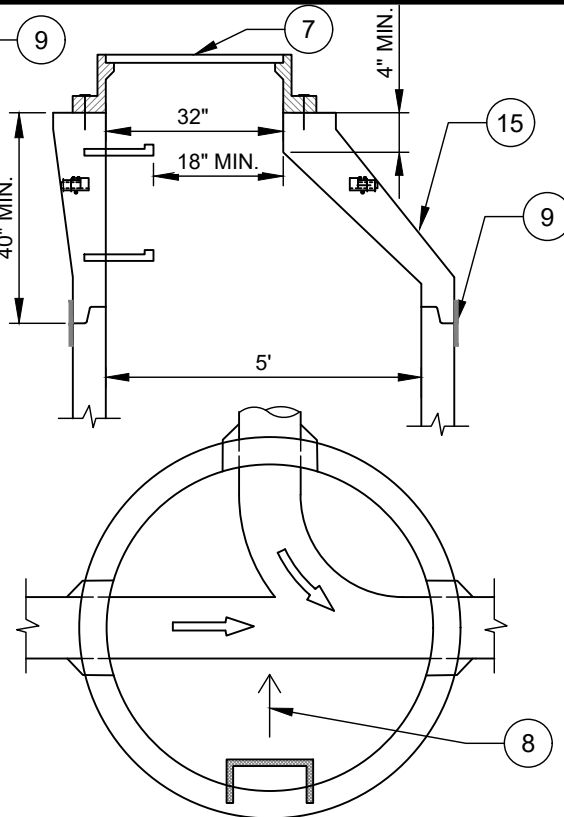


JOINT DETAIL



NO. DESCRIPTION:

1. LIFT INSERT.
2. 12" OR 16" ON-CENTER STEP SPACING. SPACING IN ANY SINGLE MANHOLE SHALL BE UNIFORM AND EITHER ALL 12" OR ALL 16". STEP SPACING SHALL BE CONSISTENT THROUGHOUT A PROJECT.
3. STEPS (ON STRAIGHT WALL).
4. MANHOLE BASE SECTION.
5. FLEXIBLE COUPLING INSTALLED IN CORED HOLE WITH STAINLESS STEEL COMPRESSION DEVICE.
6. MINIMUM 6" DEPTH OF #57 STONE BASE, SUITABLE BEARING CAPACITY AS APPROVED BY GEOTECHNICAL ENGINEER.
7. CLTW STANDARD CAST IRON FRAME AND COVER.
8. 1 INCH PER FOOT FALL (TYP.).
9. 6" (MIN.) WIDE BUTYL RUBBER JOINT WRAP REQUIRED ON EXTERIOR OF ALL JOINTS.
10. BUTYL RUBBER JOINT SEALANT-2 FULL CIRCLES EACH JOINT COMPRESSED (TYP.). USED BETWEEN PRECAST SECTIONS AND FRAME.
11. VARIES - INCREMENTS SHALL BE 1 FOOT INCREMENTS FOR 12" STEP SPACING AND 16" INCREMENTS FOR 16" STEP SPACING.
12. STRAIGHT WALL OF MH TO BE LOCATED OVER WIDEST SHELF.
13. FOR 8" AND 10" PIPE, INVERTS ARE TO BE 3/4" OF PIPE OUTSIDE DIAMETER AT TROUGH, FOR 12" AND LARGER PIPE, PROVIDE FULL INVERT AS SHOWN. THE SHELF SHALL SLOPE 1 INCH PER FOOT (MIN.) FROM THE MANHOLE WALL TO THE TROUGH.
14. STEPS SHALL BE PLACED NO CLOSER THAN 1/2 THE STEP SPACING FROM A JOINT AND SHALL BE NO CLOSER THAN 6".
15. CONE SLOPE SHALL BE THE FULL CONE HEIGHT AS SHOWN HERE.

NOTES:

- A. MANHOLE TO CONFORM WITH ASTM C478 EXCEPT AS MODIFIED BELOW.
- B. MANHOLE BASE TO BE REINFORCED WITH A MINIMUM AREA OF 0.20 SQ. IN. PER LINEAR FOOT EACH WAY. WALL REINFORCING TO BE MINIMUM OF 0.15 SQ. IN. PER VERTICAL FOOT. EITHER TONGUE OR GROOVE SHALL HAVE REINFORCING EQUAL IN AREA TO MINIMUM OF WALL SECTION.
- C. ALL JOINTS SHALL CONFORM WITH ASTM C990.
- D. STEPS TO CONFORM TO CLTW STANDARD DETAIL.
- E. ALL PIPE OPENINGS TO BE NO GREATER THAN 4" LARGER THAN OUTSIDE DIAMETER OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90°. (ADDITIONAL REINFORCING NOT REQUIRED FOR CORED OPENINGS).
- F. ALL SURFACES SHALL BE SMOOTH EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FINS AND OTHER IMPERFECTIONS.
- G. PENETRATING LIFTING HOLES SHALL BE PLUGGED WITH EXPANSION GROUT OR HAVE WATERTIGHT PLASTIC INSERTS.
- H. INVERTS TO BE PRECAST CONCRETE.
- I. ALL MANHOLE SECTIONS SHALL BE DESIGNED FOR H-20 LOADING AND A MINIMUM HEIGHT OF 40 VERTICAL FEET.
- J. WIRE TO CONFORM WITH ASTM A1064, LOCATED IN CENTER 1/3 OF WALL.
- K. REBAR TO CONFORM WITH ASTM A615 OR A706, GRADE 60.
- L. PRODUCT MARKINGS REQUIRED BY ASTM C478 SHALL BE MARKED ON BOTH THE INTERIOR AND EXTERIOR OF EACH PRECAST SECTION.
- M. ALL STEPS SHALL BE PULLOUT TESTED TO A MINIMUM LOAD OF 1,000 LBS. TEST REPORTS REQUIRED.
- N. PRECAST PRODUCT SHALL NOT BE SHIPPED FROM THE MANUFACTURER UNTIL IT HAS REACHED A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AND NO LESS THAN 7 DAYS AFTER CASTING, WHICHEVER IS GREATER.

CHARLOTTE WATER
A CITY OF CHARLOTTE DEPARTMENT
STANDARD DETAILS
GRAVITY SEWER

5' DIAMETER PRECAST MANHOLES
(FOR 18" THROUGH 36" DIAMETER PIPE)
(WHEN INSIDE DROPS ARE REQUIRED)

NO SCALE

VERSION	1.0
DATE	04/2024
DETAIL	11.2.2