





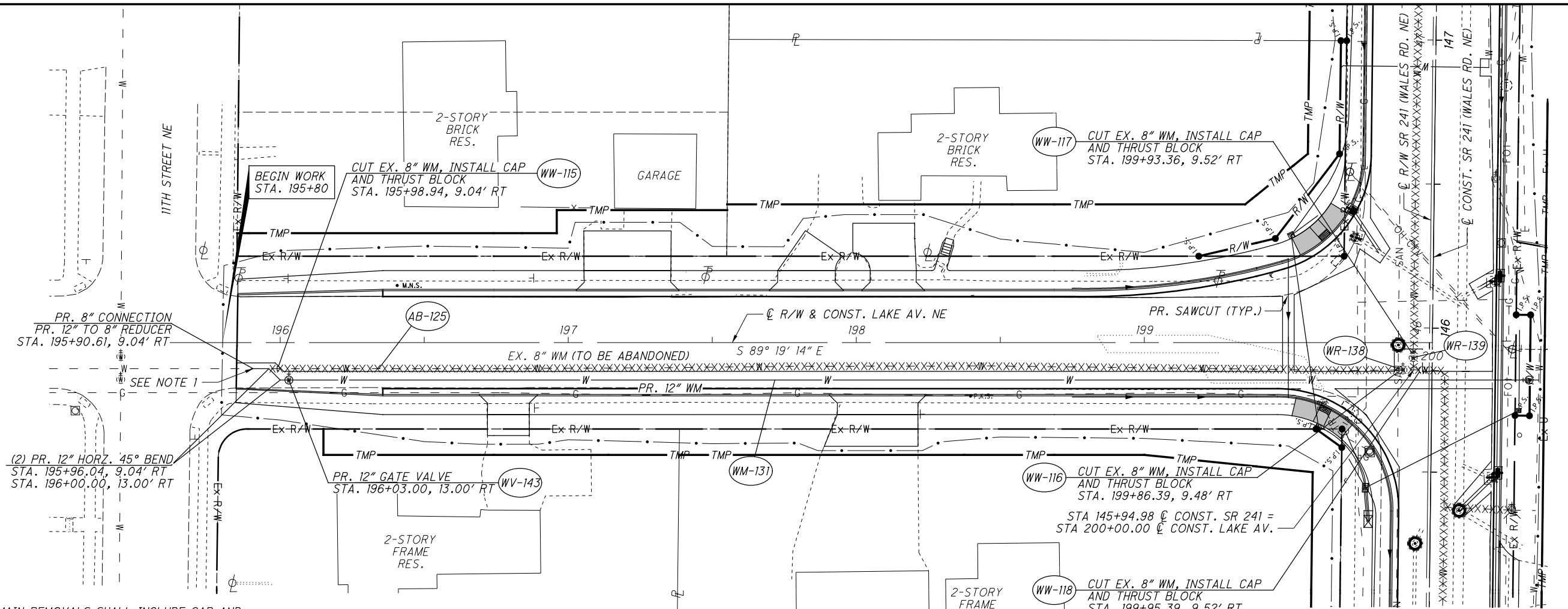
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WATER WORK - LAKE AVE. NE  
BEGIN TO END

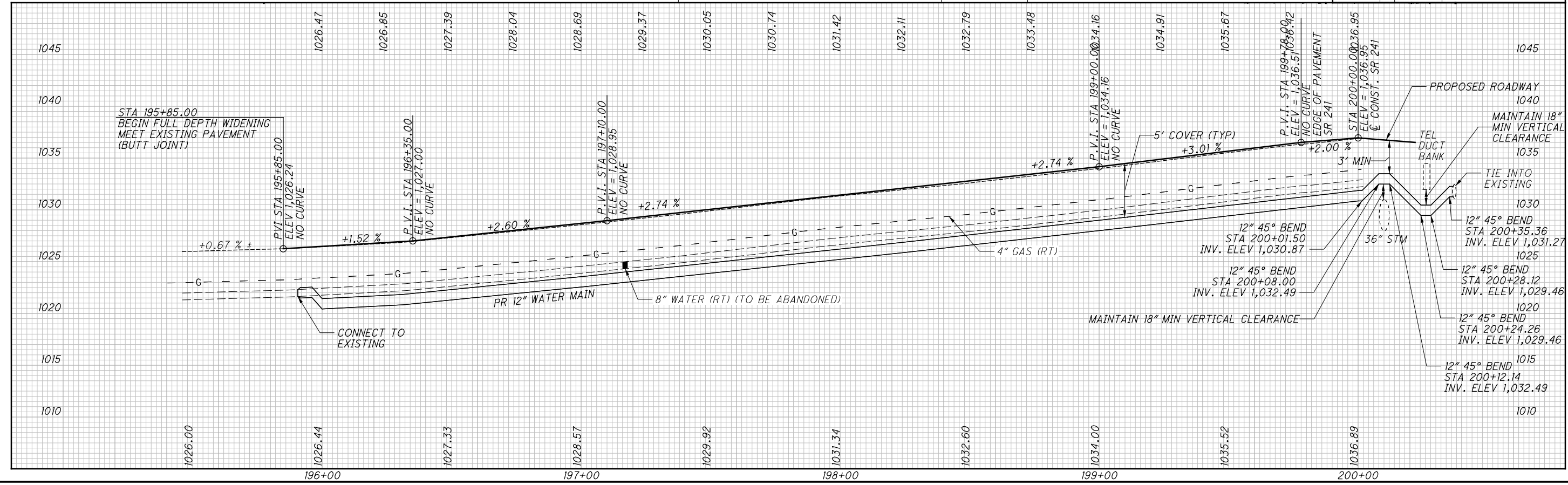
STA-241-9.71

256  
395



- NOTES:**
1. WATER MAIN REMOVALS SHALL INCLUDE CAP AND THRUST BLOCKS ON THE ABANDONED MAIN.
  2. HYDRANT REMOVAL SHALL INCLUDE REMOVAL OF EXISTING HYDRANT, 6" WATER MAIN, TEE, 6" GATE VALVE, AND 2 PLUGS FOR THE ABANDONED WATER MAIN (TYP).
  3. WATER SERVICE LATERALS ARE SHOWN AS A GRAPHICAL REPRESENTATION ONLY. ACTUAL LOCATIONS TO BE DETERMINED PRIOR TO CONSTRUCTION.

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
237	WATER WORK LEGEND
108 - 162	CROSS SECTIONS



**GENERAL CONSTRUCTION NOTES:**

1. PRE-CONSTRUCTION MEETING WILL BE SCHEDULED PRIOR TO CONSTRUCTION WITH ALL APPROVING AGENCIES INVITED.
2. PRE-CONSTRUCTION VIDEOTAPE WILL BE MADE TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION. THIS WORK SHALL BE INCIDENTAL TO THE WATER MAIN WORK.
3. THE CONTRACTOR SHALL COORDINATE THE CROSSING OF RESIDENTIAL DRIVEWAYS TO MAINTAIN ACCESS.
4. TRAFFIC CONTROL WILL CONFORM TO STATE AND LOCAL REGULATIONS.
5. CONTRACTOR WILL PROVIDE AQUA WITH A SET OF AS BUILT DRAWINGS ONCE ALL WATER WORK RELATED WORK IS COMPLETED. THIS WILL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM SPECIAL, AS-BUILT CONSTRUCTION PLANS.

WHEN A LEAD WATER SERVICE IS UNCOVERED (CUSTOMER'S OR AQUA'S), THE CONTRACTOR SHALL NOTIFY THE AQUA CONSTRUCTION INSPECTOR FOR COORDINATION OF WORK.

PROHIBITION ON USING CUT-OFF SAWS. CONTRACTOR IS PROHIBITED FROM USING CUT-OFF SAWS TO PERFORM SERVICES FOR AQUA WHILE IN THE EXCAVATION TRENCH. A CUT-OFF SAW IS A POWER TOOL WHICH IS TYPICALLY USED TO CUT HARD MATERIALS, SUCH AS METALS. THE CUTTING ACTION IS PERFORMED BY AN ABRASIVE DISC, SIMILAR TO A GRINDING WHEEL OR A DIAMOND TIP STEEL BLADE. THESE TYPES OF SAWS CAN BE GASOLINE, HYDRAULIC OR PNEUMATIC POWERED. THIS TYPE OF SAW IS SOMETIMES REFERRED TO AS A DEMO SAW.

**ENVIRONMENTAL WORK INVOLVING PETROLEUM CONTAMINATED SOILS AND GROUNDWATER**

ENVIRONMENTAL STUDIES HAVE SHOWN THAT PETROLEUM-CONTAMINATED MATERIALS WILL BE ENCOUNTERED IN EXCAVATIONS ON OR ABUTTING THE PROPERTY AT 145 WALES ROAD (STA. 104+84 TO STA. 104+99), WHICH IS IN THE AREA OF CUT FOR WATER MAIN CONSTRUCTION. THE FOLLOWING QUANTITIES ARE INCLUDED FOR PAYMENT BY AQUA OHIO FOR REMEDIATION OF PETROLEUM CONTAMINATED SOILS AND GROUNDWATER. SEE THE PLAN NOTE ON SHEET 14 FOR A COMPLETE DESCRIPTION AND PAYMENT FOR THE WORK.

SPECIAL, WORK INVOLVING PETROLEUM CONTAMINATED SOILS	4 TON
690, WORK INVOLVING REGULATED WATER	50 GAL
690, WORK INVOLVING WATER	50 GAL

**GENERAL WATERLINE INSTALLATION NOTES**

1. CONTRACTOR TO PROVIDE LINE AND GRADE STAKES AT 100' INTERVALS FOR WATER MAIN AND FOR EACH FITTING AND APPURTENANCE. A COPY OF CUT SHEET SHALL BE PROVIDED TO FIELD INSPECTOR PRIOR TO INSTALLATION. THIS WORK IS TO BE INCIDENTAL TO ALL PERTAINING ITEM 638 PAY ITEMS.
2. WATER WORK SHALL NOT BEGIN UNTIL AREAS OF WATERLINE CONSTRUCTION ARE ROUGH GRADED (WITHIN 1 FT. OF FINISHED GRADE AND FILL AREAS ARE COMPLETED AND COMPACTED.)
3. NO WATER SERVICE CONNECTIONS TO ANY BUILDINGS SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY AQUA OHIO, INC. WHICH SHALL INCLUDE APPROVED RECTIFICATION OF ALL PUNCH LIST ITEMS. ONCE PUNCH LIST ITEMS ARE COMPLETED, THE BUILDER SHALL BE RESPONSIBLE FOR GRADE ADJUSTMENTS TO WATER FACILITIES AT TIME OF BUILDING CONSTRUCTION AND DURING FINAL SITE GRADING.
4. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN UTILITY CONDUIT CROSSOVERS AND WATERLINE APPURTENANCES, I.E. HYDRANTS, VALVES, TEES, ETC.
5. WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL MEET OR EXCEED ALL APPLICABLE A.W.W.A. STANDARDS INCLUDING BUT NOT LIMITED TO THE MOST RECENT VERSIONS OF C600 AND C651.
6. WATERLINE MATERIAL AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH AQUA OHIO SPECIFICATIONS. CLASS 52 D.I.P. POLYWRAPPED, FITTINGS CLASS 53 CEMENT LINED POLYWRAPPED AND 1" K COPPER TUBING WITH COMPRESSION FITTINGS FOR DOMESTIC SERVICES OR 2" HDPE SDR 9 POLYETHYLENE 3408 PIPE AROUND CUL-DE-SAC. IF POLYETHYLENE IS USED, A 12 GAUGE WIRE AND METALLIC CAUTION TAPE MUST BE USED.
7. ALL PIPE AND APPURTENANCES INSTALLED ON A DEPRESSURIZED WATER MAIN ARE TO BE WIPED CLEAN AND ALL INTERIOR SURFACES SATURATED WITH A MINIMUM 1% CHLORINE SOLUTION.
8. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED USING MEGALUG OR "FORD" EQUIVALENT. FIRE LINE RISERS TO INCLUDE (2) 5/8" ALL THREAD RODS EXTENDING FROM LOWER BEND TO RISER FLANGE.
9. A RESTRAINT GASKET (FIELD-LOK OR APPROVED EQUAL) SHALL BE UTILIZED ON PUSH-ON JOINTS AS REQUIRED BY AQUA OHIO STANDARDS.
10. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED AND TAPED AS PER DUCTILE IRON PIPE RESEARCH ASSOCIATION RECOMMENDATIONS.

**ITEM SPECIAL & 638 - PAY ITEMS**

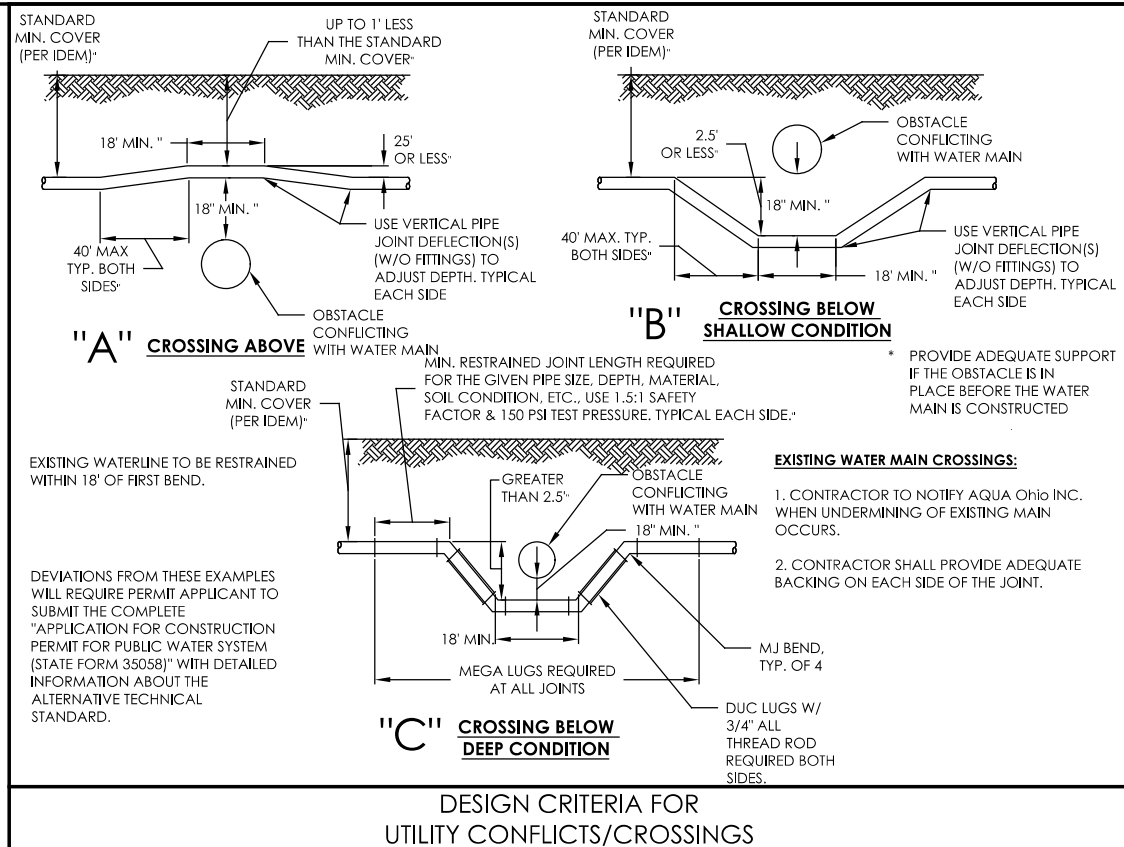
ALL ITEM SPECIAL & 638 PAY ITEMS SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 638 IN THE CMS, EXCEPT AS MODIFIED HEREIN.

AQUA OHIO WILL PROVIDE ALL WATER MAIN PIPE, FIRE HYDRANTS AND ASSEMBLY, 6" HYDRANT VALVES, AND WATER MAIN GATE VALVES TO THE CONTRACTOR AT NO ADDITIONAL COST. THIS AFFECTS THE FOLLOWING PAY ITEMS:

- SPECIAL, 6" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS
- SPECIAL, 8" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS
- SPECIAL, 12" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS
- 638, WATER WORK, MISC.: 14" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS
- SPECIAL, 16" WATER MAIN DIP CLASS 52 PUSH ON JOINTS AND FITTINGS
- SPECIAL, 6" GATE VALVE WITH VALVE BOX
- SPECIAL, 8" GATE VALVE WITH VALVE BOX
- SPECIAL, 12" GATE VALVE WITH VALVE BOX
- SPECIAL, 16" GATE VALVE WITH VALVE BOX
- SPECIAL, 8"x8" TAPPING SLEEVE, VALVE AND VALVE BOX
- 638, WATER WORK, MISC.: 14"x12" TAPPING SLEEVE, VALVE AND VALVE BOX
- SPECIAL, 16"x6" TAPPING SLEEVE, VALVE AND VALVE BOX
- SPECIAL, 16"x8" TAPPING SLEEVE, VALVE AND VALVE BOX
- SPECIAL, 16"x12" TAPPING SLEEVE, VALVE AND VALVE BOX
- 638, WATER WORK, MISC.: 18"x6" TAPPING SLEEVE, VALVE AND VALVE BOX
- 638, WATER WORK, MISC.: 18"x8" TAPPING SLEEVE, VALVE AND VALVE BOX
- 638, WATER WORK, MISC.: 20"x8" TAPPING SLEEVE, VALVE AND VALVE BOX
- SPECIAL, 6" FIRE HYDRANT

COST FOR ALL WORK, LABOR, EQUIPMENT, AND ANY INCIDENTAL MATERIALS, INCLUDING FITTINGS, BENDS, TEES, CROSSES, MECHANICAL JOINT RESTRAINTS, TAPPING SLEEVES, VALVE BOXES, ETC. SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THESE ITEMS. THE AQUA SUPPLIED MATERIALS WILL BE AVAILABLE FOR CONTRACTOR PICK-UP FROM THE FOLLOWING LOCATION:

D.I. PIPE WILL BE DELIVERED TO JOB SITE YARD. CONTRACTOR TO UNLOAD. VALVES AND HYDRANTS TO BE PICKED UP BY CONTRACTOR AT 870 3RD ST. NW, MASSILLON, OH.



**DESIGN CRITERIA FOR UTILITY CONFLICTS/CROSSINGS**

11. DUCTILE IRON IN CASING SHALL BE CLASS 52, POLYWRAPPED AND ALL PUSH-ON JOINTS SHALL BE EQUIPPED WITH RESTRAINT GASKETS (FIELD-LOK OR APPROVED EQUAL) AND STAINLESS STEEL CASING SPACERS ARE REQUIRED.
12. ALL THRUST BLOCKING WILL BE SOLID CONCRETE BLOCKS WITH OAK WEDGES OR POURED CONCRETE, PER AQUA STANDARDS DRAWING.
13. ALL VALVES ARE OPEN RIGHT AND ALL MAIN LINE VALVES ARE TO BE PLACED ON A MINIMUM OF ONE 4" SOLID CONCRETE BLOCK. ALL VALVES TO HAVE #57 LIMESTONE UP TO OPERATING NUT OF VALVE.
14. ALL FIRE HYDRANTS TO HAVE A MINIMUM OF 1/2 CUBIC YARD OF #57 LIMESTONE 6" ABOVE DRAIN HOLE OR EQUIVALENT SIZE BANK RUN GRAVEL. PLASTIC SHALL BE PLACED OVER STONE PRIOR TO BACKFILL. ALL HYDRANTS TO BE TURNED WITH 4-1/2" NOZZLE FACING STREET WITH 5" STORZ FITTING AND MEETING FIRE DEPARTMENT SPECIFICATIONS.
15. ALL VALVE BOX COVERS ARE TO BE PAINTED BLUE. CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENTS TO VALVE BOXES, CURB BOXES, AND FIRE HYDRANTS WITH RESPECT TO FINAL GRADING. ALL VALVE BOXES IN NEW OR PROPOSED PAVEMENT SHALL BE SCREW TYPE.
16. WATERLINE WILL NOT BE ACCEPTED OR PLACED IN SERVICE UNTIL CONTRACTOR CONDUCTS AND OBTAINS SATISFACTORY RESULTS OF PRESSURE AND CHLORINE TESTS. BACTERIA TEST WILL THEN BE CONDUCTED BY AQUA OHIO. ALL VALVES, HYDRANTS, AND CURB BOXES ARE TO BE AT PROPER GRADE PRIOR TO ACCEPTANCE.
17. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE SAFETY OF THE PUBLIC ON AND SURROUNDING THE SITE DURING CONSTRUCTION.
18. THE LOCATION OF EXISTING UTILITIES AND STRUCTURES, BOTH ABOVE GROUND AND UNDERGROUND ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE AND/OR CORRECT. THE EXACT LOCATION AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL USE DUE DILIGENCE IN PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER. THE CONTRACTOR SHALL CONTACT OHIO UTILITIES PROTECTION SERVICE, AT 1-800-362-2764, TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION AS REQUIRED BY OHIO LAW.
19. THE WATERLINE SHALL BE INSTALLED AT 4'-0" OF COVER FROM EXISTING/PROPOSED GRADE TO TOP OF THE WATERLINE. THIS 4' SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.

20. A MINIMUM 10'-0" HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
21. A MINIMUM 18" VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
22. DRIVEWAY RESTORATION SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY ONLY IS NOT ACCEPTABLE.
23. THE CONTRACTOR SHALL VISIT THE SITE TO PERSONALLY ASCERTAIN THE NATURE OF THE WORK INVOLVED AND THOROUGHLY BECOME FAMILIAR WITH THE SITE PRIOR TO THE SUBMISSION OF HIS OR HER BID.
24. THE CONTRACTOR SHALL CAREFULLY LAYOUT THE WATERLINE AND ALL RELATED FACILITIES TO ENSURE THAT THEY ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR ACQUIRED EASEMENTS AS INDICATED.
25. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE (YARDS, DITCHES, DRIVEWAYS, ETC.) TO ITS ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE WATERLINE INSTALLATION.
26. THE CONTRACTOR MAY DEFLECT THE WATERLINE AS PER MANUFACTURER'S SPECS WITH PERMISSION FROM AQUA AS NEEDED TO MAINTAIN MINIMUM HORIZONTAL AND VERTICAL SEPARATION DISTANCES.
27. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, AND ANY BENCHMARK, PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED PROFESSIONAL SURVEYOR AT THE CONTRACTORS EXPENSE.
28. ALL MAIL BOXES, TRAFFIC CONTROL SIGNS AND ADVERTISING SIGNS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED IMMEDIATELY AFTER THE WATER MAIN HAS BEEN INSTALLED AND BACKFILLED. TEMPORARY SIGNS TO BE USED AS NEEDED.
29. WATER SERVICE LINE CONNECTIONS ARE NOT TO BE INSTALLED UNTIL PRESSURE TEST AND BACTERIA TESTS HAVE BEEN APPROVED.
30. THE NORMAL WORKING PRESSURE IN WATER LINES SHALL NOT BE LESS THAN 35 PSI.
31. COMPACTION TESTING REQUIREMENTS AS PER ITEM 611.06 AND CONSTRUCTION INSPECTION FORMS SUBMITTALS AS PER ITEM 611.04.C APPLY AND INCIDENTAL TO ANY PERTAINING ITEM 638 WATER WORK PAY ITEM.

NOTE: THIS LIST DOES NOT SUPERCEDE CONTRACT SPECIFICATIONS AND IS INTENDED ONLY AS A GUIDELINE TO INSTALLING WATERLINES WITHIN THE AQUA OHIO SERVICE AREA. ANY QUESTIONS SPECIFIC TO YOUR PROJECT, SHOULD BE DISCUSSED WITH THE ONSITE INSPECTOR.

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