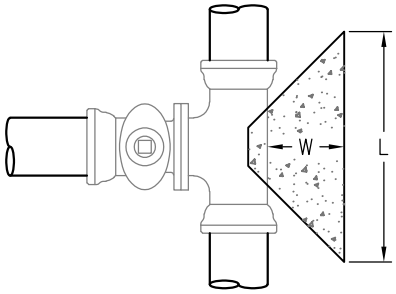
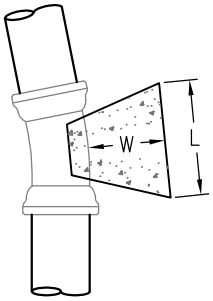
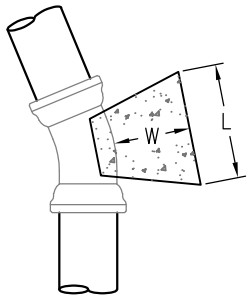
APPENDIX 10L
MISCELLANEOUS WATER DETAILS



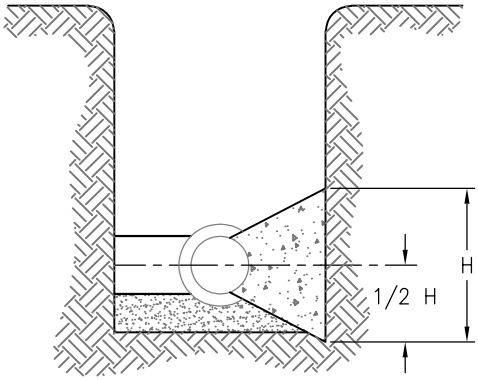
TEE / TAPPING SLEEVE PLAN VIEW



11.25° ELBOW PLAN VIEW

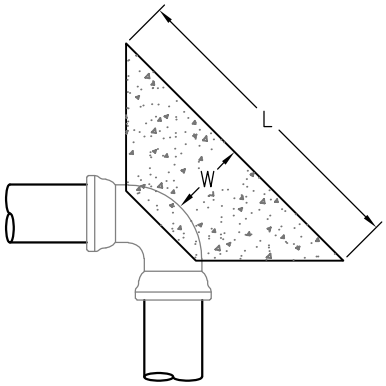


22.5° ELBOW PLAN VIEW



TYPICAL SECTION VIEW

45° ELBOW PLAN VIEW



90° ELBOW PLAN VIEW

THRUST BLOCK DIMENSIONS																
TEE, TAP, OR DEAD END					11.25° ELBOW			22.5° ELBOW			45° ELBOW			90° ELBOW		
BRANCH SIZE (INCHES)	L (FEET)	H (FEET)	W MIN. (FEET)	ELBOW SIZE (INCHES)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)
4	2	1.5	1	4	1	1	1	1.5	1	1	1.5	1.5	1	2	2	1
6	3	2	1	6	1.5	1	1	1.5	1.5	1	3	1.5	1	4	2	1
8	3.5	3	1	8	2	1	1	2	2	1	3	2.5	1	5.5	2.5	1
10	5	3	1	10	2	1.5	1	3	2	1	4.5	2.5	1	6	3.5	1
12	6	3.5	1	12	2	2	1	4	2	1	5.5	3	1	7.5	4	1

THRUST BLOCK DESIGN CRITERIA:

THRUST BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN ***THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SEVENTH EDITION 2016*** BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 1,500 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND OUTSIDE PIPE DIAMETER

THRUST BLOCK NOTES:

1. CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI. REFERENCE SECTION 1.1.12 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
2. ALL FITTINGS SHALL BE WRAPPED WITH V-BIO POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH-ON) SHALL BE APPLIED TO ALL BOLTS AND EXPOSED METAL. WAX TAPE COATING SYSTEMS MAY BE REQUIRED, REFER TO PLANS FOR LOCATIONS.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE THRUST BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT-BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
4. FOR SOIL BEARING CAPACITY LESS THAN 1,500 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE THRUST BLOCK BEARING AREAS ACCORDINGLY. REVISED THRUST BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

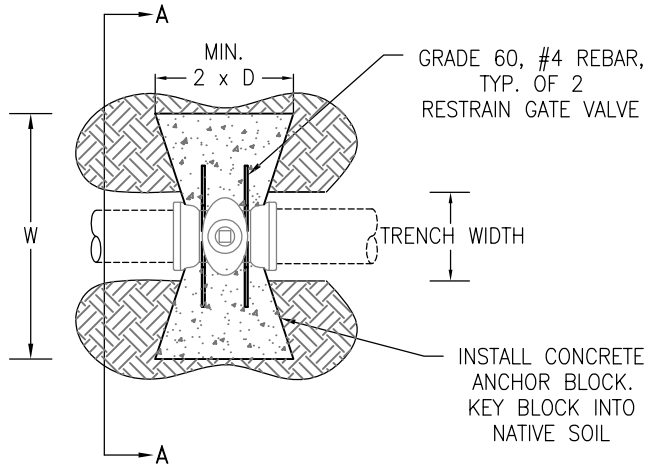
TRUCKEE MEADOWS WATER AUTHORITY

DATE
7/2011
REV
5/2024

APPENDIX 10L
THRUST BLOCKS
TEES, TAPPING SLEEVES, DEAD ENDS
11.25, 22.5, 45 AND 90 DEGREE ELBOWS
4" TO 12"

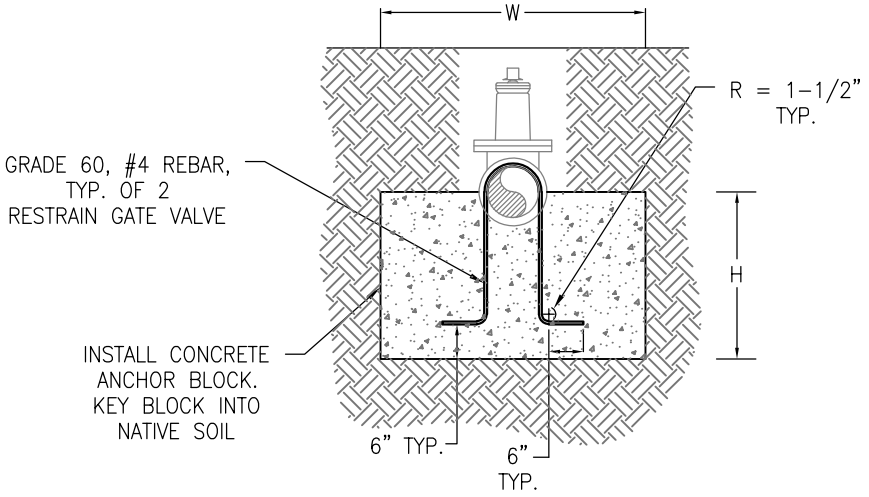
DRAWING NUMBER

10L-2



PLAN VIEW

IN–LINE GATE VALVE ANCHOR BLOCK DIMENSIONS			
PIPE SIZE (INCHES)	MIN. BLOCK AREA (SQ FT)	H MIN. (FEET)	W MIN. (FEET)
6	6	2	3
8	10.5	3	3.5
10	15.75	3.5	4.5
12	22	4	5.5



SECTION A–A

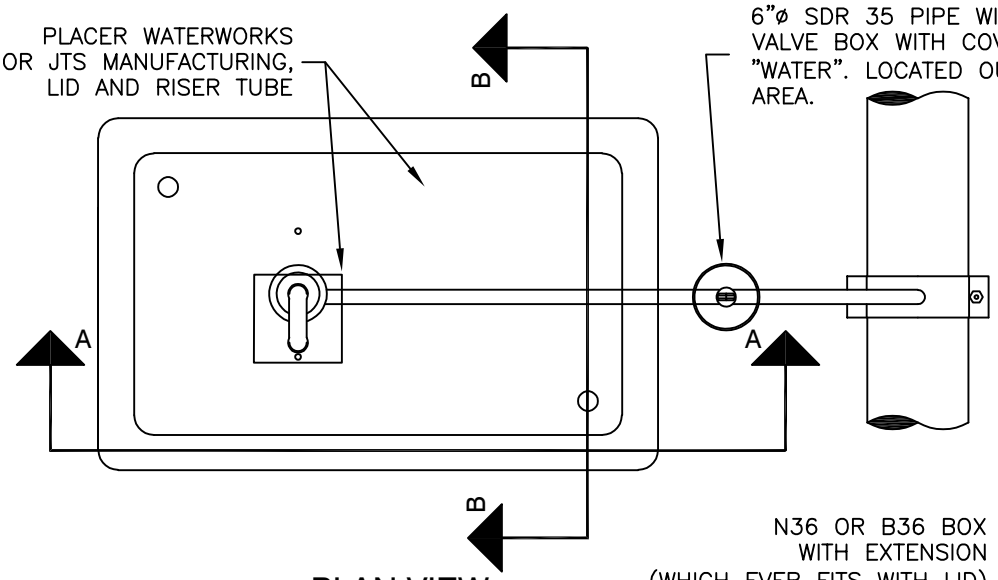
ANCHOR BLOCK DESIGN CRITERIA:

ANCHOR BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN ***THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SEVENTH EDITION 2016*** BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 1,500 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND OUTSIDE PIPE DIAMETER

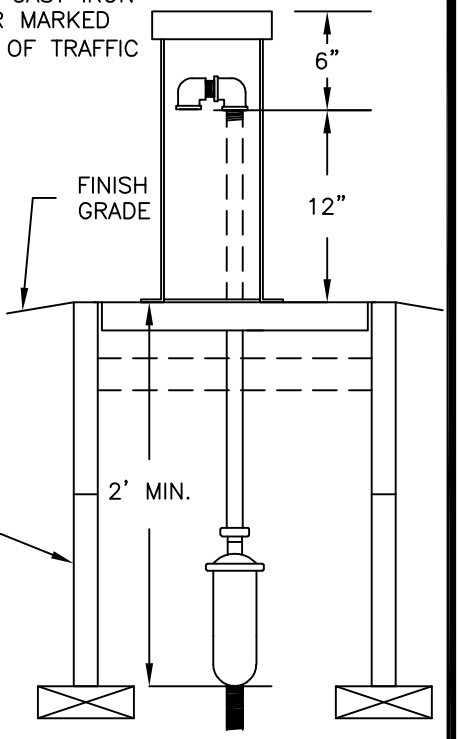
ANCHOR BLOCK NOTES:

1. CONCRETE FOR ANCHOR BLOCKS SHALL HAVE A MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 4,000 PSI. REFERENCE SECTION 1.1.12 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
2. ALL FITTINGS/VALVES SHALL BE WRAPPED WITH POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH–ON) SHALL BE APPLIED TO ALL EXPOSED METAL, INCLUDING REBAR. WAX TAPE COATING SYSTEMS MAY BE REQUIRED, REFER TO PLANS FOR LOCATIONS.
3. ANCHOR BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE ANCHOR BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT–BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
4. FOR SOIL BEARING CAPACITY LESS THAN 1,500 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE ANCHOR BLOCK BEARING AREAS ACCORDINGLY. REVISED ANCHOR BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

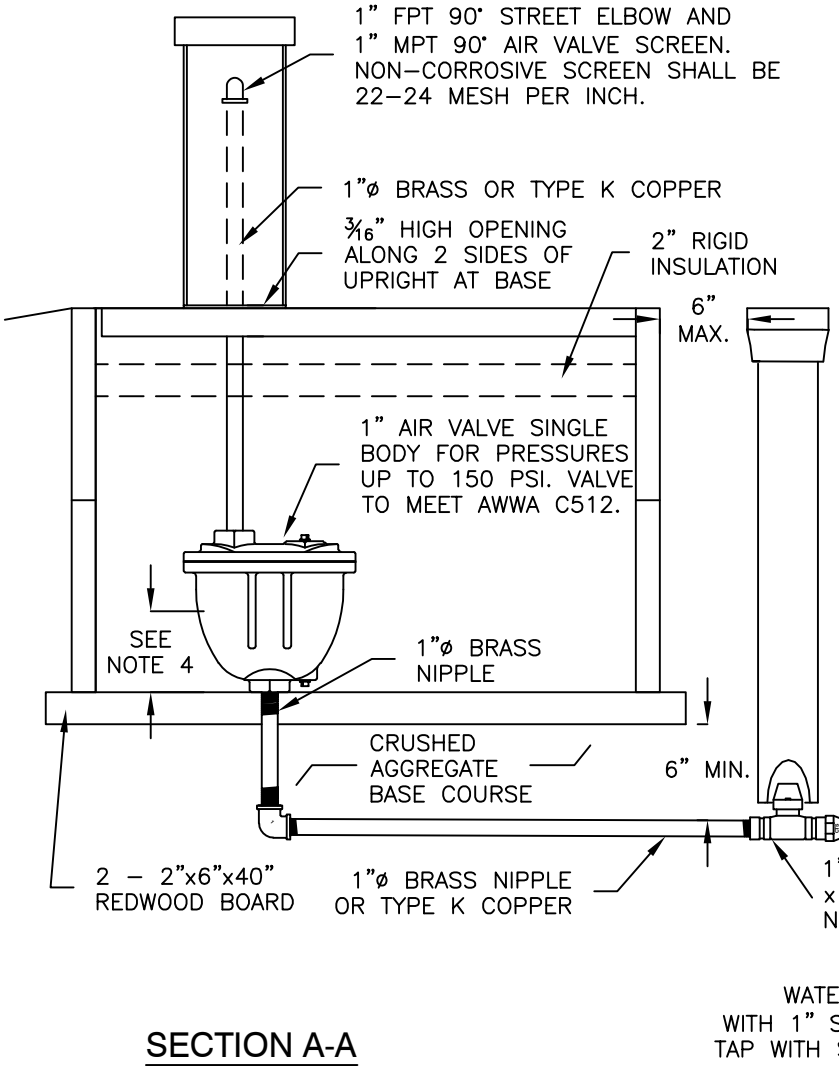
TRUCKEE MEADOWS WATER AUTHORITY	DATE 5/2024 REV	APPENDIX 10L MISCELLANEOUS WATER DETAILS ANCHOR BLOCKS FOR IN-LINE GATE VALVE	DRAWING NUMBER 10L-3



PLAN VIEW



SECTION B-B



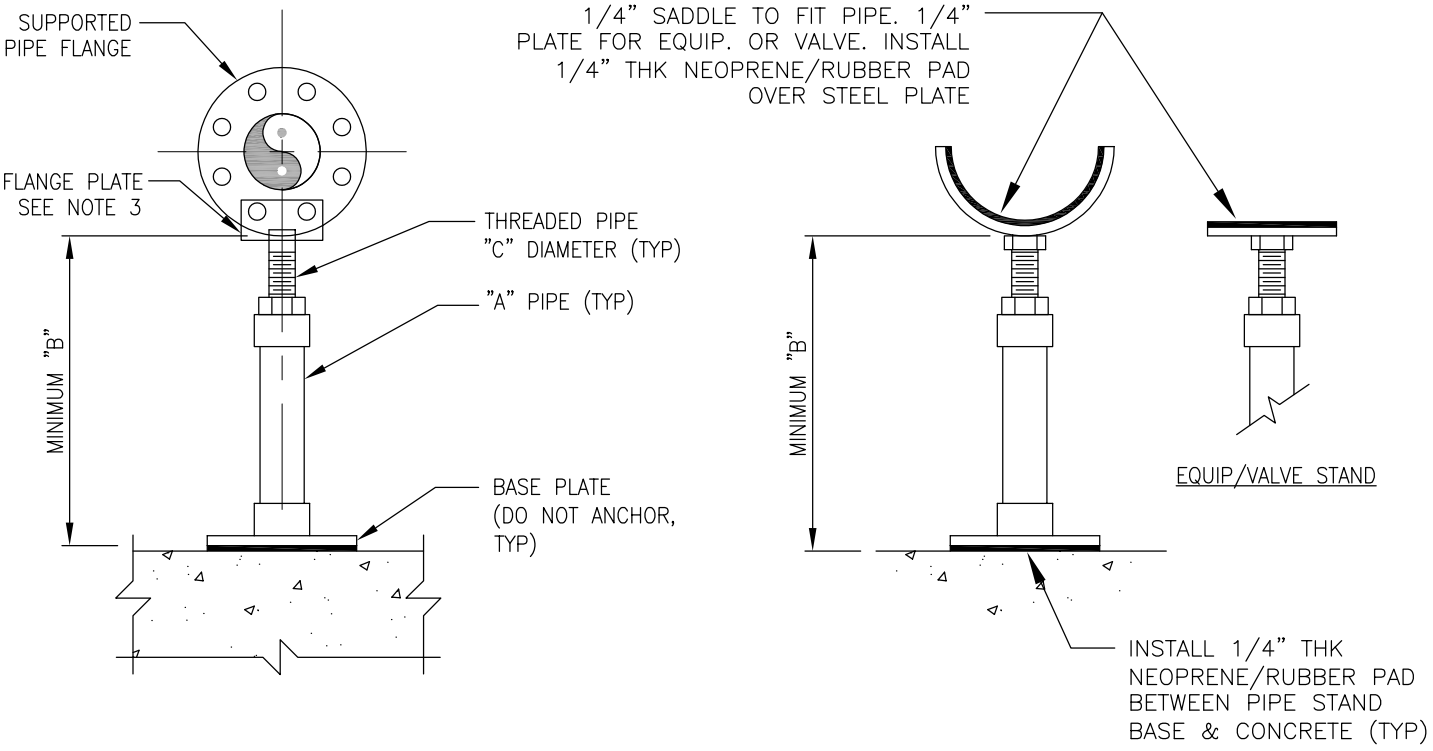
SECTION A-A

NOTES

1. REFER TO APPENDIX 10H FOR SERVICE TAP INSTALLATION.
2. REFER TO 10L-6 FOR TRENCH BEDDING AROUND HDPE PORTION OF THIS DETAIL. BEDDING SAND TO BE USED UNLESS OTHERWISE CALLED FOR.
3. TOP OF ENCLOSURE AND VALVE CAP SHALL BE SET 0.2 FEET ABOVE HIGHEST FINISHED GRADE SURROUNDING ENCLOSURE WITH LANDSCAPE AREAS.
4. PLACE CLEAN DRAIN ROCK WITHIN BOX TO EXTEND HALF WAY UP BODY OF THE ARV AND EXTEND UNDER BOX TO A DEPTH OF 6" BELOW THE BRASS NIPPLE/COPPER TUBE. BASE TO EXTEND FROM THE ARV TO THE CURB VALVE AND BEYOND THE EXTENTS OF THE ENCLOSURE FOR 6-INCHES.

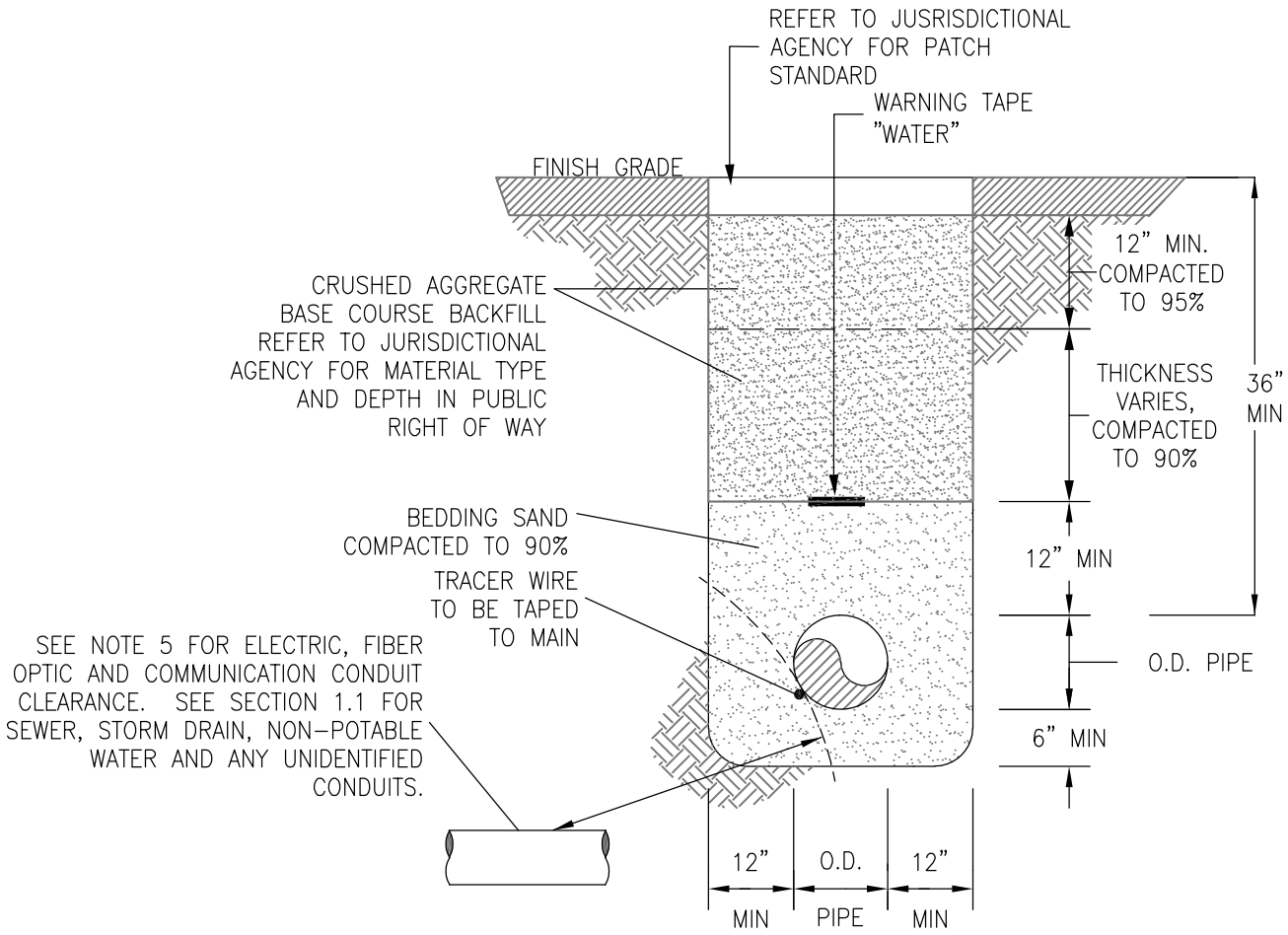
TRUCKEE MEADOWS WATER AUTHORITY	DATE 7/2005 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS AIR RELEASE VALVE ASSEMBLY	DRAWING NUMBER 10L-4

ADJUSTABLE PIPE SUPPORT SCHEDULE				
SIZE OF SUPPORTED PIPE	EXTENSION PIPE SIZE "A" SCH 40	BASE PLATE SIZE	MINIMUM DIST. FROM FLANGE TO FLOOR "B"	THREADED PIPE "C" DIAMETER
2	2"	4"x 6"x 1/4"	7"	1"
2 1/2	2.5"	4"x 6"x 1/4"	7"	1.5"
3	2.5"	4"x 6"x 1/4"	7"	1.5"
4	3"	4"x 6"x 1/4"	7"	2.5"
6	3"	4"x 6"x 1/4"	7"	2.5"
8	3"	4"x 6"x 1/4"	7"	2.5"
10	3"	4"x 6"x 1/4"	7"	2.5"
12	3"	4"x 6"x 1/4"	7"	2.5"



NOTES:

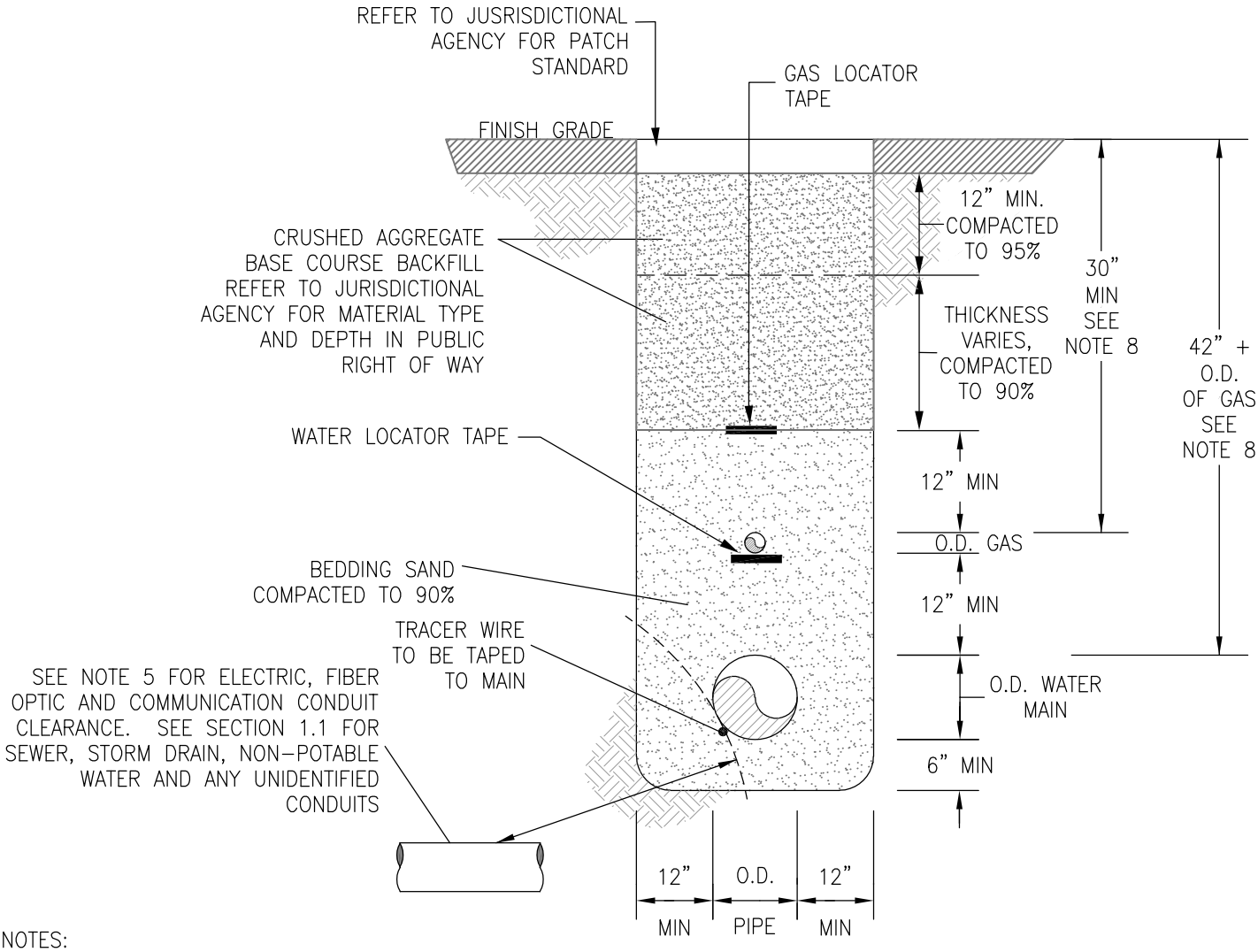
1. MATERIAL OF FABRICATION ASTM A35 & A53 STEEL WITH ELECTRO-GALVANIZED FINISH OR AS SPECIFIED ON THE DRAWING.
2. STANDON MODEL S89 FLANGE SUPPORT OR EQUAL. SUPPORT DOES NOT SERVE AS SEISMIC OR THRUST SUPPORT.
3. TWO BOLTS UP TO 10". 45° THEREAFTER



NOTES:

1. ALL TRENCHES MUST CONFORM TO APPLICABLE TMWA, CITY, STATE, COUNTY, AND OSHA SPECIFICATIONS AND REQUIREMENTS. IN THE CASE OF CONFLICT, THE MORE RIGID SPECIFICATION OR STANDARD SHALL APPLY.
2. BEDDING SAND SHALL BE COMPACTED TO 90% MAXIMUM DENSITY PER SECTION 5.05.03 AND SHALL BE A MINIMUM OF 12" ABOVE AND 6" BELOW THE MAIN. PER SECTION 5 OF TMWA STANDARDS.
3. CRUSHED AGGREGATE BASE COURSE BACKFILL SHALL BE PLACED IN 12" MAXIMUM LOOSE LIFTS. THE TOP 12" SHALL BE COMPACTED TO 95% MAXIMUM DENSITY. THE AREA ABOVE THE BEDDING SAND & BELOW 12" FROM FINISH GRADE SHALL BE COMPACTED TO 90% MAXIMUM DENSITY. PER SECTION 5 OF TMWA STANDARDS.
4. NON-METALLIC BLUE WARNING TAPE SHALL BE PLACED IN ALL TRENCHES AT LEAST 12" ABOVE THE WATER MAIN.
5. ELECTRIC UTILITIES MUST BE LOCATED BELOW WATER & MAINTAIN 2' MINIMUM RADIAL CLEARANCE FROM TMWA WATER FACILITIES WHEN CROSSING, 5' MINIMUM WHEN PARALLEL. IF 2' RADIAL CLEARANCE CAN NOT BE MET ELECTRIC CONDUIT MUST BE CONCRETE ENCASED AT LEAST 18" EACH SIDE OF WATER CROSSING. FIBER OPTIC AND/OR COMMUNICATION CONDUITS SHALL NOT BE PLACED IN THE SAME TRENCH AS WATER. FIBER OPTIC AND/OR COMMUNICATION CONDUITS CROSSING WATER SHALL BE PLACED A MINIMUM OF 12" BELOW WATER.
6. ALL CHANGES MUST BE APPROVED BY THE TMWA INSPECTOR AND/OR THE TMWA ENGINEER.
7. IF GAS IS ROLLED OUT OF COMMON TRENCH WITH WATER, HORIZONTAL SEPARATION OF 4' SHALL BE MAINTAINED BETWEEN GAS AND WATER MAINS.
8. TRACER WIRE SHALL BE #12 COPPER CLAD STEEL CORE WITH 30 MILS BLUE HDPE INSULATION. ALL WIRE SPLICES SHALL BE MADE USING A SPLIT BOLT CONNECTOR WRAPPED WITH AQUASEAL AND ELECTRIC TAPE. THE CONTRACTOR SHALL INSTALL A 3 POUND ANODE AT EVERY TEST STATION. TEST STATIONS SHALL BE LOCATED ALONG THE MAIN NO MORE THAN 500 FEET APART. REFER TO 10L-9.

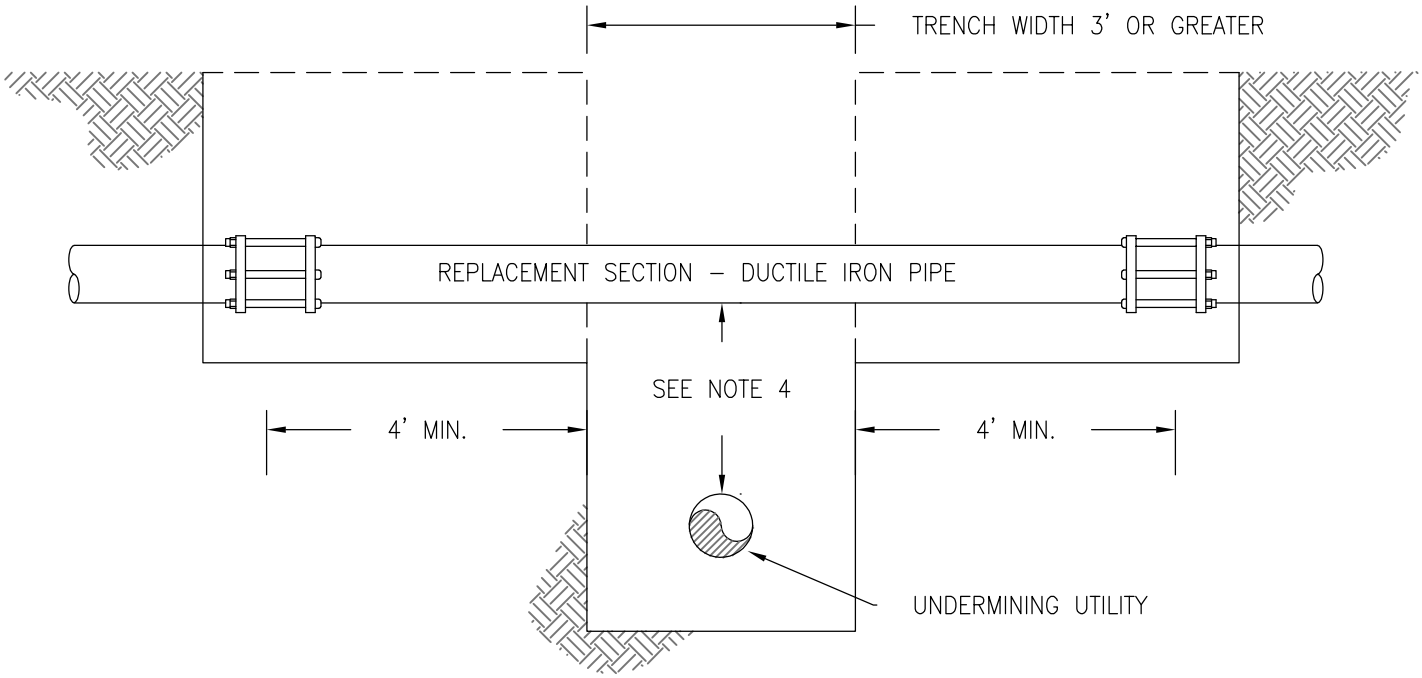
TRUCKEE MEADOWS WATER AUTHORITY	DATE 7/2011 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS TRENCH DETAIL WATER ONLY	DRAWING NUMBER 10L-6



NOTES:

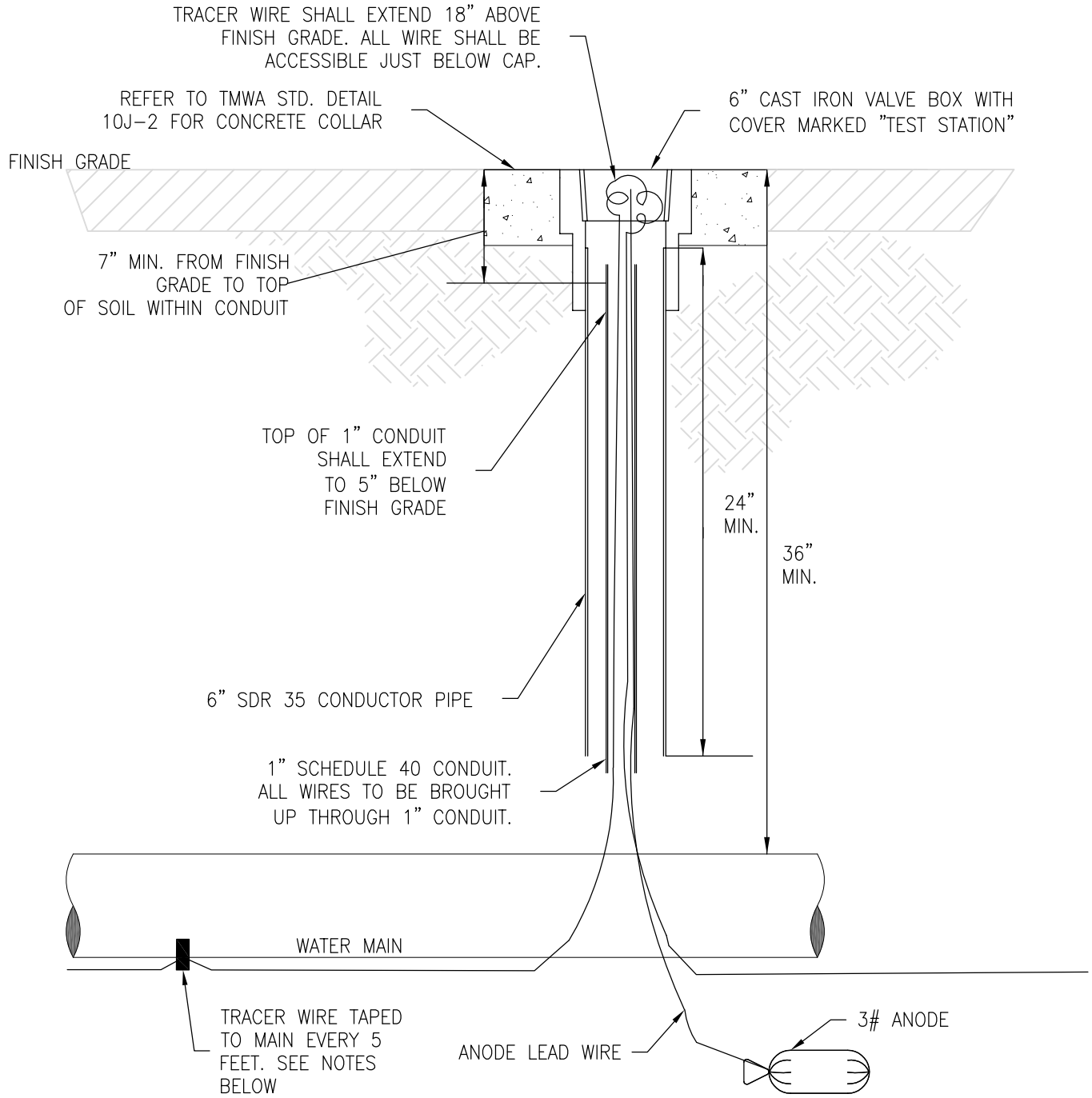
1. ALL TRENCHES MUST CONFORM TO APPLICABLE TMWA, CITY, STATE, COUNTY, AND OSHA SPECIFICATIONS AND REQUIREMENTS. IN THE CASE OF CONFLICT, THE MORE RIGID SPECIFICATION OR STANDARD SHALL APPLY.
2. BEDDING SAND SHALL BE COMPACTED TO 90% MAXIMUM DENSITY PER SECTION 5.05.03 AND SHALL BE A MINIMUM OF 12" ABOVE AND 6" BELOW THE MAIN. PER SECTION 5 OF TMWA STANDARDS.
3. CRUSHED AGGREGATE BASE COURSE BACKFILL SHALL BE PLACED IN 12" MAXIMUM LOOSE LIFTS. THE TOP 12" SHALL BE COMPACTED TO 95% MAXIMUM DENSITY. THE AREA ABOVE THE BEDDING SAND & BELOW 12" FROM FINISH GRADE SHALL BE COMPACTED TO 90% MAXIMUM DENSITY. PER SECTION 5 OF TMWA STANDARDS.
4. NON-METALLIC WATER LOCATOR TAPE SHALL BE PLACED IN ALL TRENCHES AT LEAST 12" ABOVE THE WATER.
5. ELECTRIC UTILITIES MUST BE LOCATED BELOW WATER & MAINTAIN 2' MINIMUM RADIAL CLEARANCE FROM TMWA WATER FACILITIES WHEN CROSSING, 5' MINIMUM WHEN PARALLEL. IF 2' RADIAL CLEARANCE CAN NOT BE MET ELECTRIC CONDUIT MUST BE CONCRETE ENCASED AT LEAST 18" EACH SIDE OF WATER CROSSING. FIBER OPTIC AND/OR COMMUNICATION CONDUITS SHALL NOT BE PLACED IN THE SAME TRENCH AS WATER. FIBER OPTIC AND/OR COMMUNICATION CONDUITS CROSSING WATER SHALL BE PLACED A MINIMUM OF 12" BELOW WATER.
6. ALL CHANGES MUST BE APPROVED BY THE TMWA INSPECTOR AND/OR THE TMWA ENGINEER.
7. SEPARATION FOR PIPES IN A JOINT TRENCH SHALL BE A MINIMUM OF 12".
8. WHERE DEPTH OF GAS IS LESS THAN 30" A MINIMUM OF 36" OF COVER OVER THE WATER MAIN SHALL BE MAINTAINED AT ALL TIMES. WHERE GAS IS REMOVED FROM A COMMON TRENCH WITH WATER, THE WATER MAIN SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL 10L-6.
9. TRACER WIRE SHALL BE #12 COPPER CLAD STEEL CORE WITH 30 MILS BLUE HDPE INSULATION. ALL WIRE SPLICES SHALL BE MADE USING A SPLIT BOLT CONNECTOR WRAPPED WITH AQUASEAL AND ELECTICAL TAPE. THE CONTRACTOR SHALL INSTALL A 3 POUND ANODE AT EVERY TEST STATION. TEST STATIONS SHALL BE LOCATED ALONG THE MAIN NO MORE THAN 500 FEET APART. REFER TO 10L-9.

TRUCKEE MEADOWS WATER AUTHORITY	DATE	APPENDIX 10L MISCELLANEOUS WATER DETAILS	DRAWING NUMBER
	7/2011		
	REV	TRENCH DETAIL GAS AND WATER	10L-7
	5/2024		



1. COUPLINGS SHALL BE HYMAX2 OR ROMAC MACRO HP, FUSION EPOXY COATING, CENTER RING LENGTH MINIMUM 7".
2. BACKFILL AND COMPACTION REQUIREMENTS SHALL COMPLY WITH SECTION 5, TRENCH BEDDING, BACKFILL & EXCAVATION.
3. REPLACEMENT SECTION OF PIPE SHALL BE DUCTILE IRON.
4. REFER TO TMWA CONSTRUCTION AND DESIGN STANDARDS FOR MINIMUM CLEARANCE REQUIREMENTS.

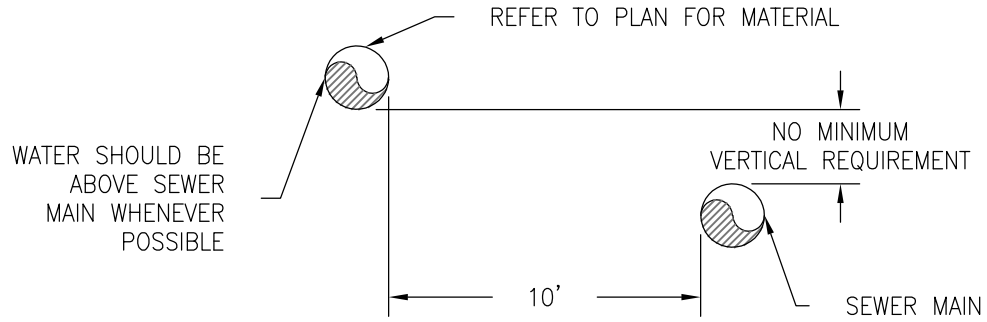
TRUCKEE MEADOWS WATER AUTHORITY	DATE 7/2011 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS CROSSING UNDER EXISTING TRANSITE OR SMALL DIAMETER CAST IRON MAINS	DRAWING NUMBER 10L-8



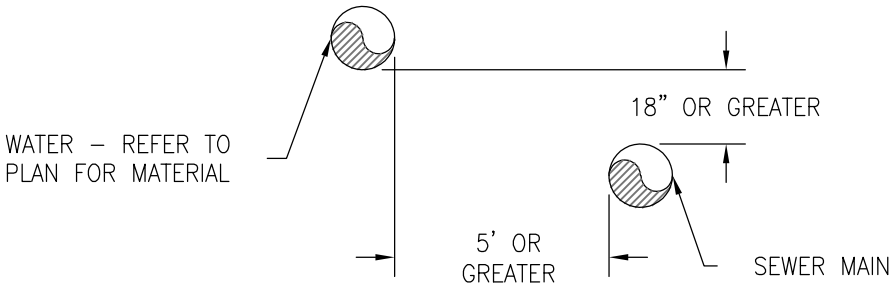
NOTES:

1. TRACER WIRE SHALL BE #12 COPPER CLAD STEEL CORE WITH 30 MILS BLUE HDPE INSULATION.
2. ALL WIRE SPLICES SHALL BE MADE USING A SPLIT BOLT CONNECTOR WRAPPED WITH AQUASEAL AND ELECTRIC TAPE.
3. CONTRACTOR SHALL INSTALL A 3 POUND ANODE AT EVERY TEST STATION.
4. WHEN POSSIBLE, TEST STATIONS SHALL BE LOCATED AT FIRE HYDRANTS. SPACING BETWEEN TEST STATIONS SHALL NOT EXCEED 500 FEET UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. PRIOR TO ACCEPTANCE OF WATER MAIN, THE CONTRACTOR SHALL PERFORM A CONTINUITY TEST ON THE INSTALLED TRACER WIRE SYSTEM.
6. WHERE DIRECTED, TRACER WIRE SHALL BE PLACED WITH ALL SERVICE LINES AND SHALL BE EXTENDED INTO THE METER BOX. TRACER WIRE SHALL BE ACCESSIBLE FROM METER BOX AND SHALL EXTEND 12 INCHES ABOVE GROUND. CONNECT TO MAIN TRACER WIRE AS SPECIFIED IN NOTE 2.

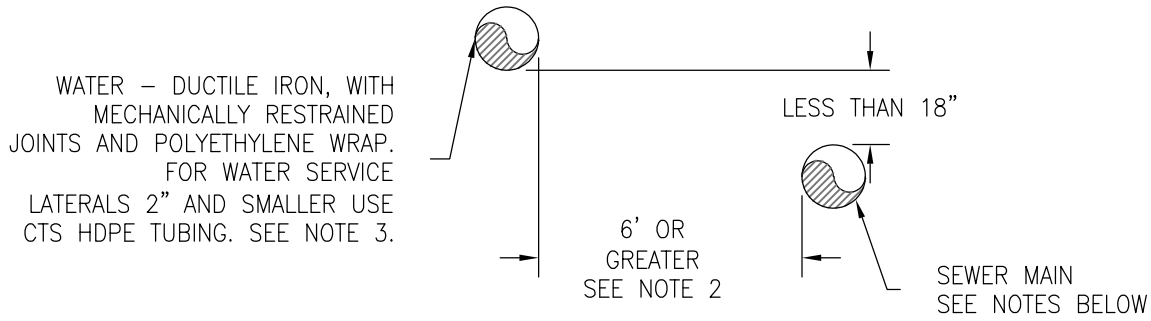
TRUCKEE MEADOWS WATER AUTHORITY	DATE 02/2014 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS TEST STATION	DRAWING NUMBER 10L-9



OPTION 1



OPTION 2

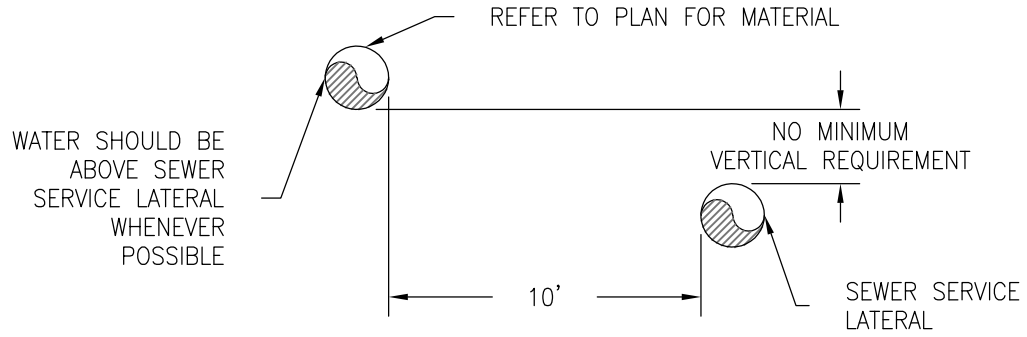


OPTION 3

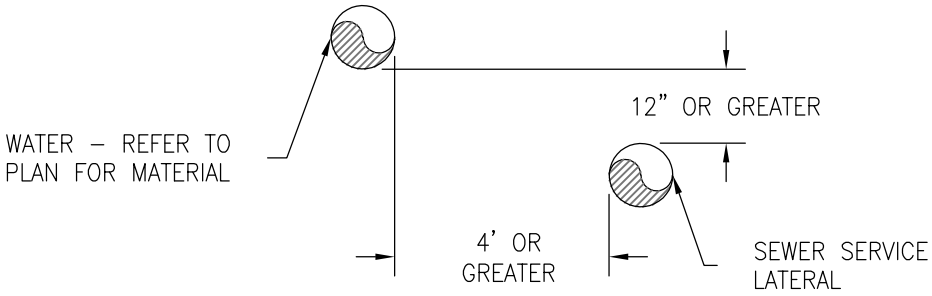
NOTES:

1. SEWER MAIN DEFINITIONS: GRAVITY SANITARY SEWER MAIN 8" OR GREATER IN DIAMETER; GRAVITY SANITARY SEWER MAIN 6" IN DIAMETER AND HAS CONNECTIONS FROM MORE THAN ONE SEWER SERVICE LATERAL; GRAVITY STORM DRAIN MAIN 12" AND GREATER IN DIAMETER; PRESSURIZED SEWER MAIN 2" AND GREATER IN DIAMETER; OR POTABLE IRRIGATION GREATER THAN 2" DOWNSTREAM OF BACKFLOW ASSEMBLY.
2. IF SEPARATION IS 10 FEET OR MORE USE OPTION 1.
3. IF NON–PRESSURIZED SEWER MAINS ARE JOINTLESS, AWWA WATER QUALITY PIPE (EXTENDING STRUCTURE TO STRUCTURE) OR D3212 JOINTED PIPE, MITIGATION IS NOT REQUIRED ON THE WATER MAIN OR LATERAL. IF SEWER MAINS DON'T HAVE WATERTIGHT JOINTS, SEWER MAINS SHALL BE ENCASED IN 4" OF EXCAVATABLE SLURRY (FOR EXISTING PIPE ONLY), INSTALLED WITH EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATERTIGHT. WHERE THE SEWER MAINS ARE PRESSURIZED, THE SEWER MAINS SHALL BE AWWA WATER QUALITY PIPE WITH MECHANICALLY RESTRAINED JOINTS OR SHALL BE JOINTLESS PIPE. FOR NON–POTABLE IRRIGATION, USE GLUED PVC WITHIN A SLEEVE OR JOINTLESS HDPE.
4. CTS HDPE TUBING 2" AND SMALLER SHALL NOT HAVE JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE CURB VALVE OR SETTER.
5. EXISTING SEWER PIPE MATERIAL MUST BE CONFIRMED IN THE FIELD FOR OPTION 3.

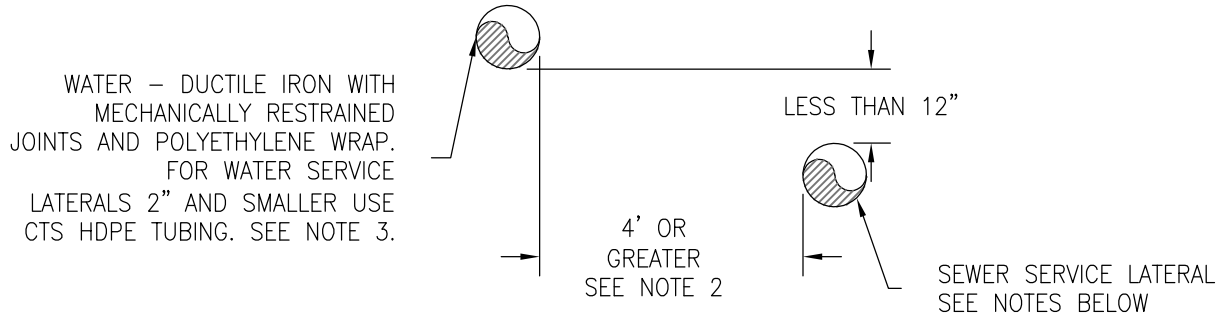
TRUCKEE MEADOWS WATER AUTHORITY	DATE 2/2014 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS WATER MAIN OR WATER SERVICE LATERAL PARALLEL TO SEWER MAIN	DRAWING NUMBER 10L-10



OPTION 1



OPTION 2

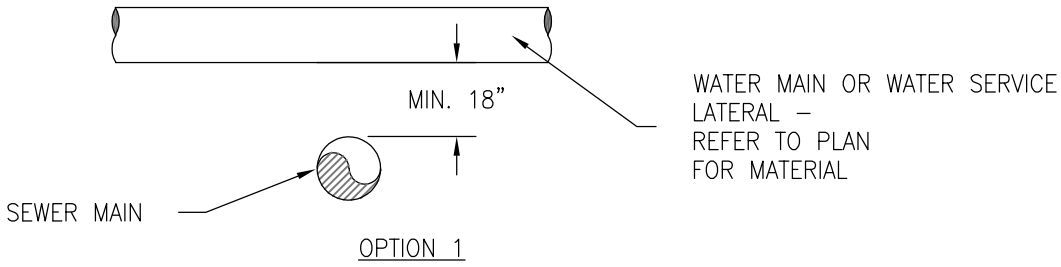


OPTION 3

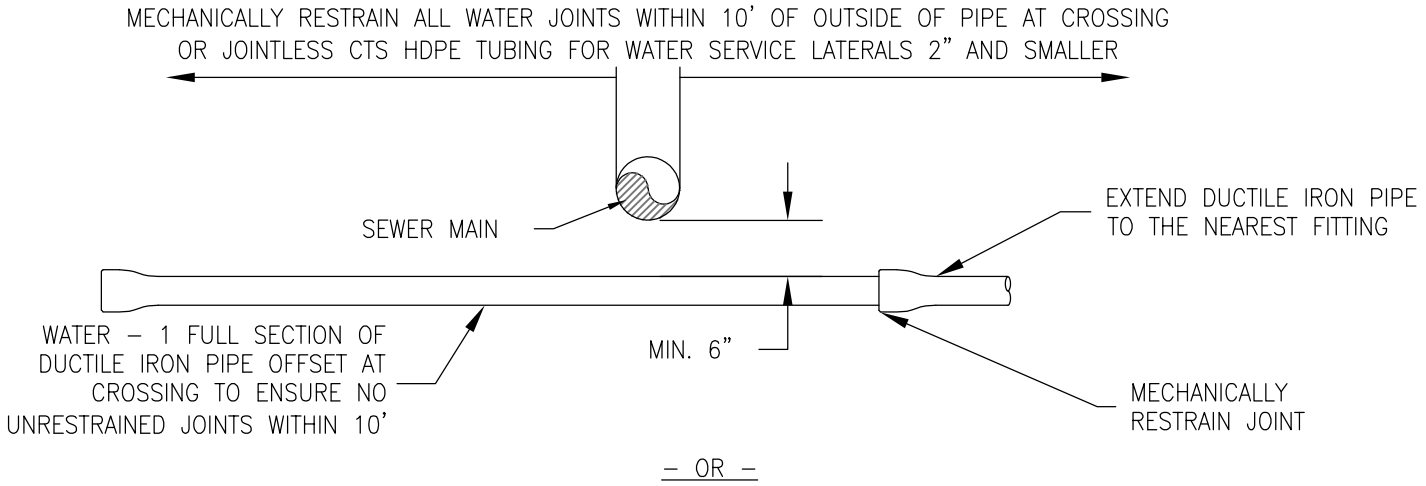
NOTES:

1. SEWER LATERAL DEFINITIONS: GRAVITY SANITARY SEWER LATERAL 6" OR SMALLER IN DIAMETER (GRAVITY SANITARY SEWER LATERAL 6" IN DIAMETER AND HAS CONNECTIONS FROM MORE THAN ONE SEWER SERVICE LATERAL IS CONSIDERED A MAIN); GRAVITY STORM DRAIN LATERAL 10" AND SMALLER IN DIAMETER; OR PRESSURIZED SEWER LATERALS 1.5" AND SMALLER IN DIAMETER.
2. IF SEPARATION IS 10 FEET OR MORE USE OPTION 1.
3. IF NON–PRESSURIZED SEWER LATERALS ARE JOINTLESS, AWWA WATER QUALITY PIPE (EXTENDED STRUCTURE TO STRUCTURE) OR D3212 JOINTED PIPE, MITIGATION IS NOT REQUIRED ON THE WATER MAIN OR LATERAL. IF SEWER LATERALS DON'T HAVE WATERTIGHT JOINTS, SEWER MAINS SHALL BE ENCASED IN 4" OF EXCAVATABLE SLURRY (FOR EXISTING PIPE ONLY), INSTALLED WITH EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATERTIGHT. WHERE THE SEWER LATERALS ARE PRESSURIZED, THE SEWER LATERALS SHALL BE AWWA WATER QUALITY PIPE WITH MECHANICALLY RESTRAINED JOINTS OR SHALL BE JOINTLESS PIPE. FOR NON–POTABLE IRRIGATION, USE GLUED PVC WITHIN A SLEEVE OR JOINTLESS HDPE.
4. CTS HDPE TUBING 2" AND SMALLER SHALL NOT HAVE JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE CURB VALVE OR SETTER.

TRUCKEE MEADOWS WATER AUTHORITY	DATE 02/2014 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS WATER MAIN OR WATER SERVICE LATERAL PARALLEL TO SEWER SERVICE LATERAL	DRAWING NUMBER 10L-11



OPTION 1



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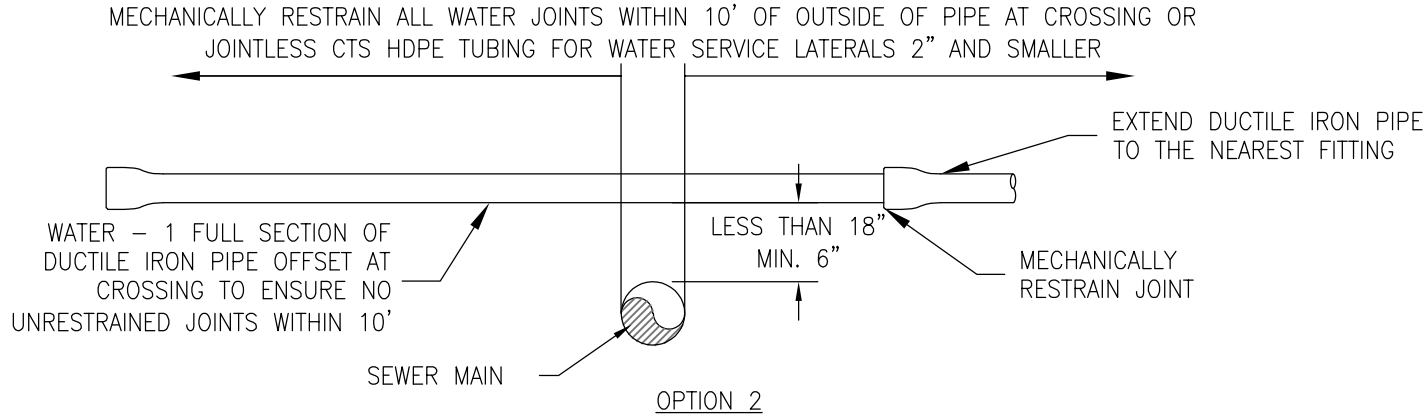
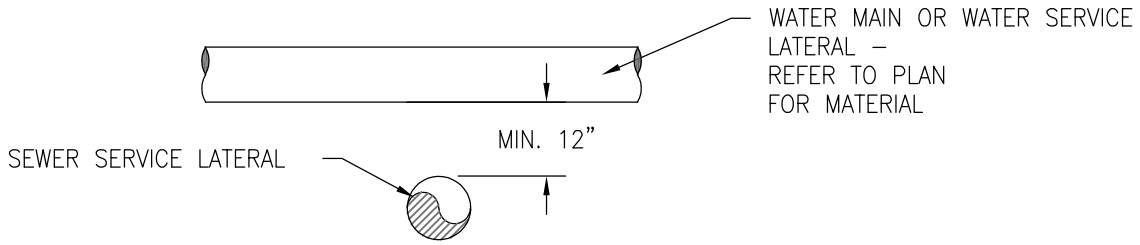


OPTION 2

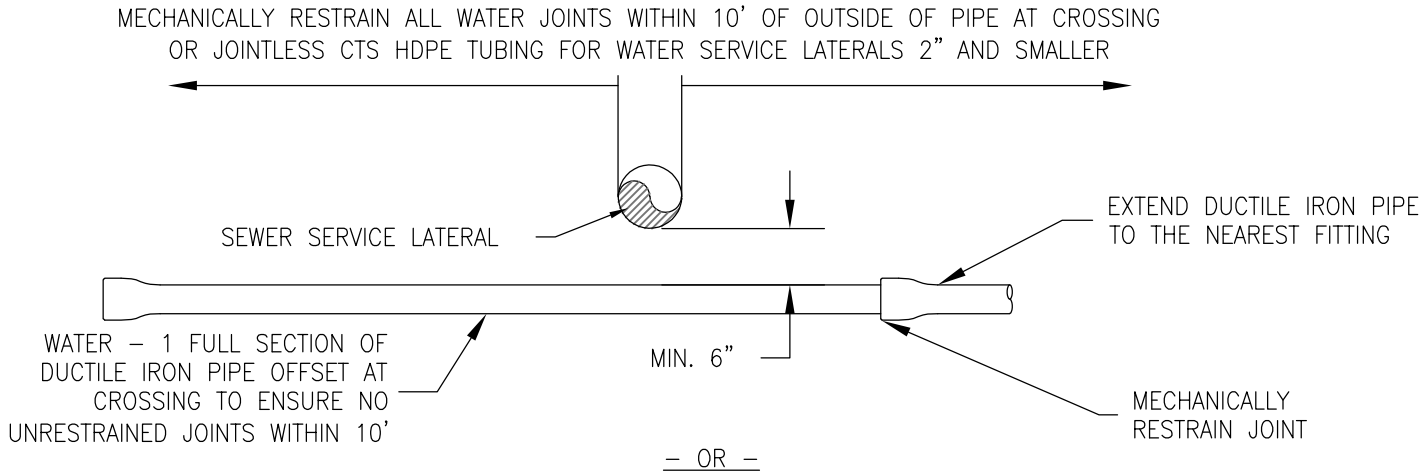
NOTES:

1. SEWER MAIN DEFINITIONS: GRAVITY SANITARY SEWER MAIN 8" OR GREATER IN DIAMETER; GRAVITY SANITARY SEWER MAIN 6" IN DIAMETER AND HAS CONNECTIONS FROM MORE THAN ONE SEWER SERVICE LATERAL; GRAVITY STORM DRAIN MAIN 12" AND GREATER IN DIAMETER; PRESSURIZED SEWER MAIN 2" AND GREATER IN DIAMETER; OR POTABLE IRRIGATION GREATER THAN 2" DOWNSTREAM OF BACKFLOW ASSEMBLY.
2. IF NON–PRESSURIZED SEWER MAINS ARE JOINTLESS OR AWWA WATER QUALITY PIPE (EXTENDED STRUCTURE TO STRUCTURE), MITIGATION IS NOT REQUIRED ON THE WATER MAIN OR LATERAL. IN ALL OTHER CASES, WATER SHALL BE MITIGATED AND NON–PRESSURIZED SEWER MAINS SHALL BE D3212 JOINTED PIPE, ENCASED IN 4" OF EXCAVATABLE SLURRY (FOR EXISTING PIPE ONLY), INSTALLED WITH EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATERTIGHT. WHERE THE SEWER MAINS ARE PRESSURIZED, THE SEWER MAINS SHALL BE AWWA WATER QUALITY PIPE WITH MECHANICALLY RESTRAINED JOINTS OR SHALL BE JOINTLESS PIPE. FOR IRRIGATION MAINS AS IDENTIFIED ABOVE, USE GLUED PVC WITHIN A SLEEVE OR JOINTLESS HDPE.
3. ALL MECHANICALLY RESTRAINED WATER PIPES SHALL BE DUCTILE IRON WITH V–BIO POLYETHYLENE WRAP PER AWWA C105.
4. CTS HDPE TUBING 2" AND SMALLER SHALL NOT HAVE JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE CURB VALVE OR SETTER.

TRUCKEE MEADOWS WATER AUTHORITY	DATE 02/2014 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS WATER MAIN OR WATER SERVICE LATERAL CROSSING SEWER MAIN	DRAWING NUMBER 10L-12



OPTION 1



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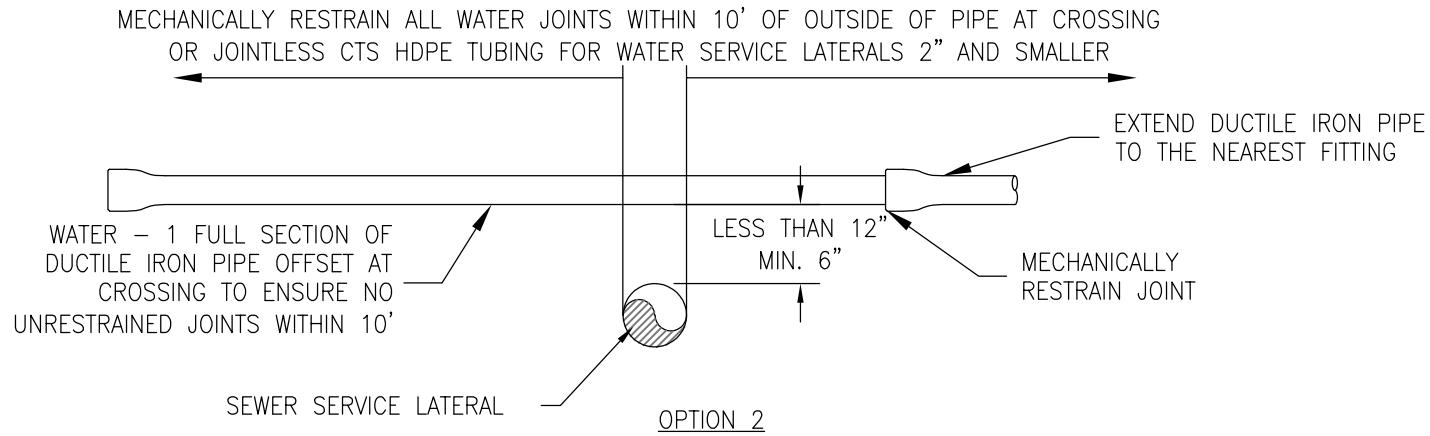
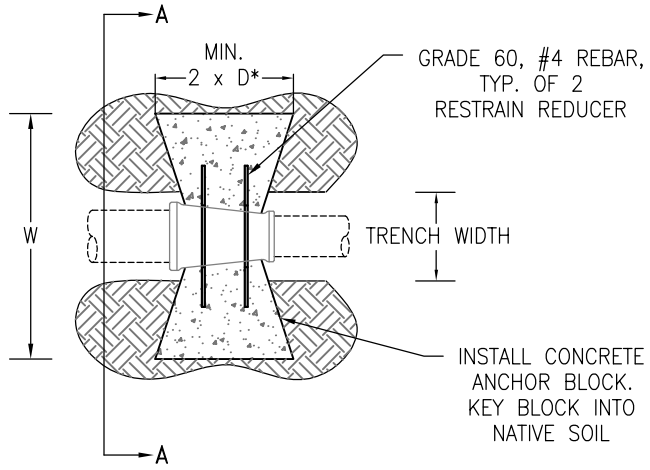


OPTION 2

NOTES:

1. SEWER LATERAL DEFINITIONS: GRAVITY SANITARY SEWER LATERAL 6" OR SMALLER IN DIAMETER (GRAVITY SANITARY SEWER LATERAL 6" IN DIAMETER AND HAS CONNECTIONS FROM MORE THAN ONE SEWER SERVICE LATERAL IS CONSIDERED A MAIN); GRAVITY STORM DRAIN LATERAL 10" AND SMALLER IN DIAMETER; OR PRESSURIZED SEWER LATERALS 1.5" AND SMALLER IN DIAMETER.
2. IF NON–PRESSURIZED SEWER LATERALS ARE JOINTLESS OR AWWA WATER QUALITY (EXTENDED STRUCTURE TO STRUCTURE) PIPE MITIGATION IS NOT REQUIRED ON THE WATER MAIN OR LATERAL. IN ALL OTHER CASES, WATER SHALL BE MITIGATED AND NON–PRESSURIZED SEWER LATERALS SHALL BE D3212 JOINTED PIPE, ENCASED IN 4" OF EXCAVATABLE SLURRY (FOR EXISTING PIPE ONLY), INSTALLED WITH EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATERTIGHT. WHERE THE SEWER LATERALS ARE PRESSURIZED, THE SEWER LATERALS SHALL BE AWWA WATER QUALITY PIPE WITH MECHANICALLY RESTRAINED JOINTS OR SHALL BE JOINTLESS PIPE. FOR IRRIGATION, USE GLUED PVC WITHIN A SLEEVE OR JOINTLESS HDPE.
3. ALL MECHANICALLY RESTRAINED WATER PIPES SHALL BE DUCTILE IRON WITH POLYETHYLENE WRAP PER AWWA C105.
4. CTS HDPE TUBING 2" AND SMALLER SHALL NOT HAVE JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE CURB VALVE OR SETTER.

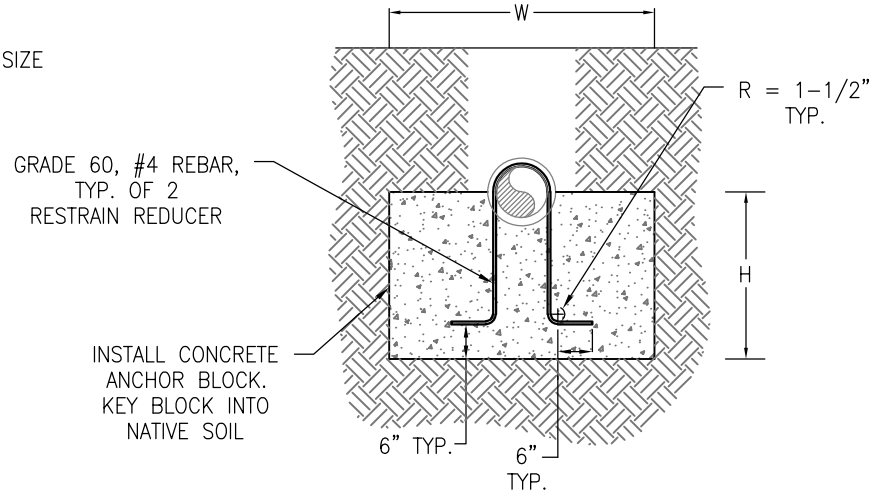
TRUCKEE MEADOWS WATER AUTHORITY	DATE 2/2014 REV 5/2024	APPENDIX 10L MISCELLANEOUS WATER DETAILS WATER MAIN OR WATER SERVICE LATERAL CROSSING SEWER SERVICE LATERAL	DRAWING NUMBER 10L-13



PLAN VIEW

*D = LARGER NOMINAL DIAMETER OF PIPE SIZE

IN-LINE REDUCER ANCHOR BLOCK DIMENSIONS				
LARGER PIPE SIZE (INCHES)	SMALLER PIPE SIZE (INCHES)	MIN. BLOCK AREA (SQ FT)	H MIN. (FEET)	W MIN. (FEET)
8	6	4	2	2
10	6	9	3	3
10	8	5	2	2.5
12	6	15	3	5
12	8	12	3	4
12	10	6	2	3



SECTION A-A

ANCHOR BLOCK DESIGN CRITERIA:

ANCHOR BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN ***THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SEVENTH EDITION 2016*** BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 1,500 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND OUTSIDE PIPE DIAMETER

ANCHOR BLOCK NOTES:

1. CONCRETE FOR ANCHOR BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI. REFERENCE SECTION 1.1.12 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
2. ALL FITTINGS/VALVES SHALL BE WRAPPED WITH POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH-ON) SHALL BE APPLIED TO ALL EXPOSED METAL, INCLUDING REBAR. WAX TAPE COATING SYSTEMS MAY BE REQUIRED, REFER TO PLANS FOR LOCATIONS.
3. ANCHOR BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE ANCHOR BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT-BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
4. FOR SOIL BEARING CAPACITY LESS THAN 1,500 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE ANCHOR BLOCK BEARING AREAS ACCORDINGLY. REVISED ANCHOR BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

TRUCKEE MEADOWS WATER AUTHORITY	DATE 5/2024 REV	APPENDIX 10L MISCELLANEOUS WATER DETAILS ANCHOR BLOCK FOR IN-LINE REDUCERS	DRAWING NUMBER 10L-14