

DETAIL NO.

251



STANDARD DETAIL  
ENGLISH

RETURN TYPE DRIVEWAYS

REVISED

01-01-2017

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251

**NOTES:**

1. A CONCRETE COLLAR IS REQUIRED WHERE PIPES OF DIFFERENT DIAMETERS OR MATERIALS ARE JOINED, OR WHERE THE CHANGE IN ALIGNMENT OR GRADE EXCEEDS THAT ALLOWED FOR ON ORDINARY JOINTS.
2. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L AND T SHOULD BE THOSE OF THE LARGER PIPE. D=D-1, OR D-2 WHICHEVER IS GREATER.
3. OMIT REINFORCING ON PIPE 24" OR LESS IN DIAMETER.
4. WHERE REINFORCING IS REQUIRED, THE DIAMETER OF THE CIRCULAR TIES SHALL BE THE OUTSIDE DIAMETER OF PIPE+T.
5. FIELD CLOSURES OF PIPE OF THE SAME DIAMETER AND WITHOUT CHANGE IN GRADE OR ALIGNMENT SHALL BE MADE WITH A CONCRETE COLLAR.
6. CONCRETE SHALL BE CLASS B PER SECT. 725.
7. ALL REBAR SHALL HAVE 3" MINIMUM CLEAR COVER.
8. PIPE ENDS TO BE TRIMMED SUCH THAT THE MAXIMUM DISTANCE BETWEEN PIPES AT ANY POINT IS 2".
9. AN ENGINEER APPROVED WATER STOP IS REQUIRED ON ALL PIPES EXCEPT CONCRETE PIPE.

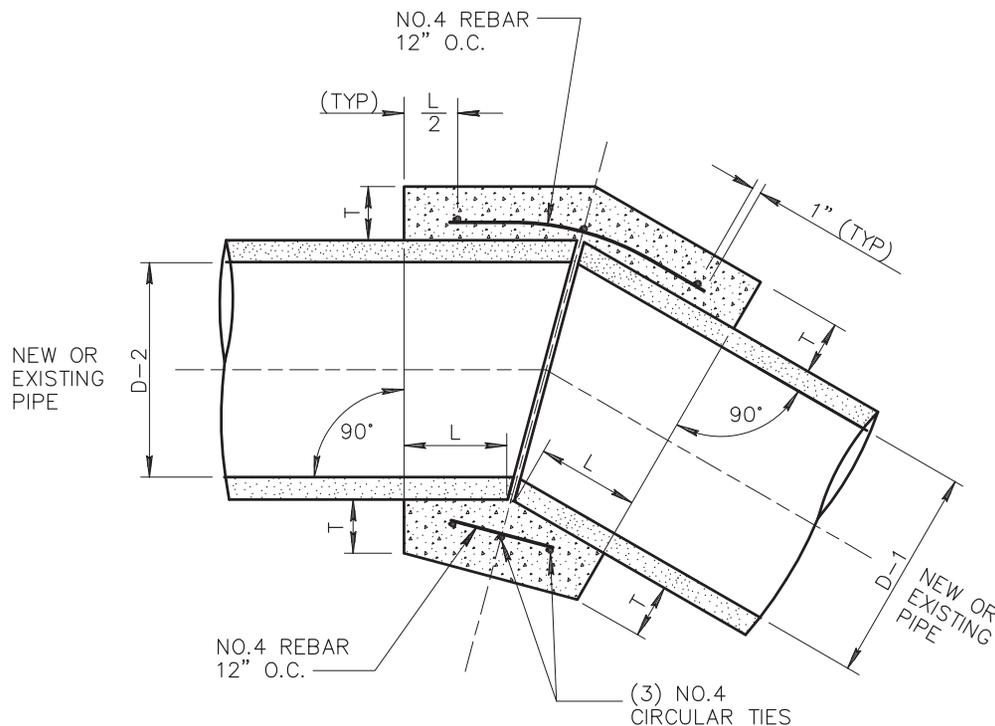


TABLE		
D	L	T
18"	1.0'	5"
24"	1.0'	6"
36"	1.5'	8"
57"	1.5'	10"
66"	1.75'	11"

FOR PIPE SIZES NOT LISTED AND LESS THAN 66" USE THE NEXT SIZE LARGER.

**SECTION 787****GRAY IRON CASTINGS****787.1 GENERAL:**

The castings shall be true to pattern in form and dimension and free from pouring faults, spongings, cracks, blowholes, or other defects in locations affecting their strength and value for the service intended. Castings shall be filleted boldly at angles, and the arises shall be sharp and true.

Before the castings are removed from the foundry, they shall be thoroughly cleaned and the parting lines, gates, and risers ground flush.

**787.2 TEST SPECIMENS:**

Test coupons shall be cast separately of the castings, using a mold as described in ASTM [A48](#). A representative of the Engineer may be present at the time a melt is poured to identify both coupons and castings.

Two test coupons are required for each melt poured. Additional coupons shall be cast for use as replacements or in case a retest is required.

A representative of the Engineer may discard and replace specimens which show obvious lack of continuity of metal or if the machining is defective.

The manufacturer shall machine the tension specimens to the dimension specified for specimen B of ASTM [A48](#), at no additional cost to the Contracting Agency.

When approved by the Engineer transverse tests may be made in lieu of tensile tests, in which case the castings shall meet the requirements of ASTM [A48](#).

**787.3 MANHOLE FRAME AND COVER SETS:**

Castings shall conform to ASTM [A48](#), Class 35 and AASHTO M306. The bearing surfaces of the frames and covers shall be machined and the cover shall seat firmly onto the frame without rocking.

Covers shall be the types and shall be imprinted as shown on the plans or standard details.

**787.4 RAILINGS, RAILING POSTS, AND WHEEL GUARDS:**

Castings shall conform to ASTM [A48](#), Class 40.

**787.5 ROCKERS, ROCKER PLATE BEARINGS, AND BEARING PLATES FOR BRIDGES:**

Castings shall conform to ASTM [A48](#), Class 50.

Castings shall be machined and finished as specified on the plans provided that tool marks on sliding contact surfaces shall run in the direction of plate movement, or in the case of rocker plate bearings, perpendicular to the rocker movement. Tool marks shall be not more than 1/32 inch apart.

**787.6 UNCLASSIFIED CASTINGS:**

All castings not specifically classified, shall conform to the requirements of ASTM [A48](#), Class 30.

- End of Section -