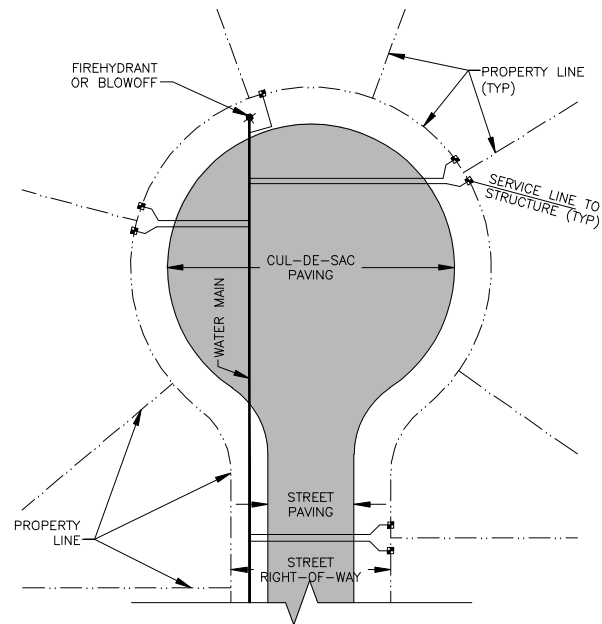
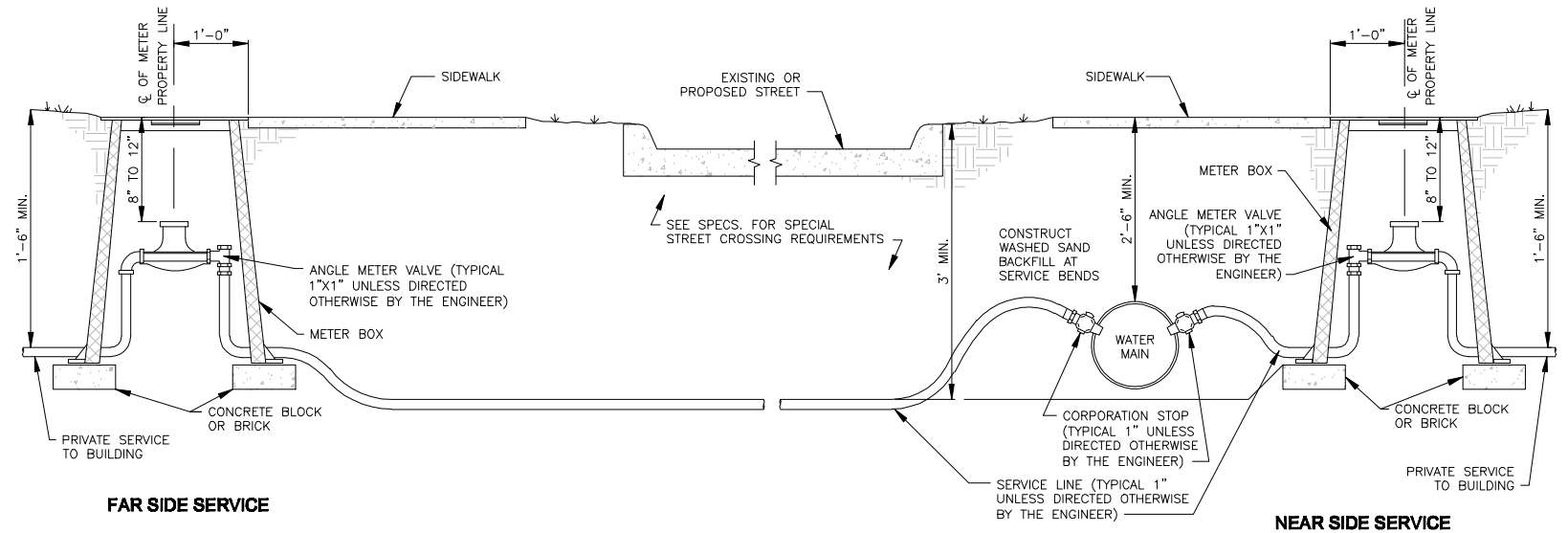


DETAIL NO. 10
TYPICAL LAYOUT
WATER SERVICE
INSTALLATION



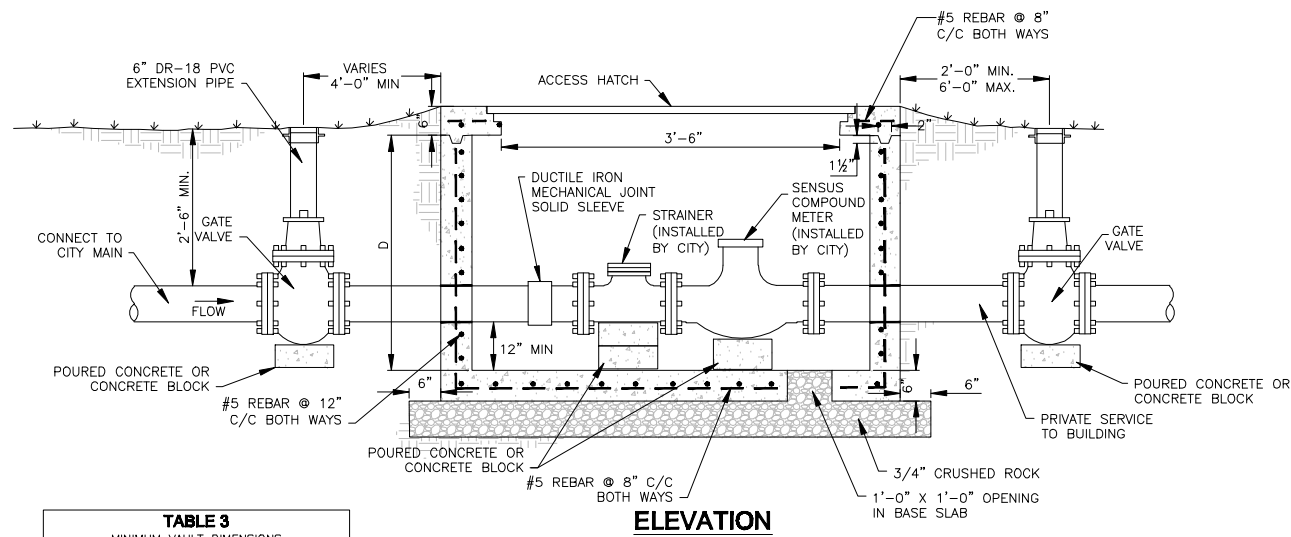
DETAIL NO. 11
CUL-DE-SAC LAYOUT
WATER SERVICE
INSTALLATION



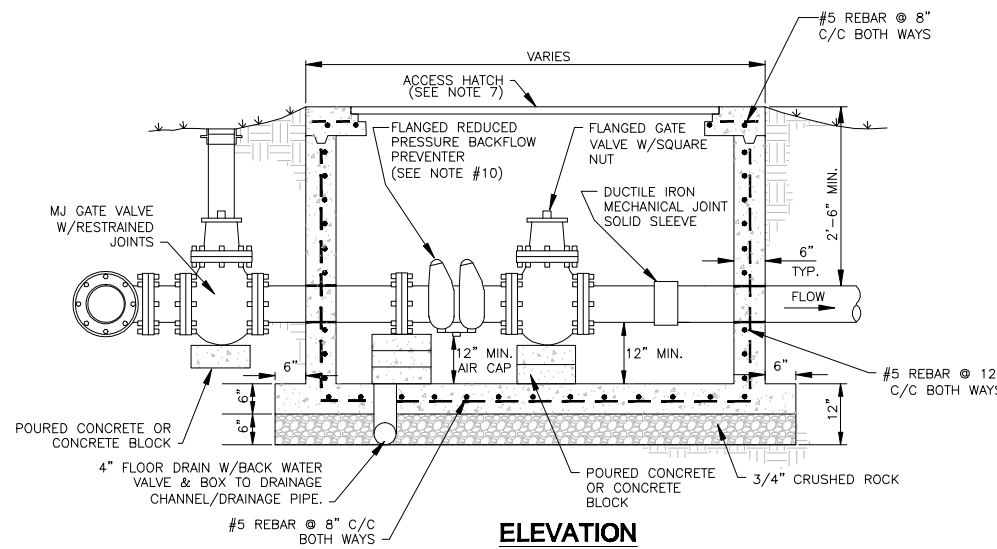
DETAIL NO. 12
TYPICAL INSTALLATION
SINGLE FAMILY RESIDENTIAL WATER SERVICE
(SIZES FROM 1" TO 2")

WATER SERVICE INSTALLATION NOTES

- 1" SERVICE TAPS SHALL BE MADE BY DIRECT TAP OR WITH A TAPPING SADDLE FOR DUCTILE IRON PIPE. THREADED CONNECTIONS SHALL BE MADE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND UTILIZE TEFLON TAPE. SERVICE TAPS 1" AND UP TO 2" CAN BE MADE BY DIRECT TAP OR WITH A TAPPING SADDLE ON DUCTILE IRON PIPE. ON PVC PIPE, SERVICE TAPS 1" AND UP TO 2" SHALL BE MADE UTILIZING TAPPING SADDLES ONLY. SADDLES SHALL BE BRASS BODY DOUBLE STRAP/DOUBLE BOLT TYPES SUCH AS MUELLER BR2B OR STAINLESS STEEL DOUBLE BOLT WRAP AROUND TYPE SUCH AS FORD FS303. ALL SADDLES SHALL BE WRAPPED WITH POLYETHYLENE WRAP (AWWA C105/A21.5-05). ALL SADDLES SHALL BE BEDDED AND BACKFILLED WITH AN APPROVED WASHED SAND.
- SERVICE TAPS TO WATER MAIN SHALL BE LOCATED BACK OF CURB WHEN POSSIBLE. ALL TAPS SHALL BE MADE WHILE THE MAIN IS UNDER NORMAL OPERATING PRESSURE. POLYETHYLENE WRAP ON WATER MAIN SHALL BE REPAIRED AFTER TAP IS MADE.
- ALL SERVICES SHALL BE 1" UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- METER BOX/VAULT SHALL NOT BE INSTALLED IN EXISTING OR PROPOSED SIDEWALKS, DRIVEWAYS, PAVEMENTS OR ANY TRAFFIC AREAS, UNLESS APPROVED OTHERWISE BY THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SERVICE ITEMS EXCEPT FOR THE METER WHICH SHALL BE INSTALLED BY THE FIELD SERVICE BRANCH OF THE CITY'S FINANCE DEPARTMENT. METER BOX SHALL HAVE LOCKING CAST IRON VIEWING PORT. USE BROOKS MODEL 1419 OR APPROVED EQUAL FOR 1" SERVICE, MODEL 1730 OR APPROVED EQUAL FOR 1-1/2" AND 2" SERVICES NON-TRAFFIC LOCATIONS. USE METER BOX WITH TRAFFIC RATED COVER AS APPROVED BY THE ENGINEER FOR TRAFFIC LOCATIONS.
- SERVICES THAT ARE 3" THRU 6" SHALL BE INSTALLED ACCORDING TO DETAIL NO. 13. REFER TO TABLE 3 FOR METER VAULT DIMENSIONS. METER VAULTS FOR METER SIZES GREATER THAN 6" SHALL BE AS APPROVED BY THE CITY ENGINEER. ALL PIPING INSIDE METER VAULT SHALL BE DUCTILE IRON PIPE. ALL FITTINGS SHALL BE DUCTILE IRON MECHANIC JOINT FITTINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE INSTALLATION EXCEPT FOR METER AND STRAINER. METER AND STRAINER SHALL BE INSTALLED BY THE CITY'S WATER DISTRIBUTION DIVISION.
- IF THE TOP OF METER VAULT OR BOTTOM ARE NOT POURED MONOLITHICALLY WITH THE WALLS, KEYPED CONSTRUCTION JOINTS SHALL BE CONSTRUCTED AND SEALED WITH CONCRETE JOINT SEALER (ASTM DESIGNATION D 1850-67). ACCESS HATCH FOR METER VAULT SHALL BE 3'-6" X 3'-6" IN SIZE. BILCO TYPE "K" OR APPROVED EQUAL SHALL BE USED FOR NON-TRAFFIC LOCATIONS AND BILCO TYPE "J H20" OR APPROVED EQUAL SHALL BE USED FOR TRAFFIC LOCATIONS. HATCH SHALL BE CENTERED OVER THE METER.
- TOP OF METER VAULT FOR 3" AND LARGER SERVICE SHALL BE 4" ABOVE FINISHED GRADE AT NON-TRAFFIC LOCATIONS AND ADJACENT GROUND GRADED TO DRAIN.
- IF SITE CONDITIONS REQUIRE ABOVE GRADE CHECK VALVE INSTALLATION, A STRUCTURAL GRADE METAL BUILDING W/SLAB, PIPE INSTALLATION/HEATING, BOLLARDS FOR BUILDING PROTECTION AND 4" DRAIN W/BACK WATER VALVE & BOX DRAINING TO DRAINAGE CHANNEL/PIPE OR SANITARY SEWER MAIN SHALL BE PROVIDED (SEE 2003 IPC SECT. 715).
- PRIVATE WATER LINES PROVIDING FIRE PROTECTION ONLY SHALL HAVE REDUCED PRESSURE BACKFLOW PREVENTERS (FLANGED) WITH METERED BYPASS WHICH MEET ASSE 1047, UL AND CSA CERTIFIED. PRIVATE POTABLE WATER LINES INCLUDING THOSE PROVIDING FIRE PROTECTION SHALL HAVE REDUCED PRESSURE BACKFLOW PREVENTERS (FLANGED) WHICH MEET ASSE 1013, AWWA C533(WITH GATE VALVES), UL AND CSA CERTIFIED.
- ALL WATER METERS SERVING CUSTOMERS OUTSIDE THE CITY LIMITS SHALL HAVE A BACKFLOW PREVENTER/VAULT. (SEE NOTE#10)
- ALL METER VAULTS AND BACKFLOW PREVENTER VAULTS SHALL BE CONSTRUCTED ON THE PROPERTY LINE.



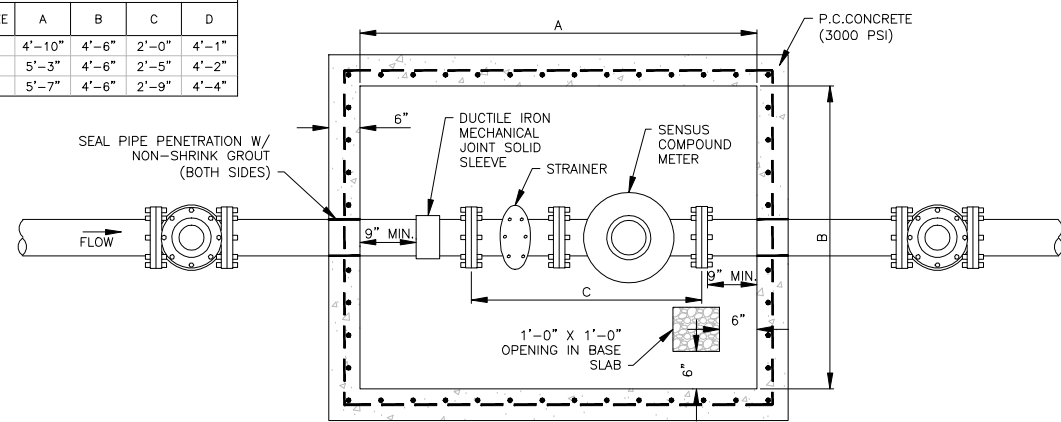
ELEVATION



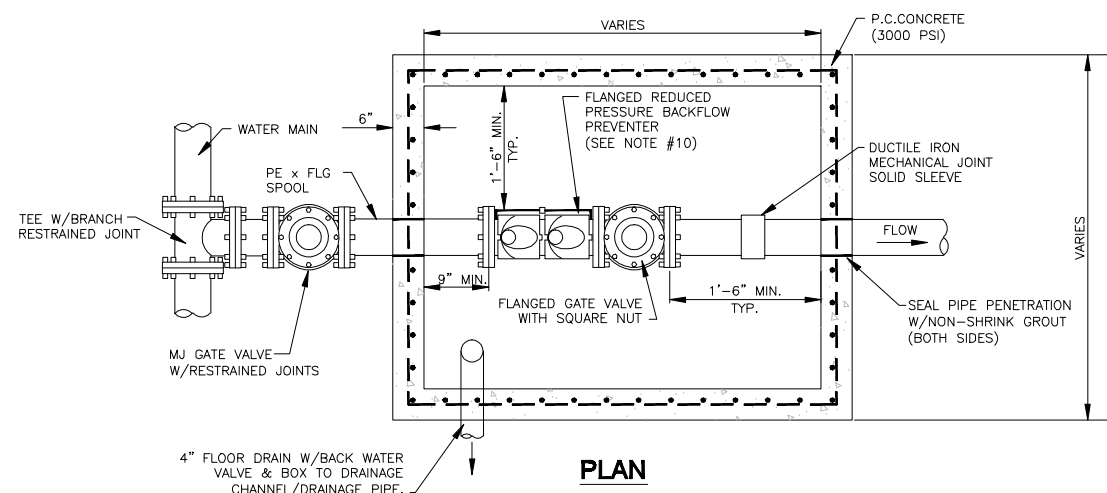
ELEVATION

TABLE 3
MINIMUM VAULT DIMENSIONS

METER SIZE	A	B	C	D
3"	4'-10"	4'-6"	2'-0"	4'-1"
4"	5'-3"	4'-6"	2'-5"	4'-2"
6"	5'-7"	4'-6"	2'-9"	4'-4"



PLAN



PLAN

DETAIL NO. 13
TYPICAL INSTALLATION
MULTI-FAMILY / COMMERCIAL WATER SERVICE
(3" THRU 6")

DETAIL NO. 14
TYPICAL INSTALLATION
STANDARD BACKFLOW PREVENTER

**STANDARD DETAILS
WATER SYSTEM - 2**

**CITY OF LAWTON
ENGINEERING DIVISION**

PROJECT NO.: _____ DATE: _____

FILE NAME: 10 Water System 2.dwg

REVISION: _____ DATE: _____

CITY ENGINEER UPDATE: _____ FEBRUARY 2009

CITY ENGINEER UPDATE: _____ MAY 2009

CITY ENGINEER UPDATE: _____ NOVEMBER 2010

CITY ENGINEER UPDATE: _____ JUNE 2015

DESIGNED BY: _____ DRAWN BY: S. MALCOLM 06/12/2015 AS BUILT DATE: _____ SHEET _____ OF _____