

**PROPOSED FOR VOTING  
AT THE OCTOBER 3, 2005 MEETING**

**Case 05-03 Sanitary Sewer Service Line Markings**

- a. Revision for Section 615.6
- b. Replace Detail 440 with new details: 440-1, 440-2, 440-3, and 440-4.

## SECTION 615

### 615.5 JOINTING:

**615.5.1 Rubber Gasket Joints:** Prior to making pipe joints, all surfaces of the portions of the pipes to be joined shall be cleaned, dried, and prepared in accordance with the manufacturer's recommendations. The joints shall then be carefully centered and completed.

Trenches shall be kept water-free during the installation of joints and couplings.

The joint and coupling materials will be as specified in the appropriate pipe sections and shall be installed in accordance with the manufacturer's recommendations. Cement mortar joints will NOT be permitted in sanitary sewer construction.

**615.5.2 Water Stops:** Water stops will be required when connecting HDPE pipe to concrete structures, manholes, etc. The water stop shall comply with Section 738 and will be installed per manufacturer recommendations.

### 615.6 SANITARY SEWER SERVICE TAPS:

When the construction of sanitary sewer service taps are called for in the special provisions, they shall be constructed in accordance with standard details for sewer taps except for HDPE pipe.

To maintain structural integrity of the pipe, service taps for HDPE pipe shall be constructed in accordance with the manufacturer's recommendations.

When any damage occurs to the pipe ribs or walls, outside of the tap area, the Contractor shall perform repairs, as recommended by the manufacturer at no cost to the Contracting Agency. Damage to the pipe will include but not be limited to gouging, marring, and scratching forming a clear depression in the pipe.

The location of the service tap for each property shall be in the downstream  $\frac{1}{3}$  of the lot, or as requested by the property owner. Sewer service taps shall not be covered until they have been plugged and marked in accordance with standard details and their location has been recorded by the Engineer.

### 615.7 SANITARY SEWER CLEANOUTS:

The cleanouts shall be constructed at locations shown on the plans, in accordance with the standard details for cleanouts.

### 615.8 MANHOLES:

Manholes shall be constructed to conform with the requirements of Sections 625, Section 505 and standard details.

### 615.9 BACKFILLING:

Backfilling and compaction shall be done in accordance with Sections 601 and 603, for HDPE pipe.

### 615.10 TESTING:

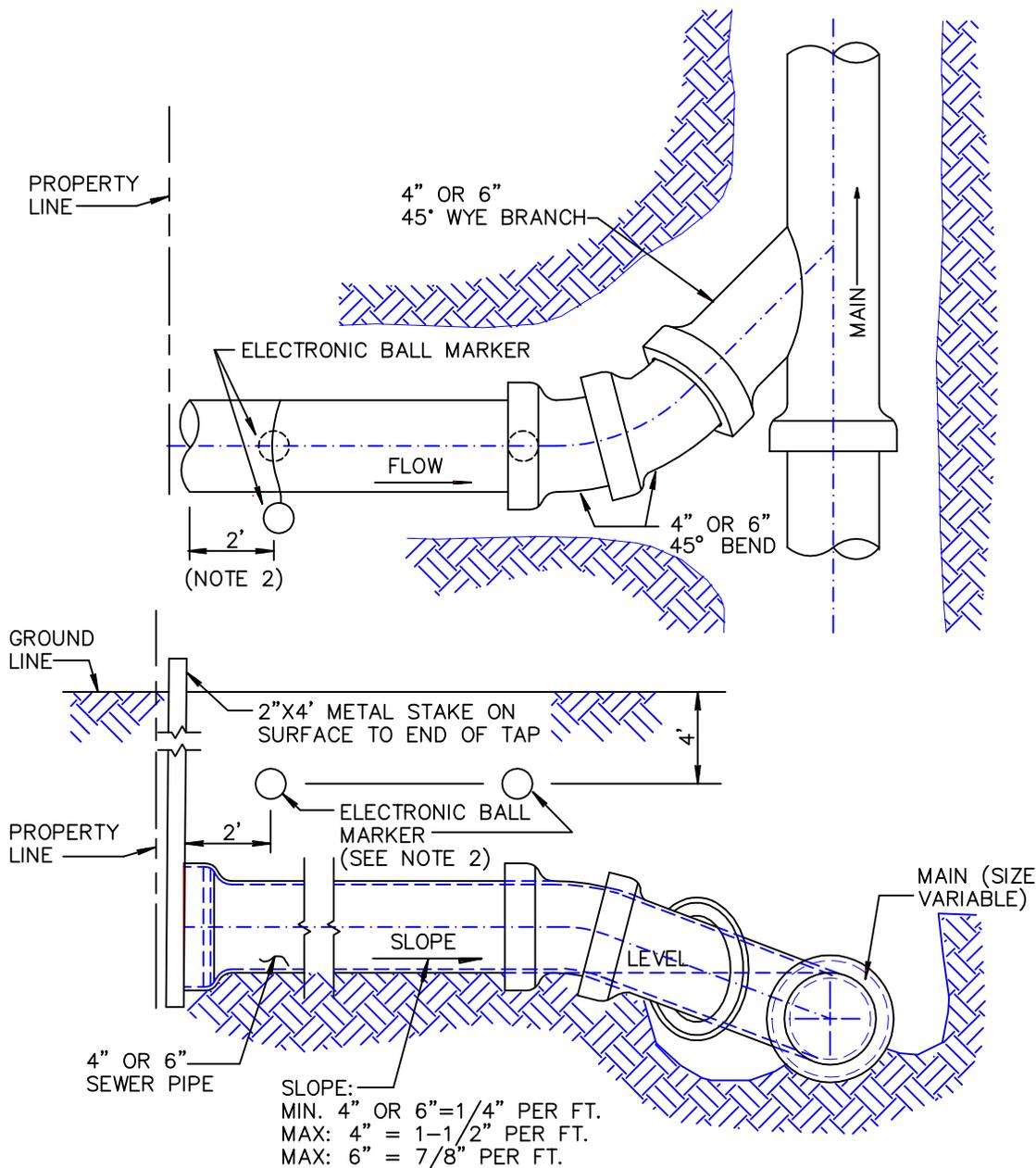
Pressure testing of force mains shall be done in accordance with Section 610.14.

Sewers and pipe lines shall be subject to acceptance testing after backfilling has been completed but prior to the placement of the finished surface material.

The Contracting Agency reserves the right to require testing of the entire installation. Cost of repairs or corrections necessary to conform to the following testing requirements will be borne by the Contractor at no additional cost to the Contracting Agency.

#### (A) Low Pressure Air Test:

Testing will be accomplished by the means of "Low Pressure Air Testing." Tests may be conducted by the Contractor or an independent testing firm. However, acceptance tests shall be made only in the presence of the Engineer.



ELECTRONIC MARKER PLACEMENT

NOTES:

1. ELECTRONIC BALL MARKER SHALL BE A 3M MODEL 1424-XR/iD [4" DIAMETER SELF LEVELING MARKER BALL GREEN IN COLOR] OR APPROVED EQUAL OR AS REQUIRED BY THE LOCAL AGENCY.
2. MARKER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS, 2' BACK FROM THE END OF THE SEWER SERVICE STUB AND CINCH TIED TO PIPE OR ABOVE PIPE AS REQUIRED BY LOCAL AGENCY. AN ADDITIONAL MARKER SHALL BE INSTALLED AT EACH SERVICE STUB BEND.
3. ELECTRONIC MARKER SHALL BE RESTORED BY CONTRACTOR IF DISTURBED WHEN PRIVATE SERVICE LINE CONNECTION IS INSTALLED.
4. MARKER SHALL BE USED IN ADDITION TO A 2"x4" STAKE.
5. CONSTRUCTION DETAIL APPLIES WHERE CONTRACTOR BUILDS HOUSE CONNECTION. TAP EXTENDS TO PROPERTY LINE IN ALLEYS OR STREETS OR TO EASEMENT LINE.
6. SIZE OF TAP SHALL BE DESIGNATED ON PLANS.
7. CONSTRUCT TAP AT MINIMUM SLOPE IF COVER WILL BE LESS THAN 5' AT PROPERTY LINE.
8. ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321. THE CONTRACTOR MAY VARY FROM THE DRAWING TO USE THE APPROPRIATE WYES, TEE-WYES AND BENDS TO ENSURE NO MISALIGNMENT OF THE PIPE AND FITTINGS. BLOCK OR BRACE FITTINGS JOINTS TO ENSURE ZERO DEGREES ANGULAR JOINT DIRECTION.
9. END OF TAP TO BE SEALED AND MARKED AS NOTED.

DETAIL NO.  
440-1

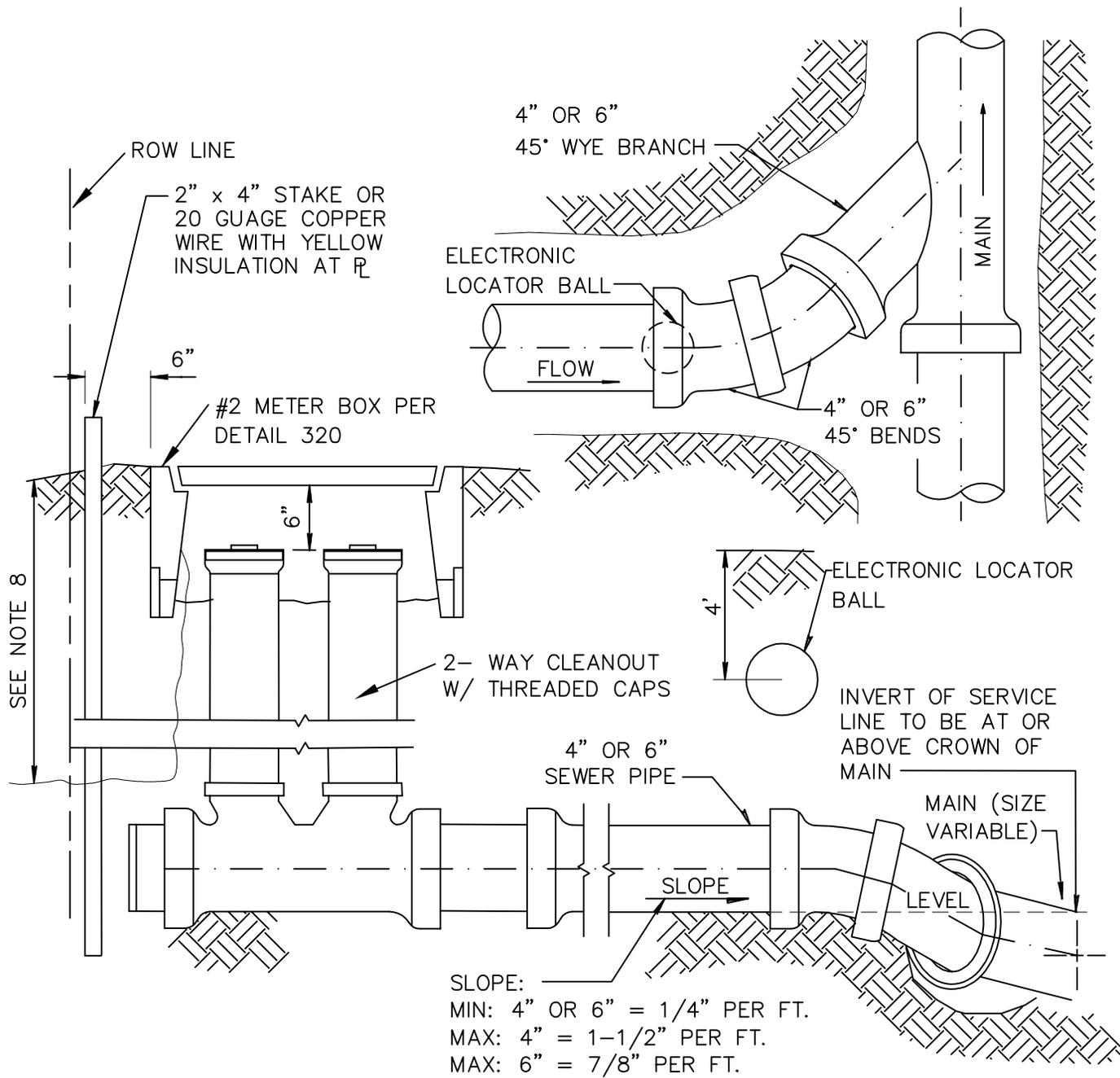


STANDARD DETAIL  
ENGLISH

TYPE I - SEWER BUILDING CONNECTION  
ELECTRONIC BALL MARKERS (STANDARD)

REVISED  
09/19/2005

DETAIL NO.  
440-1



SLOPE:  
 MIN: 4" OR 6" = 1/4" PER FT.  
 MAX: 4" = 1-1/2" PER FT.  
 MAX: 6" = 7/8" PER FT.

NOTES:

1. CONSTRUCTION DETAIL APPLIES WHERE CONTRACTOR BUILDS HOUSE CONNECTION. TAP EXTENDS TO PROPERTY LINE IN ALLEYS OR STREETS OR TO EASEMENT LINE.
2. SIZE OF TAP SHALL BE DESIGNATED ON PLANS.
3. CONSTRUCT TAP AT MINIMUM SLOPE IF COVER WILL BE LESS THAN 5' AT PROPERTY LINE.
4. IF DEPTH REQUIRES, MINIMUM SLOPE CAN BE REDUCED TO 1/8" PER FOOT PROVIDED STUB IS STAKED TO GRADE.
5. ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321. THE CONTRACTOR MAY VARY FROM THE DRAWING TO USE THE APPROPRIATE WYES, TEE-WYES AND BENDS TO ENSURE NO MISALIGNMENT OF THE PIPE AND FITTINGS. BLOCK OR BRACE FITTING JOINTS TO ENSURE ZERO DEGREES ANGULAR JOINT DEFLECTION.
6. END OF TAP TO BE SEALED AND MARKED AS NOTED.
7. ELECTRONIC BALL MARKER SHALL BE A 3M MODEL 1424-XR/ID [4" DIAMETER SELF LEVELING MARKER BALL GREEN IN COLOR] OR APPROVED EQUAL OR AS REQUIRED BY THE LOCAL AGENCY.
8. # 14 BARE COPPER LOCATOR WIRE ACCESSIBLE AT ROW AND AT PROPERTY OWNER CLEANOUT BOX NO GREATER THAN 4' DEEP.
9. STAMP OR WELD THE LETTER "S" ON LID OF METER BOX.

DETAIL NO.  
440-2

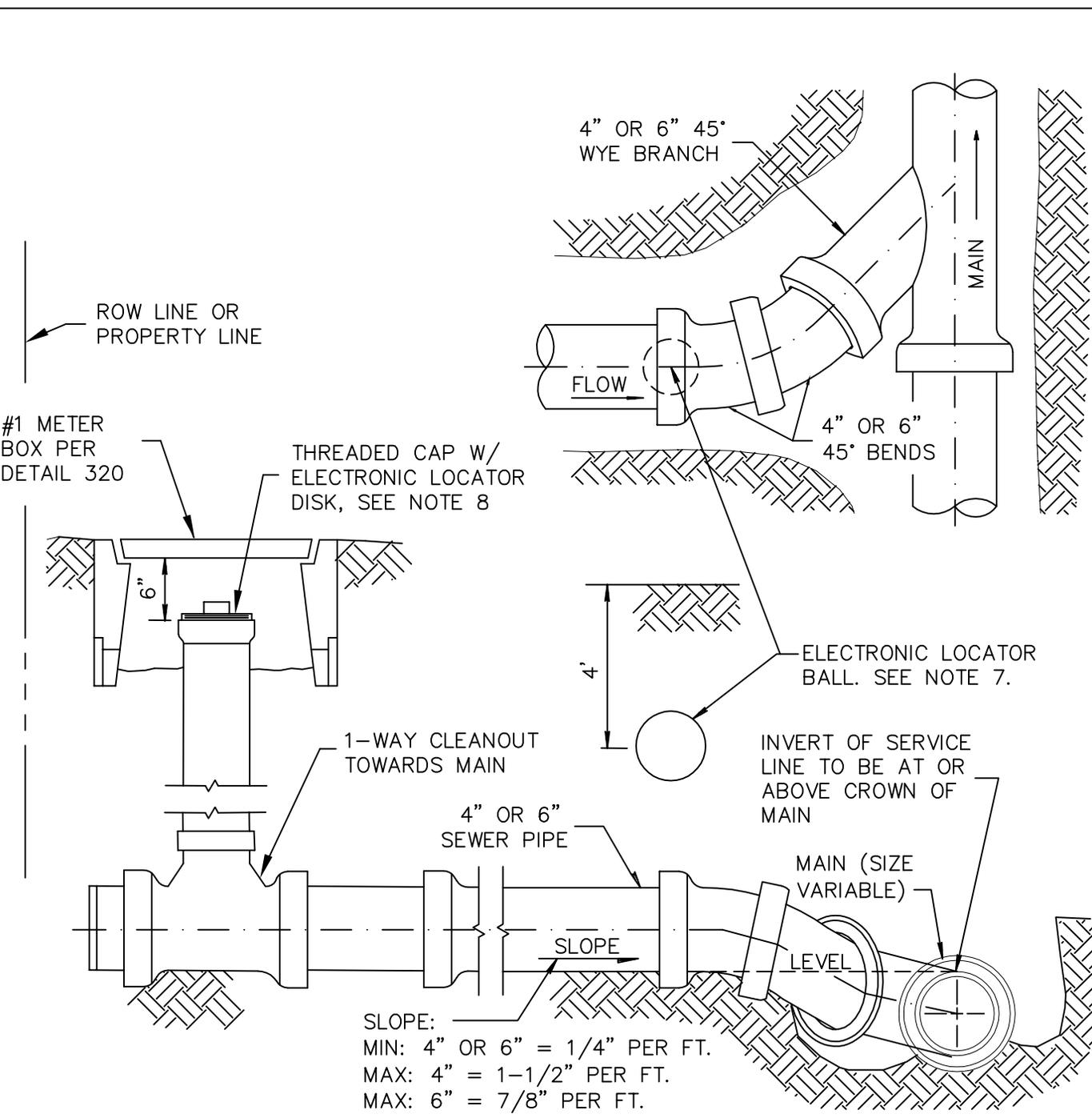


STANDARD DETAIL  
ENGLISH

TYPE II - SEWER BUILDING CONNECTION  
TWO-WAY CLEANOUT AND METER BOX AT ROW  
(WHEN SPECIFIED BY LOCAL AGENCY)

REVISED  
09/19/2005

DETAIL NO.  
440-2



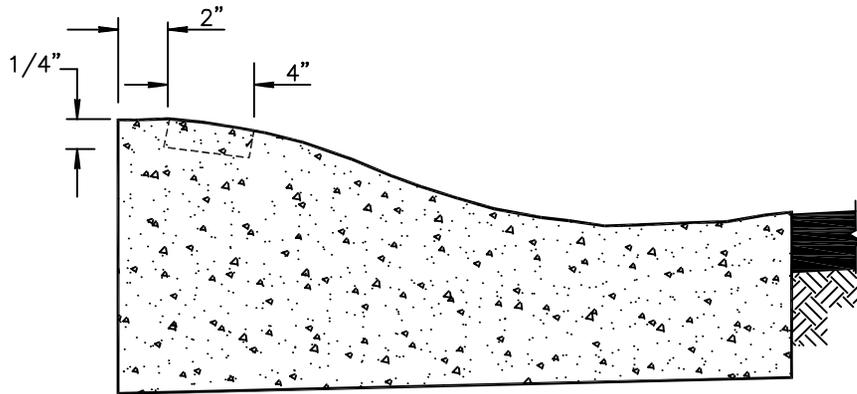
SLOPE:  
 MIN: 4" OR 6" = 1/4" PER FT.  
 MAX: 4" = 1-1/2" PER FT.  
 MAX: 6" = 7/8" PER FT.

**NOTES:**

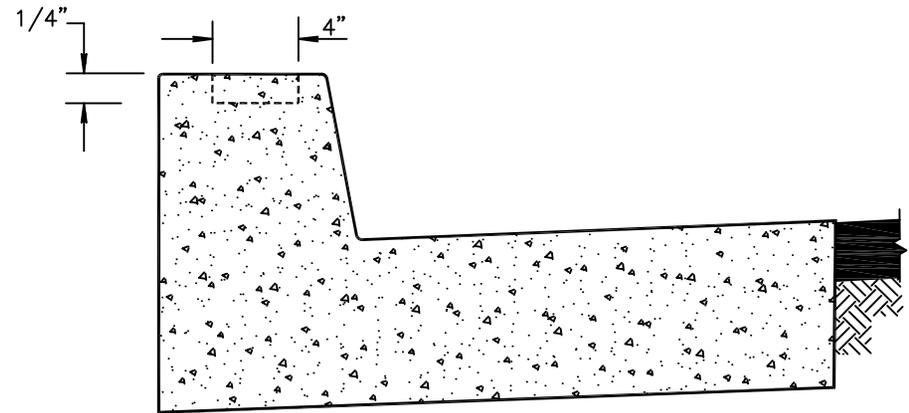
1. CONSTRUCTION DETAIL APPLIES WHERE CONTRACTOR BUILDS HOUSE CONNECTION. TAP EXTENDS TO PROPERTY LINE IN ALLEYS OR STREETS OR TO EASEMENT LINE.
2. SIZE OF TAP SHALL BE DESIGNATED ON PLANS.
3. CONSTRUCT TAP AT MIN. SLOPE IF COVER WILL BE LESS THAN 5' AT PROPERTY LINE.
4. IF DEPTH REQUIRES, MINIMUM SLOPE CAN BE REDUCED TO 1/8" PER FOOT PROVIDED STUB IS STAKED TO GRADE.
5. ALL FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321. THE CONTRACTOR MAY VARY FROM THE DRAWING TO USE THE APPROPRIATE WYES, TEE-WYES AND BENDS TO ENSURE NO MISALIGNMENT OF THE PIPE AND FITTINGS. BLOCK OR BRACE FITTING JOINTS TO ENSURE ZERO DEGREES ANGULAR JOINT DEFLECTION.
6. END OF TAP TO BE SEALED AND MARKED.
7. ELECTRONIC BALL MARKER SHALL BE A 3M MODEL 1424-XR/iD [4" DIAMETER SELF LEVELING MARKER BALL GREEN IN COLOR] OR APPROVED EQUAL OR AS REQUIRED BY THE LOCAL AGENCY.
8. INSTALL RAISED 4" THREADED PLUG IN CLEANOUT INCORPORATING 3M MODEL 1414 ELECTRONIC DISC MARKER. GREEN IN COLOR. LOCATOR PLUG TO BE GPK PRODUCTS MODEL #228-0004 DM OR APPROVED EQUAL.
9. STAMP OR WELD THE LETTER "S" ON LID OF METER BOX.

NOTES:

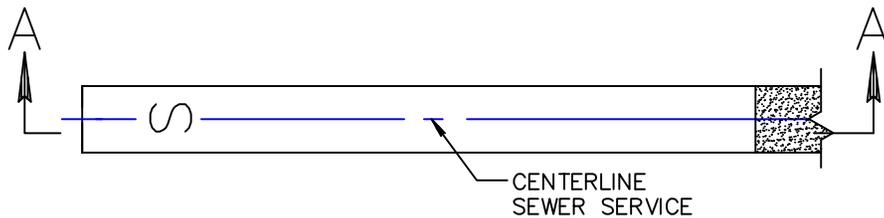
1. STAMP TOP OF CURB WITH 4" TALL BY 1/4" DEEP "S" TO DESIGNATE SEWER SERVICE LINE CROSSING.



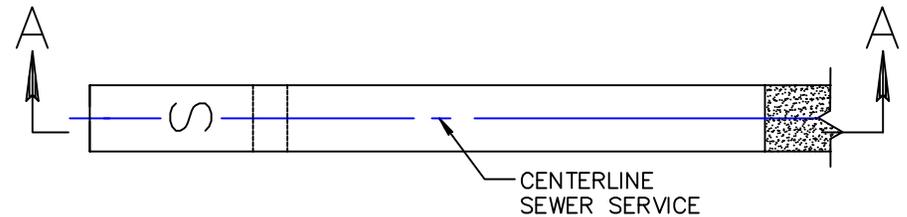
SECTION A-A



SECTION A-A



CURB STAMP ROLLED CURB



CURB STAMP VERTICAL CURB

DETAIL NO.  
440-4



STANDARD DETAIL  
ENGLISH

SEWER SERVICE CURB CROSSING  
STAMP DETAIL

REVISED  
09/19/2005

DETAIL NO.  
440-4