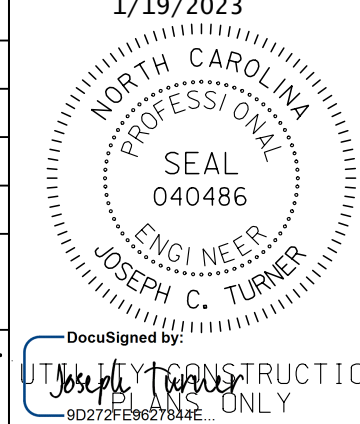




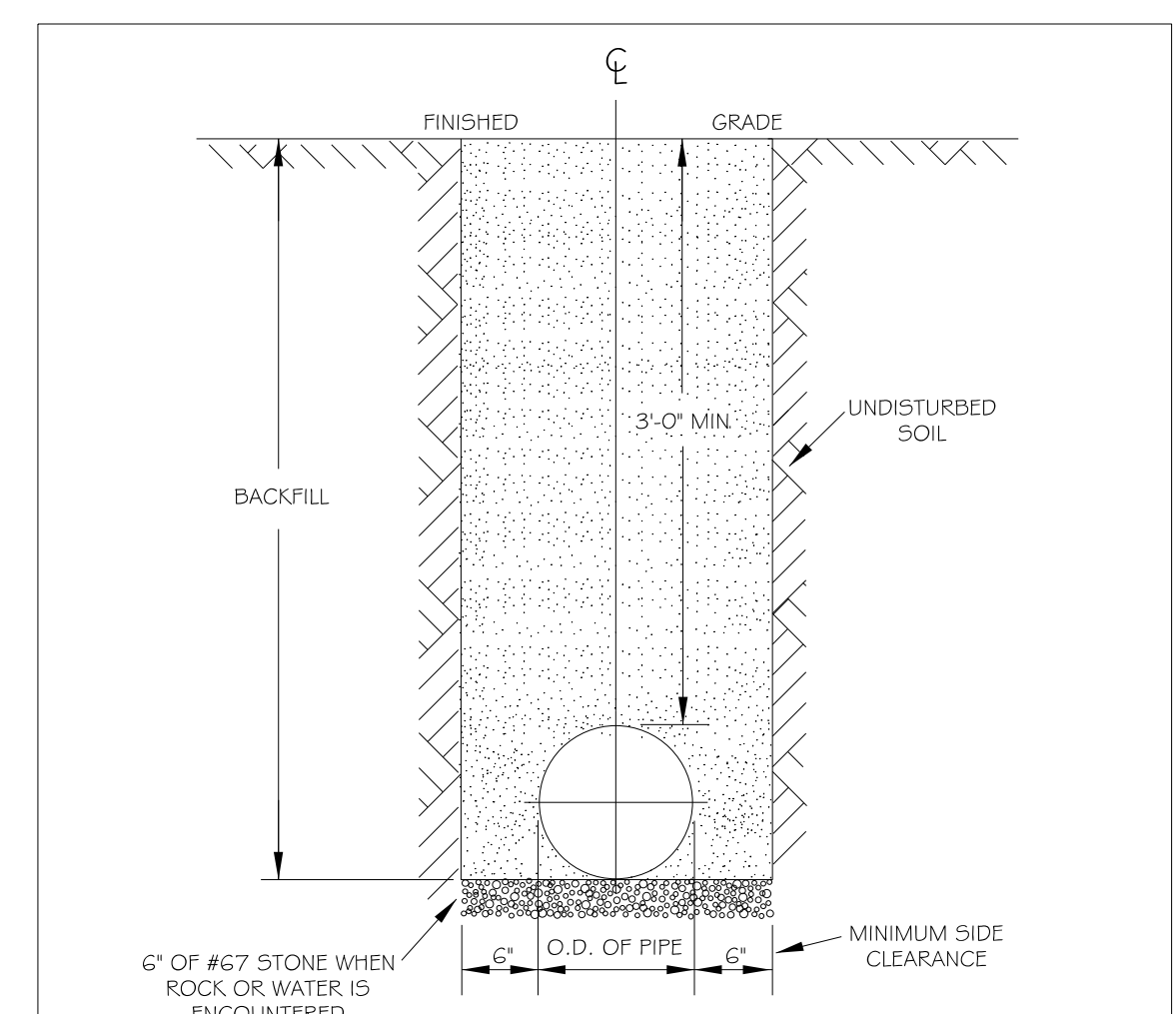
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC. 5438 WADE PARK BLVD., SUITE 200, RALEIGH, NC 27607 919-461-1100 F-0342

PROJECT REFERENCE NO. U-5748 SHEET NO. UC-3A 1/19/2023 DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: REVISED: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151



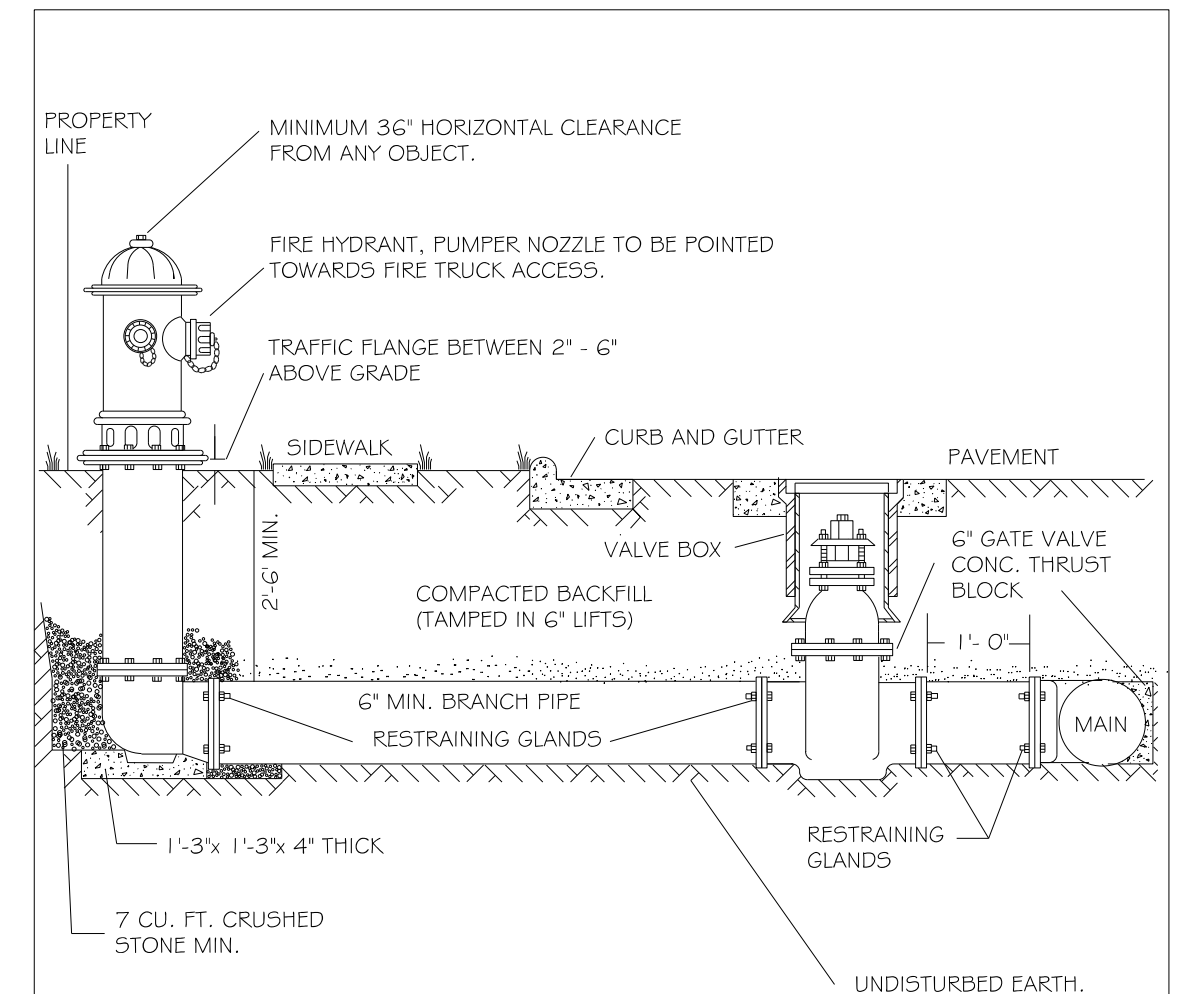
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UTILITY CONSTRUCTION



- NOTES: 1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING. 2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL. 3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL. 4. BACKFILL SHALL BE TAMPED IN 6" LIFTS. 5. ACHIEVE 95% COMPACTION IN BACKFILL.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-3.



- NOTES: 1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MH1, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE. 2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-36. 3. 6" GATE VALVE SHALL BE AWWA C500-06 OPEN LEFT. 4. STEEL RODS AND BOLTS SHALL BE #1 HOT DIPPED GALVANIZED. 5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20 THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-4.

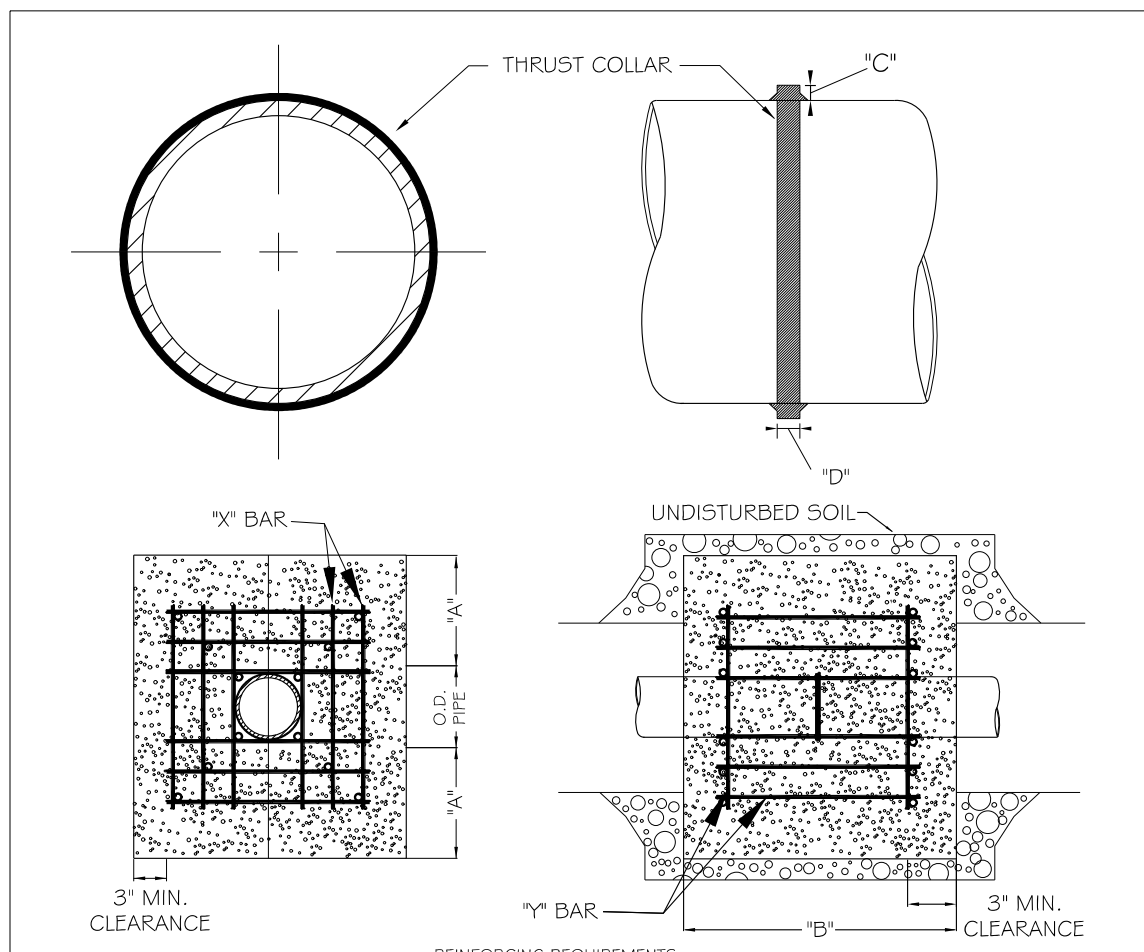
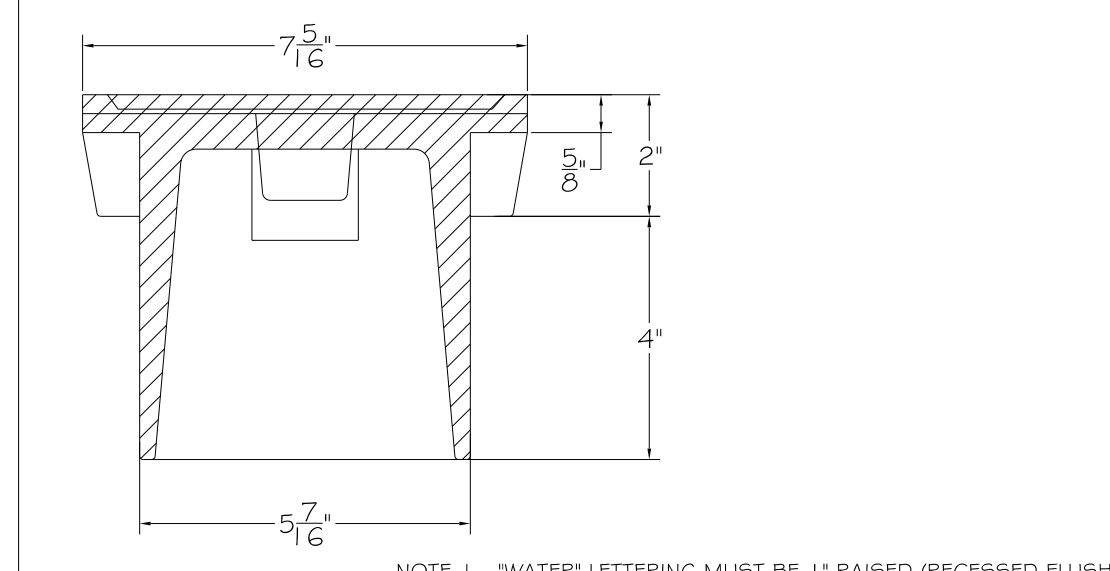
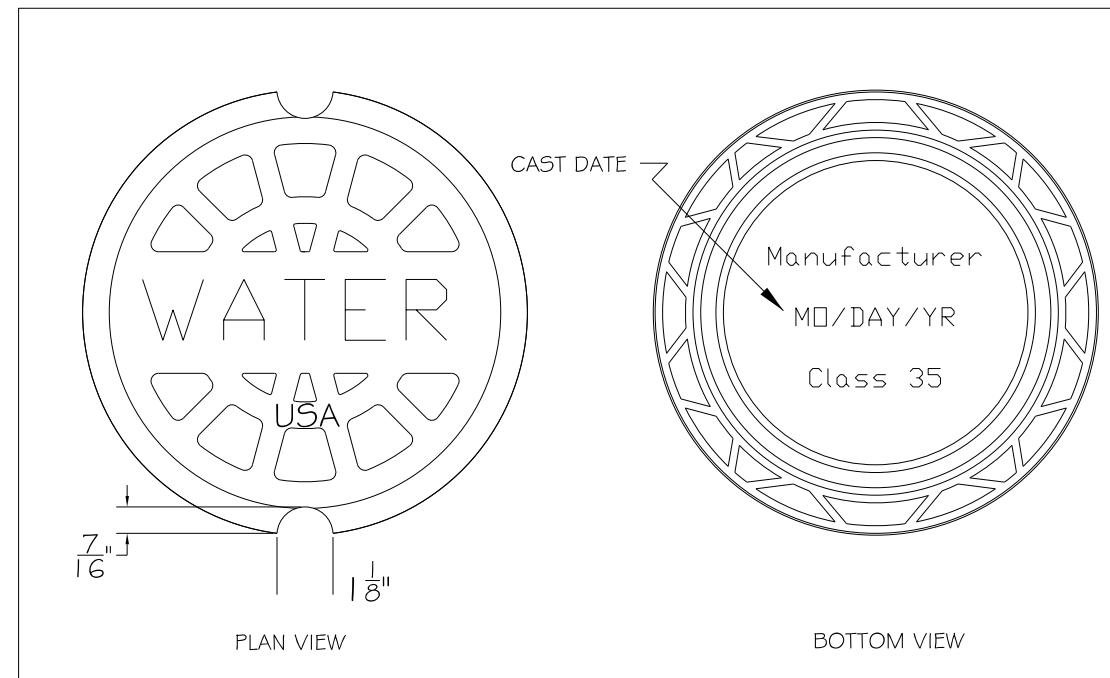


Table with columns: I.D. PIPE, REBAR SIZE, X BAR LENGTH, X BAR WEIGHT, Y BAR LENGTH, Y BAR WEIGHT, NO. REQUIRED. Includes reinforcing requirements and thrust schedule.

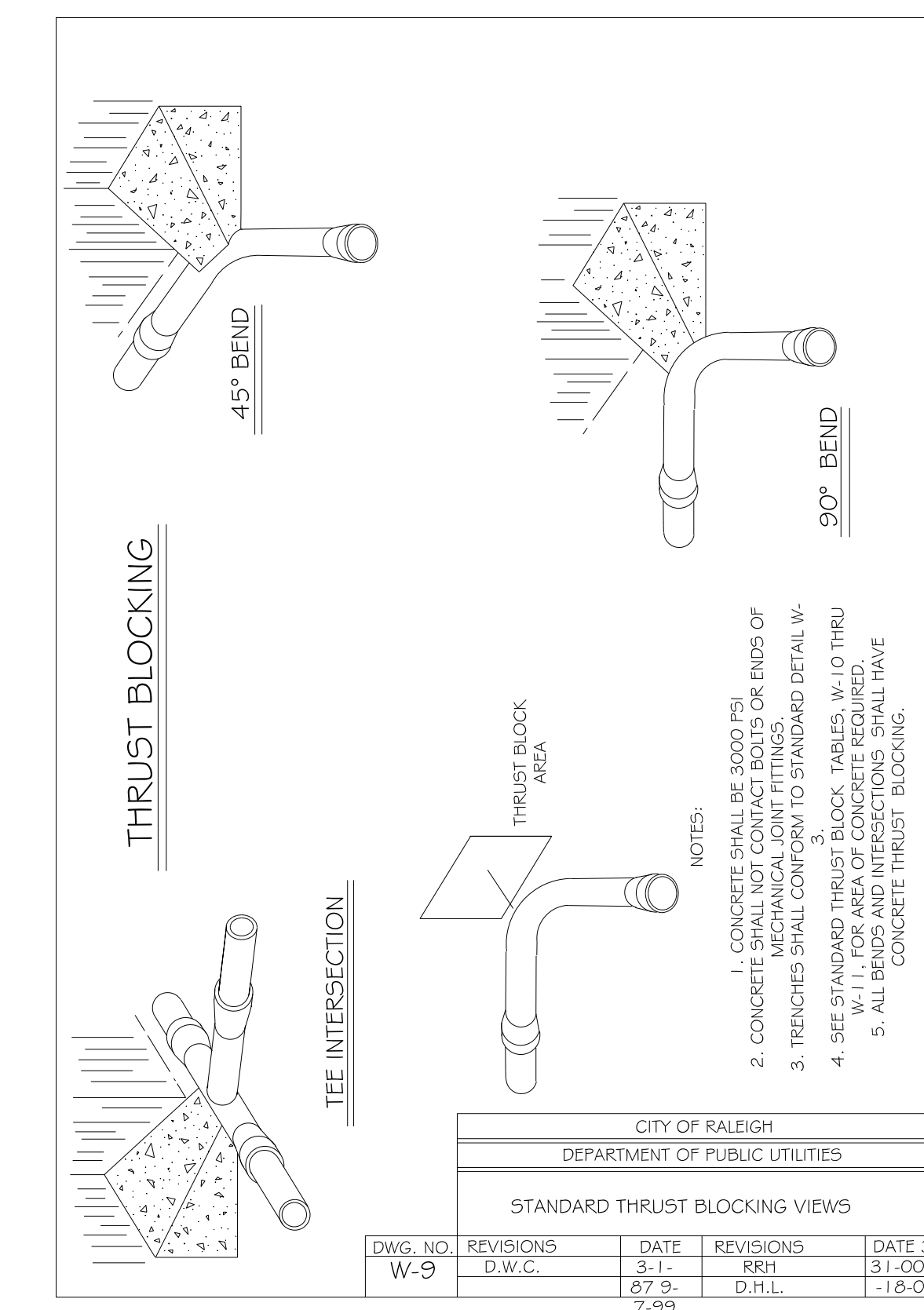
- NOTES: 1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS. 2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED. 3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER. 4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3. 5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3. 6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-7.



- NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH) NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST. NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS. NOTE 4 - COVER MUST BE CLASS 35 OR GREATER. NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-18.



- NOTES: 1. CONCRETE SHALL BE 3000 PSI. 2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS. 3. TRENCHES SHALL CONFORM TO STANDARD DETAIL W-1. 4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11, FOR AREA OF CONCRETE REQUIRED. 5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-9.

Table: REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Includes columns for pipe size, bend angle, and soil type, with corresponding bearing area values.

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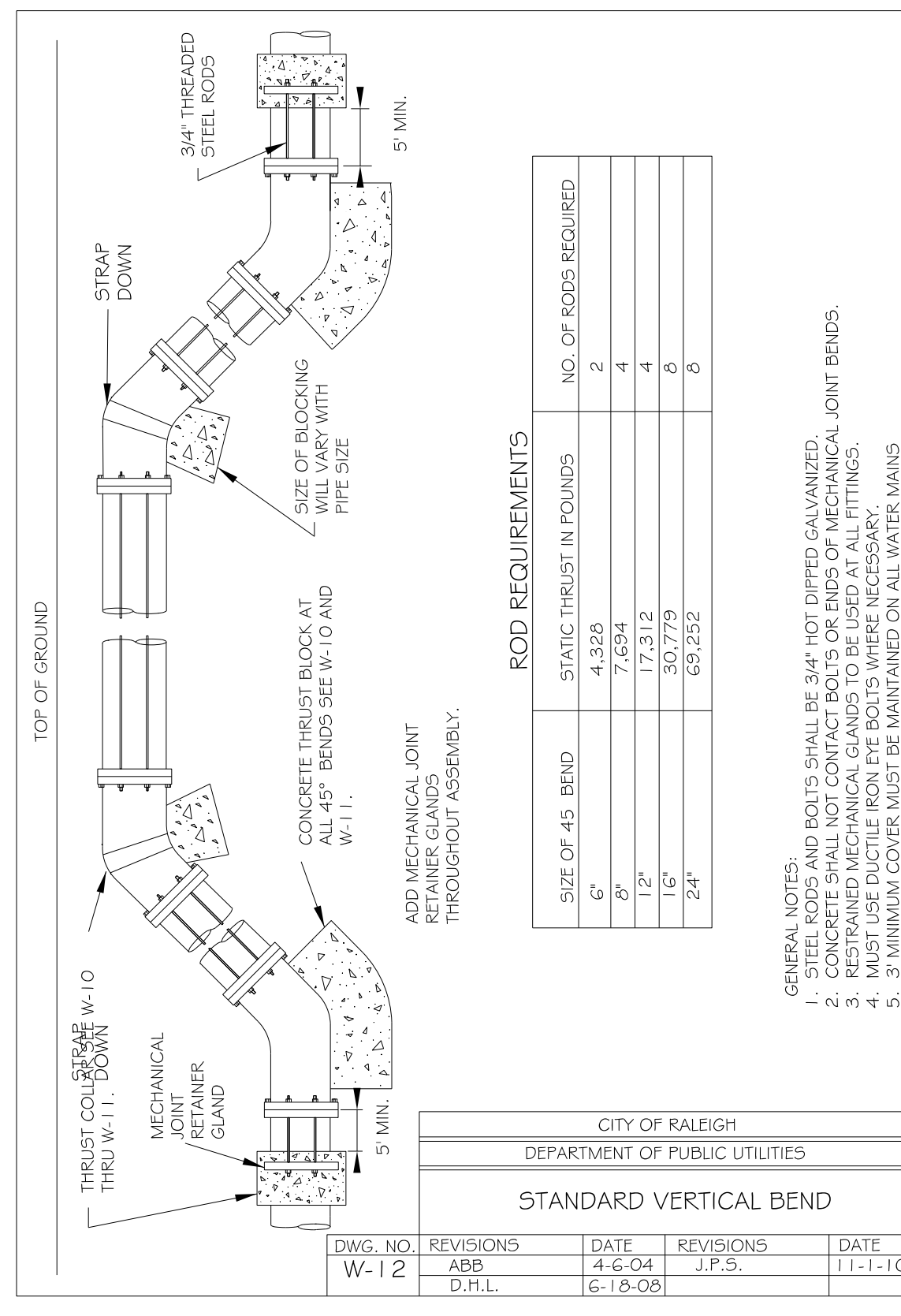


Table: ROD REQUIREMENTS. Includes columns for rod size, static thrust in pounds, and number of rods required.

- GENERAL NOTES: 1. STEEL RODS AND BOLTS SHALL BE #4" HOT DIPPED GALVANIZED. 2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS. 3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS. 4. MUST USE DUCTILE IRON FOR FITTINGS WHERE NECESSARY. 5. 3" MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-12.