



PUBLIC WORKS
Engineering

DATE: October 01, 2025

TO: PAUL ZACHARY,
PUBLIC WORKS DEPUTY
DIRECTOR

FROM: ^{HAS} H. SOMDECERFF,
PUBLIC WORKS DESIGN
MANAGER

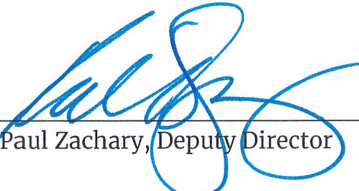
The Specification Review Committee recommends and asks the Public Works Deputy Director to approve the following:

1. Approve Modification to Standard Detail 305 - Trench & Bedding Detail (NON-PAVED AREAS)- Flexible Pipe.
Summary of change: Detail has been redesigned for applicability to all flexible pipe used in water, sewer, and stormwater lines.

Please call Marqua Jimmerson at (918) 596-7355 If you have any questions.

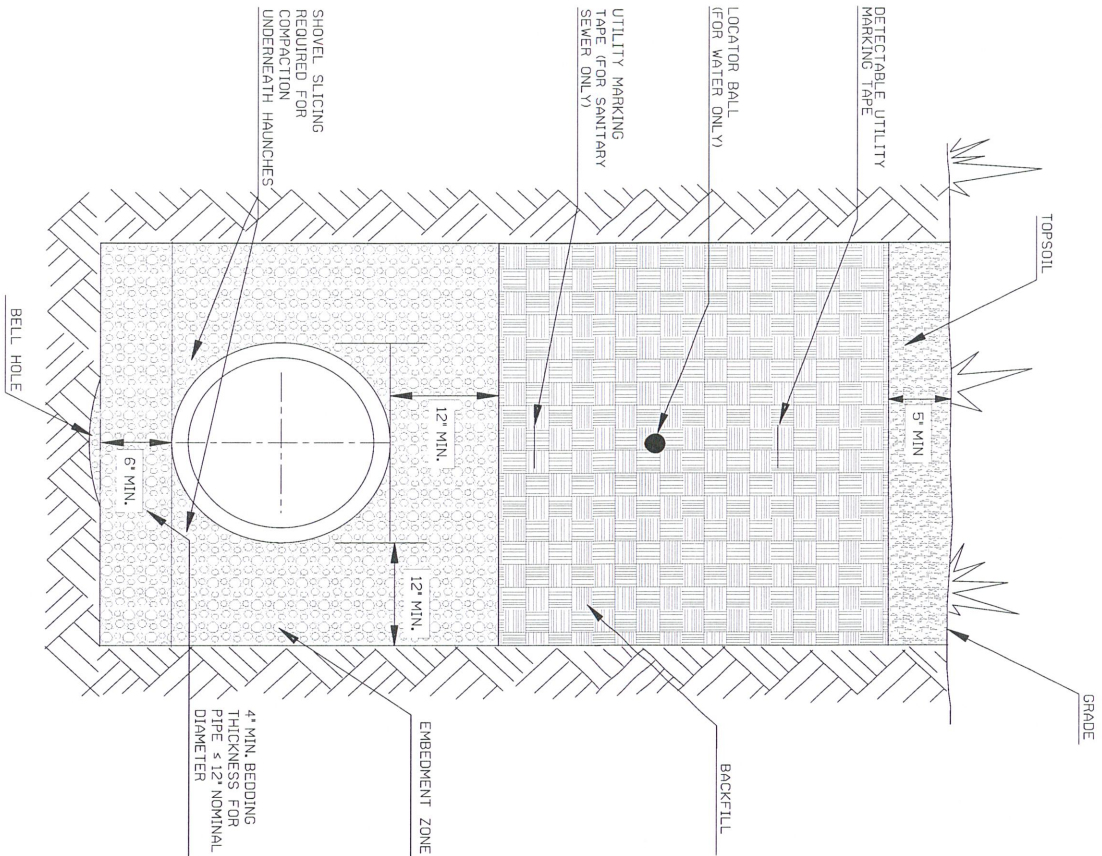
Thank you,

APPROVED:


Paul Zachary, Deputy Director

10.07.25
Date

Cc: Public Works Engineering Services Specification Review Committee



GENERAL NOTES:

- 1. THIS STANDARD APPLIES TO NOMINAL PIPE SIZES ≤ 24 INCHES AND DEPTHS OF COVER ≤ 10 FEET FROM GRADE TO CROWN OF PIPE. FOR INSTALLATIONS THAT DO NOT MEET THIS CRITERIA, A PROJECT-SPECIFIC EMBEDMENT DESIGN INCLUDED WITH THE CONSTRUCTION DOCUMENTS SHALL TAKE PRECEDENCE.
- 2. FLEXIBLE PIPE INCLUDES:
 - A. DUCTILE IRON PIPE (DIP) - ANSI/AWWA C151/A21.51
 - B. POLYVINYL CHLORIDE (PVC) PIPE - ANSI/AWWA C900 (OR 14), ASTM 3034 (SDR 26)
 - C. HIGH DENSITY POLYETHYLENE (HDPE) PIPE - ANSI/AWWA C906
 - D. STEEL PIPE - ANSI/AWWA C200
 - E. CORRUGATED POLYPROPYLENE (CPP) PIPE - ASTM F2881, AASHTO M330
 - F. FIBERGLASS REINFORCED POLYMER MORTAR (FRPM) PIPE - ASTM D3262, ASTM D3754
 - G. GLASS-FIBER REINFORCED PLASTIC (GRP) PIPE - ASTM D3262, ASTM D3754
- 3. EMBEDMENT ZONE MATERIAL SHALL BE COMPACTED 3/4-INCH TO NO.4 CLEAN CRUSHED STONE (ASTM C33 NO. 57 OR NO.67), PLACED IN 12-INCH MAX LOOSE LIFTS AND FREE FROM ORGANIC MATTER, TRASH, AND OTHER DELETERIOUS MATERIALS. SHOVEL SLICING IS REQUIRED FOR COMPACTION UNDERNEATH PIPE HAUNCHES.
- 4. BACKFILL SHALL BE SUITABLE NATIVE MATERIAL OR IMPORTED MATERIAL APPROVED BY ENGINEER, PLACED IN 12-INCH MAX LOOSE LIFTS COMPACTED TO 90% STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 AND AASHTO T99, AND FREE FROM ORGANIC MATTER, TRASH, AND OTHER DELETERIOUS MATERIALS. ROCKS LARGER THAN 3 INCHES SHALL NOT BE ALLOWED WITHIN 15 INCHES BELOW FINISHED GRADE OR WITHIN 18 INCHES ABOVE THE PIPE CROWN.
- 5. TOPSOIL TO BE SEGREGATED AND RESTORED TO A 5-INCH MINIMUM PLATE-COMPACTED DEPTH AND FREE OF BRUSH, ROCK, SHALE, AND OTHER DELETERIOUS MATERIALS.
- 6. SOD TO BE CUT IN AND LEVEL WITH SURROUNDING GRADE.
- 7. UPPER DETECTABLE UTILITY MARKER TAPE TO BE INSTALLED AT A MAXIMUM 10-INCH DEPTH BELOW GRADE AND IMPRINTED WITH "CAUTION - (SEWER/ WATER) PIPE BELOW". MARKER TAPE COLOR TO BE BLUE FOR WATER, AND GREEN FOR SANITARY SEWER OR STORM SEWER.
- 8. FOR WATER LINES ONLY: LOCATOR BALLS TO BE INSTALLED PER CITY OF TULSA STANDARD NO. 322.
- 9. FOR SANITARY SEWER ONLY: LOWER UTILITY MARKING TAPE TO BE INSTALLED 12 INCHES MINIMUM TO 18 INCHES MAXIMUM ABOVE THE CROWN OF PIPE.
- 10. FOR INSTALLATIONS UNDER PAVEMENT, SEE CITY OF TULSA STANDARD NO. 713.
- 11. WHERE A WATER TABLE GRADE IS REQUIRED TO PREVENT SOIL MIGRATION AND/OR STABILIZE PIPE FOUNDATION, SEE CITY OF TULSA STANDARD NO. 367.
- 12. CLEAN CRUSHED STONE SHALL BE COMPACTED TO 80% RELATIVE DENSITY AS DETERMINED BY ASTM D4253 AND ASTM D4254.
- 13. WHEN SPECIFIED, AGGREGATE BASE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 AND AASHTO T99.

PIPE SIZE (NOM. DIA.)	STANDARD TRENCH WIDTH
< 24"	OD + 2'-0"
≥ 24" < 48"	OD + 3'-0"
≥ 48"	OD + 4'-0"

NOTE: THE STANDARD TRENCH WIDTHS IN THIS TABLE SHALL BE USED TO ESTIMATE EXCAVATION AND BACKFILL QUANTITIES.

TRENCH & BEDDING DETAIL (NON-PAVED AREAS)-FLEXIBLE PIPE	
CITY OF TULSA	
DRAWN BY: D.J.N.	APPROVED
CHECKED BY: <i>[Signature]</i>	<i>[Signature]</i>
DATE: AUGUST 2025	
NOT TO SCALE	STANDARD NO. 305