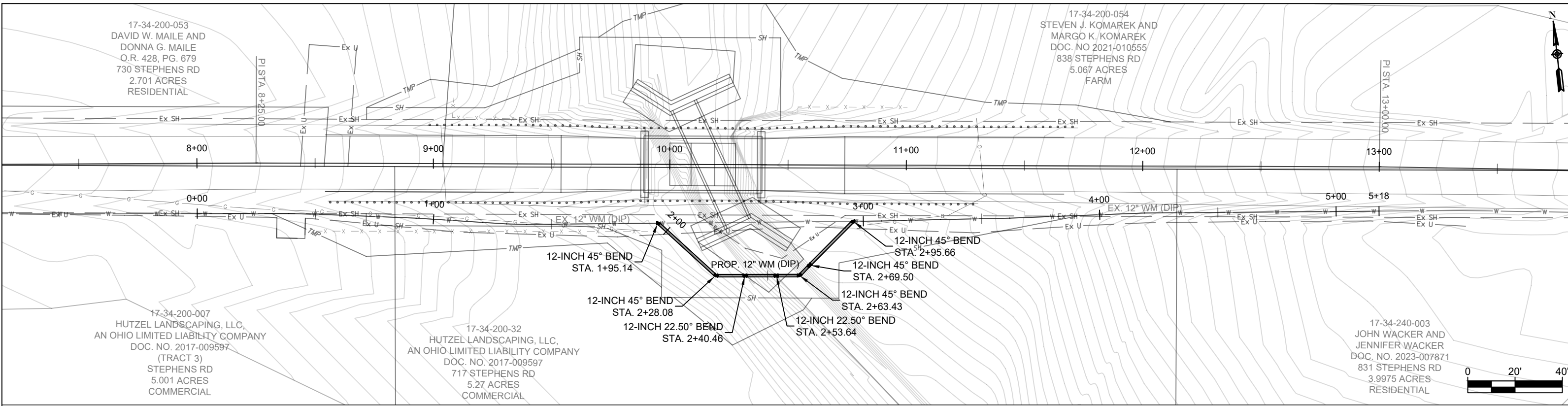
Kathryn R. Gilbert
11/14/2023

NO.	REVISION/ISSUE	DATE

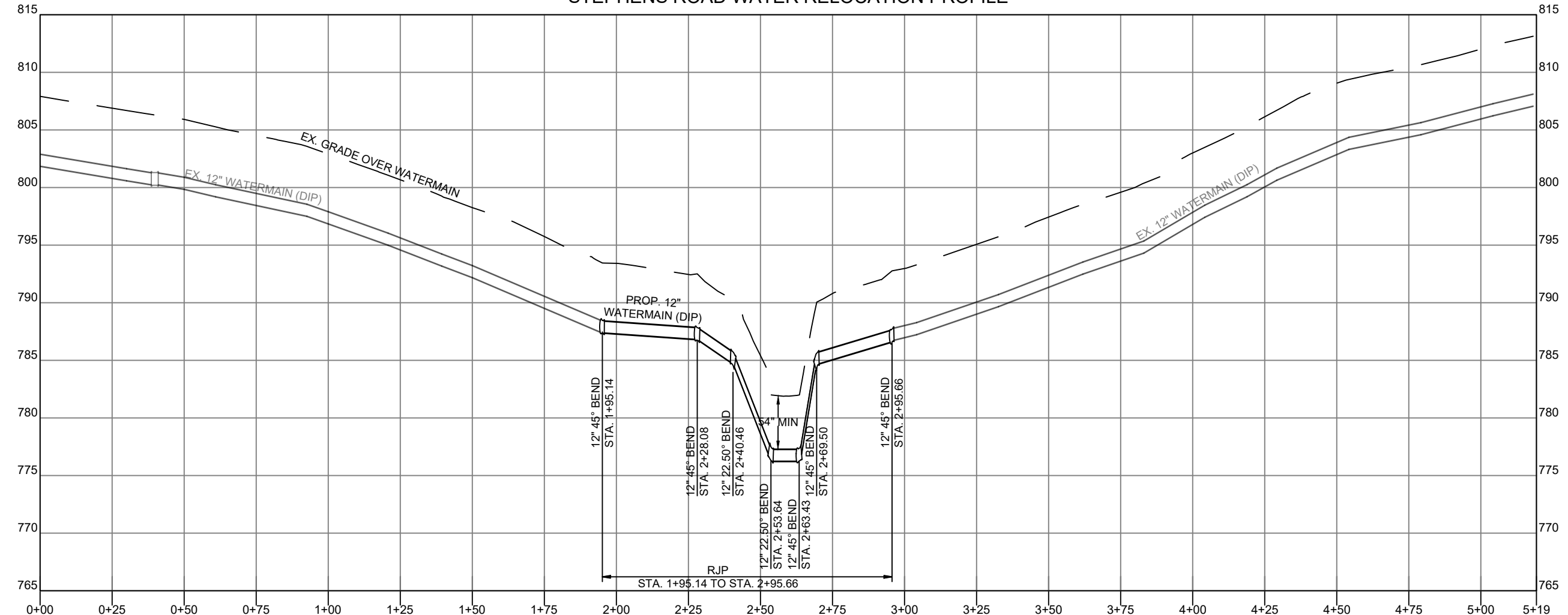
WATER WORK NOTES
WATER SUBSUMMARY

STEPHENS ROAD WATER RELOCATION
WAR-TR 158-0.92 (STEPHENS ROAD)

PAGE
W-1
SCALE:
NTS



STEPHENS ROAD WATER RELOCATION PROFILE



HORIZONTAL: 1" = 40'
VERTICAL: 1" = 10'

PROJECT:
STEPHENS RD WATER
DATE:
NOVEMBER 14, 2023
DRAWN BY:
K. GILBERT
REVIEWED BY:
C. WOJNICZ

WARREN COUNTY
WATER & SEWER DEPARTMENT
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LEBANON, OH 45036

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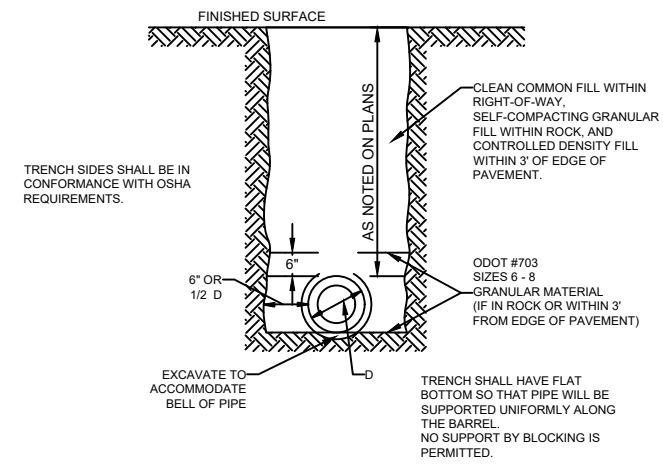
WATER PLAN & PROFILE

STEPHENS ROAD WATER RELOCATION
WAR-TR 158-0.92 (STEPHENS ROAD)

PAGE
W-2
SCALE:
AS NOTED

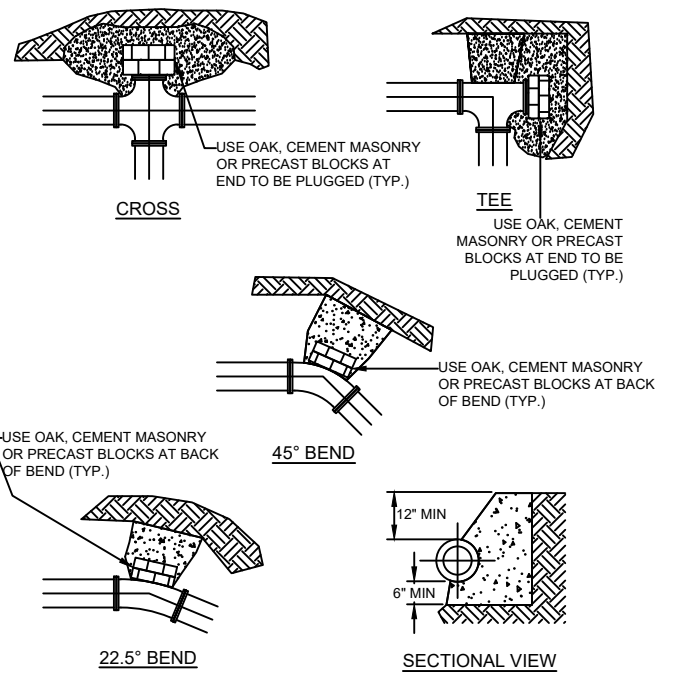
WATERMAIN SHALL BE INSTALLED IN A SEPARATE TRENCH FROM THE SANITARY SEWER AND SHALL BE A MINIMUM DISTANCE OF 10' MEASURED HORIZONTALLY FROM THE SANITARY SEWER.

BACKFILL AND RESTORATION OF PAVEMENT MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATION(S).



WATERMAIN TRENCH DETAIL

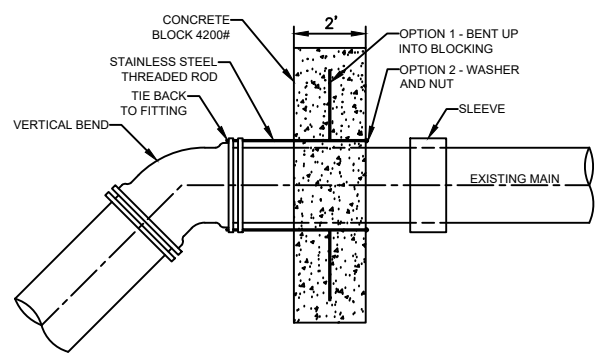
APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
JUNE, 2012		W-2



NOTE:
BEARING AREA TO BE DETERMINED BASED ON SOIL TYPE & WORKING PRESSURE.
THRUST BLOCKS TO BE USED AT ALL BENDS 22.5° OR GREATER.
THRUST BLOCKS TO BE POURED AGAINST FIRM UNDISTURBED SOIL.
USE CLASS "C" CONCRETE.
90° BENDS SHALL NOT BE PERMITTED.

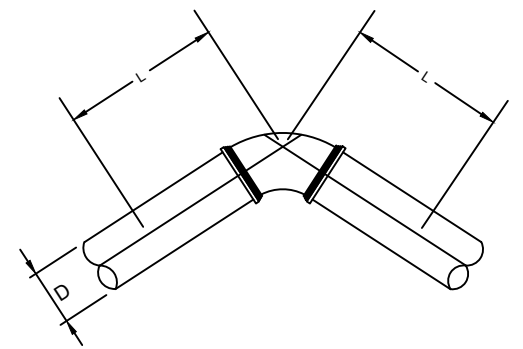
THRUST BLOCK DETAILS

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		W-3



VERTICAL BEND RESTRAINT - BLOCK DETAIL

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MAY, 2023		W-17



MINIMUM 60' OF RESTRAINED JOINT PIPE (RJP) IS REQUIRED BEFORE AND AFTER ALL HORIZONTAL AND VERTICAL BENDS. REFER TO TABLE BELOW.

RESTRAINT OPTIONS:
MECHANICAL JOINT W/MEGALUGS - ALL SIZES OF PIPE
US TR FLEX OR AMERICAN FLEX RING - ALL SIZES OF PIPE
MJ FIELD LOCKS - < 24" PIPE

TABLE
REQUIRED LENGTH OF RESTRAINED JOINTS
D - DIAMETER OF PIPE
L - LENGTH OF PIPE

D	4"	6"	8"	10"	12"	16"	20"	24"
L	60'	60'	60'	60'	66'	98'	125'	145'

NOTES:
1. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE LABELED WITH STATIONING.
2. LABEL LIMITS OF REQUIRED RESTRAINED JOINTS WITH STATIONING.

REQUIRED RESTRAINED JOINTS FOR BENDS

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MAY, 2023		W-18

PROJECT: STEPHENS RD WATER
DATE: NOVEMBER 14, 2023
DRAWN BY: K. GILBERT
REVIEWED BY: C. WOJNICZ

WARREN COUNTY WATER & SEWER DEPARTMENT
406 JUSTICE DRIVE
LEBANON, OH 45036

SEAL
KATHRYN R. GILBERT
E-87810
PROFESSIONAL ENGINEER
STATE OF OHIO
Kathryn R. Gilbert
11/14/2023

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WATER STANDARD DETAILS

STEPHENS ROAD WATER RELOCATION
WAR-TR 158-0.92 (STEPHENS ROAD)

PAGE **W-3**
SCALE: NTS