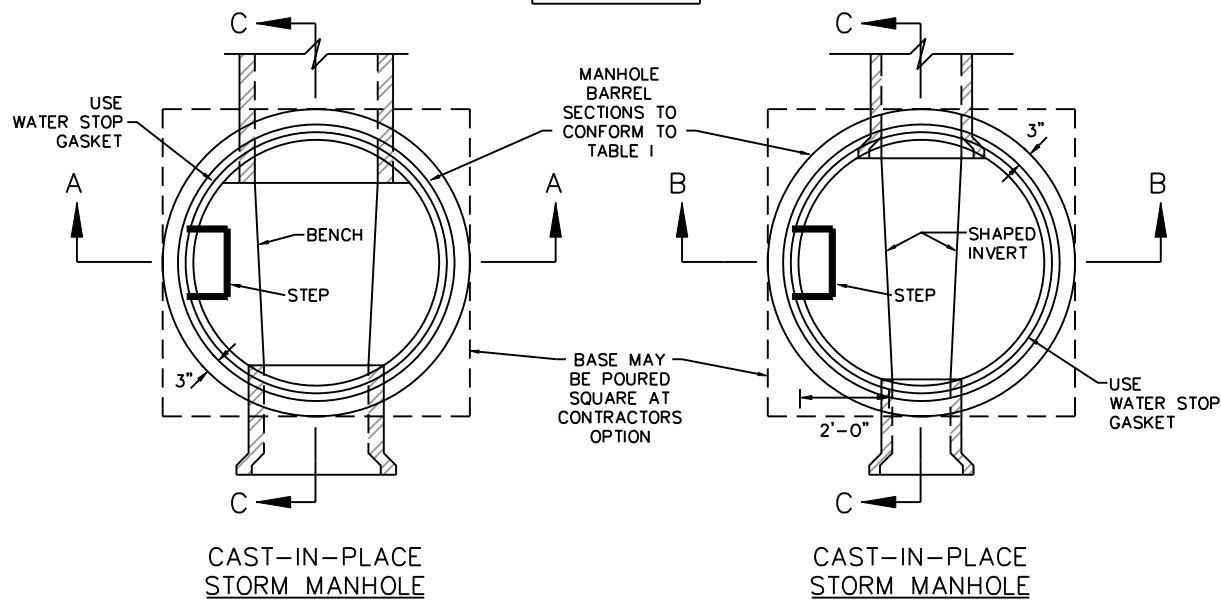
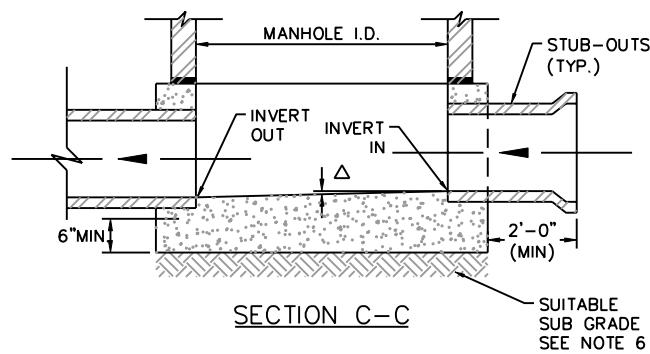


$f'_c = 4000$ PSI
 $f_y = 60,000$ PSI



CAST-IN-PLACE STORM MANHOLE

CAST-IN-PLACE STORM MANHOLE



SECTION C-C

SUITABLE SUB GRADE
SEE NOTE 6

GENERAL NOTES:

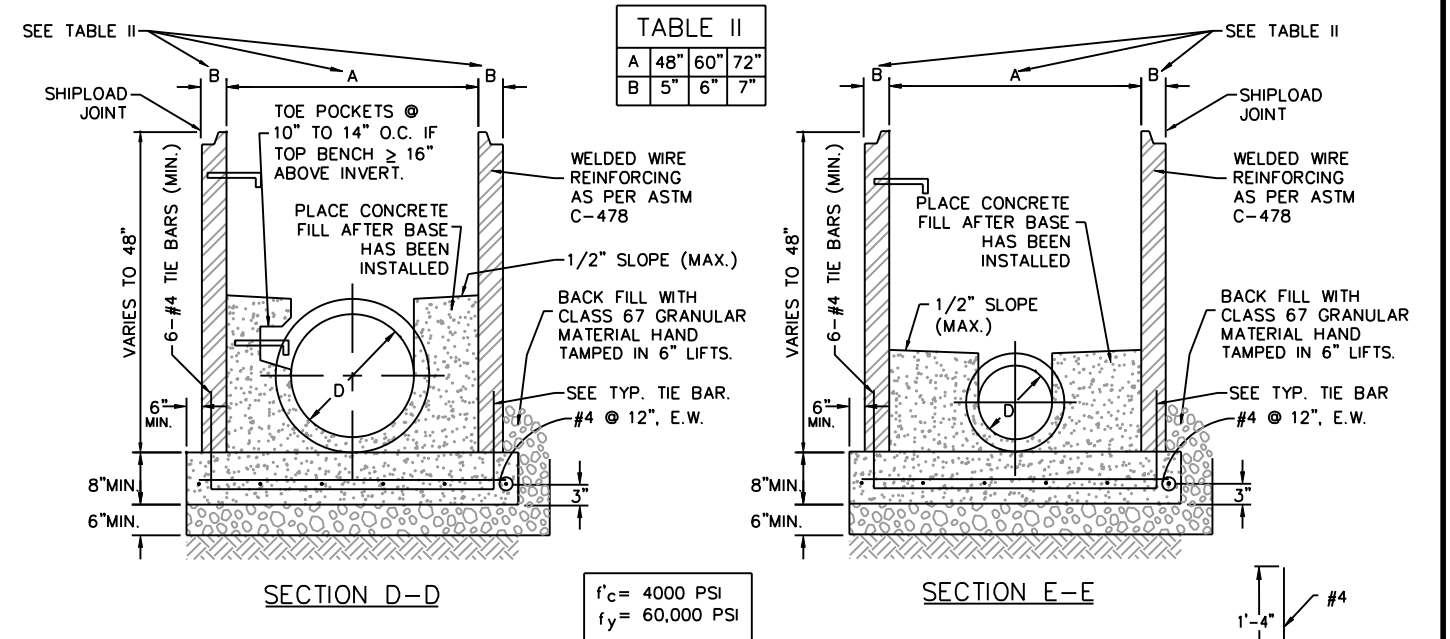
1. MANHOLE BARREL MINIMUM DIAMETER SHALL CONFORM TO TABLE I.
2. GROUDED FLOW CHANNELS AND INVERTS MAY BE FORMED BY SHAPING WITH LEAN CONCRETE ($f'_c = 2000$ PSI MIN.).
3. MANHOLE STEPS SHALL BE SPACED 10" TO 14" O.C. AND SHALL CONFORM TO THE CITY OF LOVELAND'S SPECIFICATIONS.
4. STUB-OUTS SHALL EXTEND 2'-0" MIN. PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED.
5. REINFORCING IS REQUIRED FOR ALL MANHOLE BASES.
6. ALL MANHOLE BASES SHALL BE PLACED ON SUITABLE SUB GRADE MATERIAL. AT THE DIRECTION OF THE ENGINEER OR INSPECTOR. THE SUB GRADE SHALL BE OVER EXCAVATED AND STABILIZED WITH CLASS 67 GRANULAR BEDDING MATERIAL, COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698.
7. ALL PIPE OPENINGS SHALL BE CONSTRUCTED WITH AN APPROVED FLEXIBLE WEDGE-TYPE GASKET CONFORMING TO ASTM C-443 WHICH SHALL BE CAPABLE OF PROVIDING A WATER TIGHT JOINT WITH ZERO LEAKAGE AROUND THE INSTALLED PIPE. AN APPROVED FLEXIBLE BOOT TYPE SLEEVE MAY ALSO BE USED FOR PRECAST INSTALLATIONS.
8. PRECAST BARREL SECTIONS, CONES, RISERS, ETC. SHALL CONFORM TO ASTM C-478, LATEST REVISION.
9. INVERT SHAPING AT THE DISCRETION OF THE DESIGN ENGINEER.

PRECAST MANHOLE BASE NOTES:

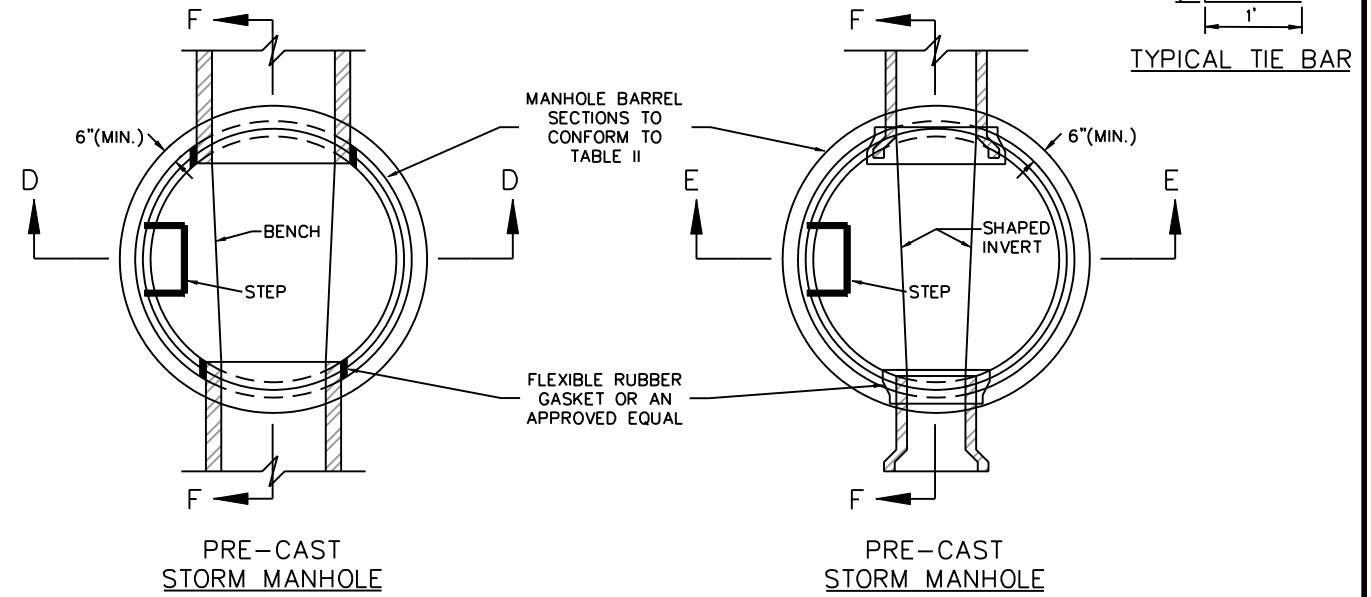
1. THE BASE SLAB SHALL BE POURED MONOLITHIC WITH BOTTOM RISER SECTION.
2. PRECAST MANHOLE BASES SHALL FIT THE CONDITIONS AND LOCATIONS FOR WHICH THEY ARE INTENDED WITHOUT ANY FIELD MODIFICATIONS. ANY MANHOLE BASE WHICH REQUIRES FIELD CUTTING OR MODIFICATION IN ORDER TO FIT THE LOCATIONS INTENDED SHALL BE REJECTED BY THE CITY AND REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY.
3. PRECAST MANHOLE BASES ARE TO BE BEDDED WITH CLASS 67 GRANULAR BEDDING MATERIAL.
4. IF A RUBBER GASKET, IS NOT PROVIDED, THE CONNECTOR SHALL BE GROUDED ON THE INSIDE AND OUTSIDE OF THE MANHOLE PENETRATION.

| PIPE DIAMETER | MH-BARREL DIAMETER (MIN) |
|---------------|--------------------------|
| 24" OR LESS | 4' |
| 27"-36" | 5' |
| 42" | 6' |
| 48" | 7' |
| 54"-60" | 8' |

MINIMUM MANHOLE BARREL DIAMETER FOR STRAIGHT THRU ROUND PIPE ONLY. MANHOLE BARREL DIAMETERS FOR PIPES ON AN ANGLE OR NON-ROUND PIPES SHOULD BE COMPUTED BY THE ENGINEER.

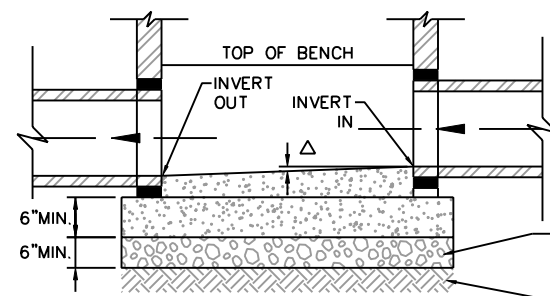


$f'_c = 4000$ PSI
 $f_y = 60,000$ PSI

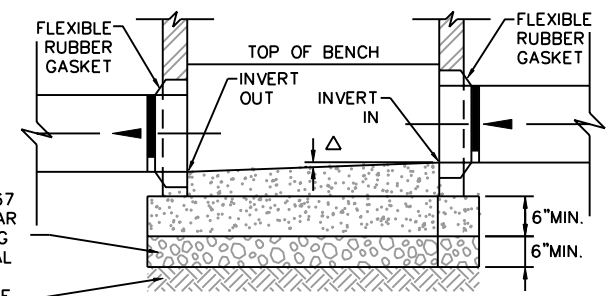


PRE-CAST STORM MANHOLE

PRE-CAST STORM MANHOLE



SECTION F-F



SECTION F-F
BOOT TYPE ALTERNATIVE

MANHOLES

**STORMWATER
CONSTRUCTION
DRAWINGS**



**CITY OF LOVELAND
PUBLIC WORKS DEPT.
STORMWATER**

APPROVED: KWG
DATE: 8/17/07
DRAWN BY: TBK

**DRAWING
SW-6**