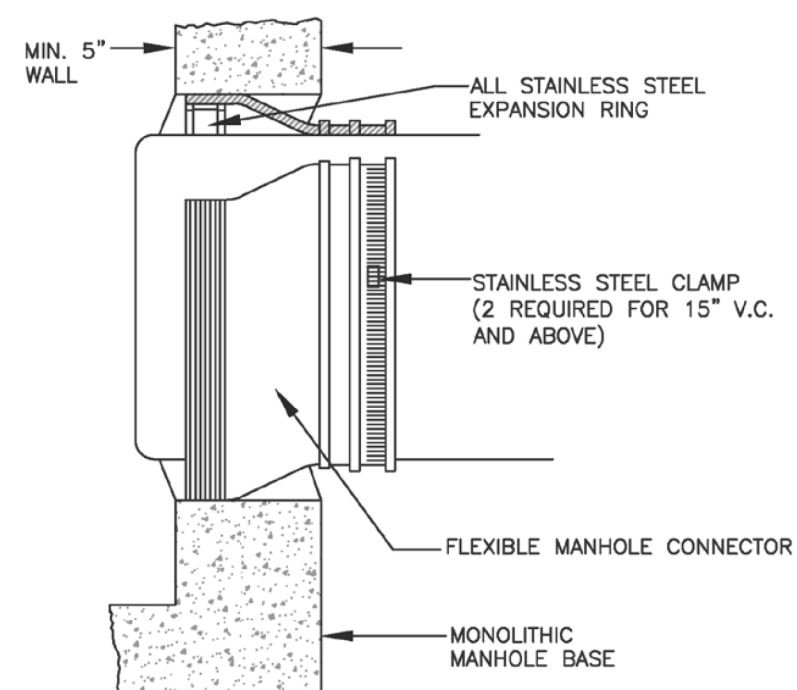


5/14/99

REVISIONS

Flexible Manhole Connector

NOTE: FLEXIBLE MANHOLE CONNECTORS TO BE FURNISHED AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS. MAXIMUM DEFLECTION FOR CONNECTOR IS 7% (12%). SLOPES GREATER THAN 12% MUST HAVE CONNECTORS DESIGNED FOR HIGHER DEFLECTION.

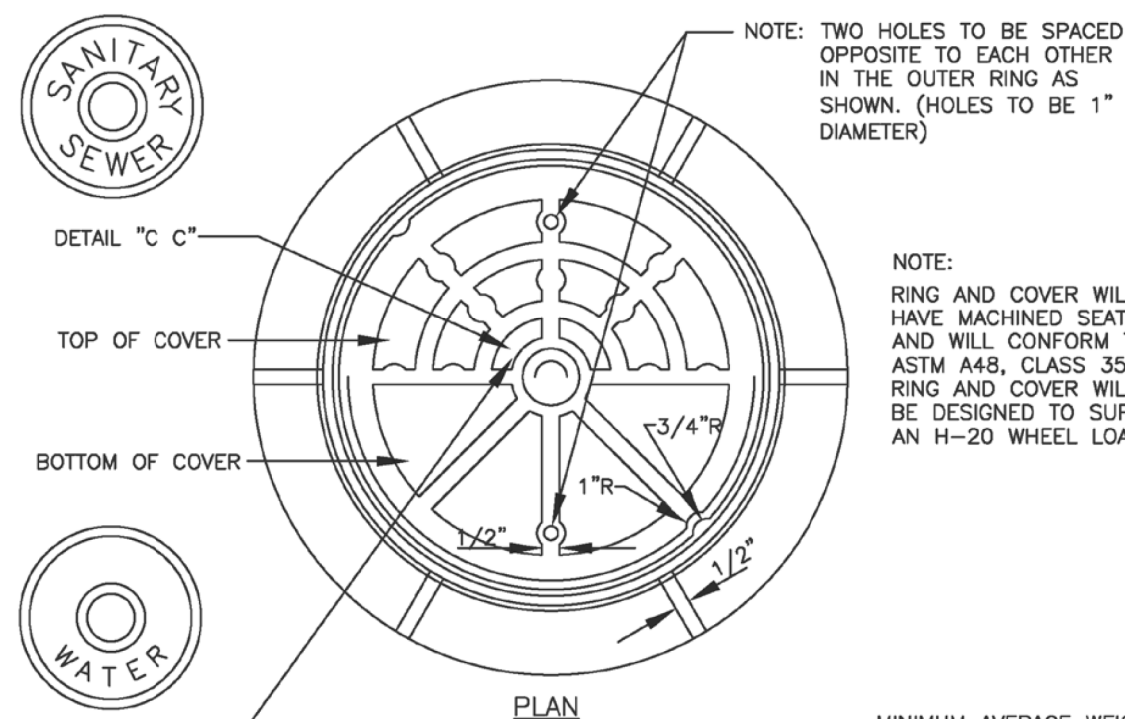


CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 3-1-17
R:\Data\Utility\Utility Spec Drawings\flexible mh connector.dwg

C-17

Manhole Ring and Cover (Type 1)



NOTE: RING AND COVER WILL HAVE MACHINED SEAT AND WILL CONFORM TO ASTM A48, CLASS 35B. RING AND COVER WILL BE DESIGNED TO SUPPORT AN H-20 WHEEL LOAD.

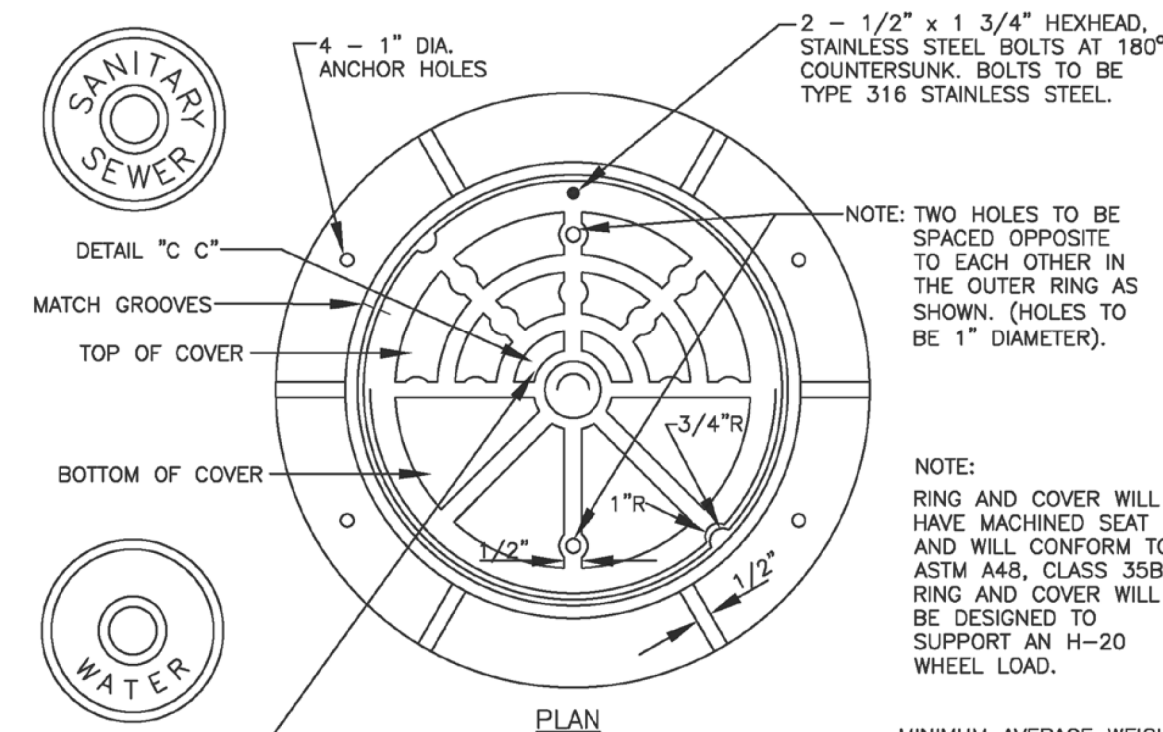
MINIMUM AVERAGE WEIGHTS	
RING	190 LBS.
COVER	120 LBS.
	310 LBS.

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 3-1-17
R:\Data\Utility\Utility Spec Drawings\mh ring & cover type 1.dwg

C-18

Manhole Ring and Cover (Type 2)



NOTE: TWO HOLES TO BE SPACED OPPOSITE TO EACH OTHER IN THE OUTER RING AS SHOWN. (HOLES TO BE 1" DIAMETER).

NOTE: RING AND COVER WILL HAVE MACHINED SEAT AND WILL CONFORM TO ASTM A48, CLASS 35B. RING AND COVER WILL BE DESIGNED TO SUPPORT AN H-20 WHEEL LOAD.

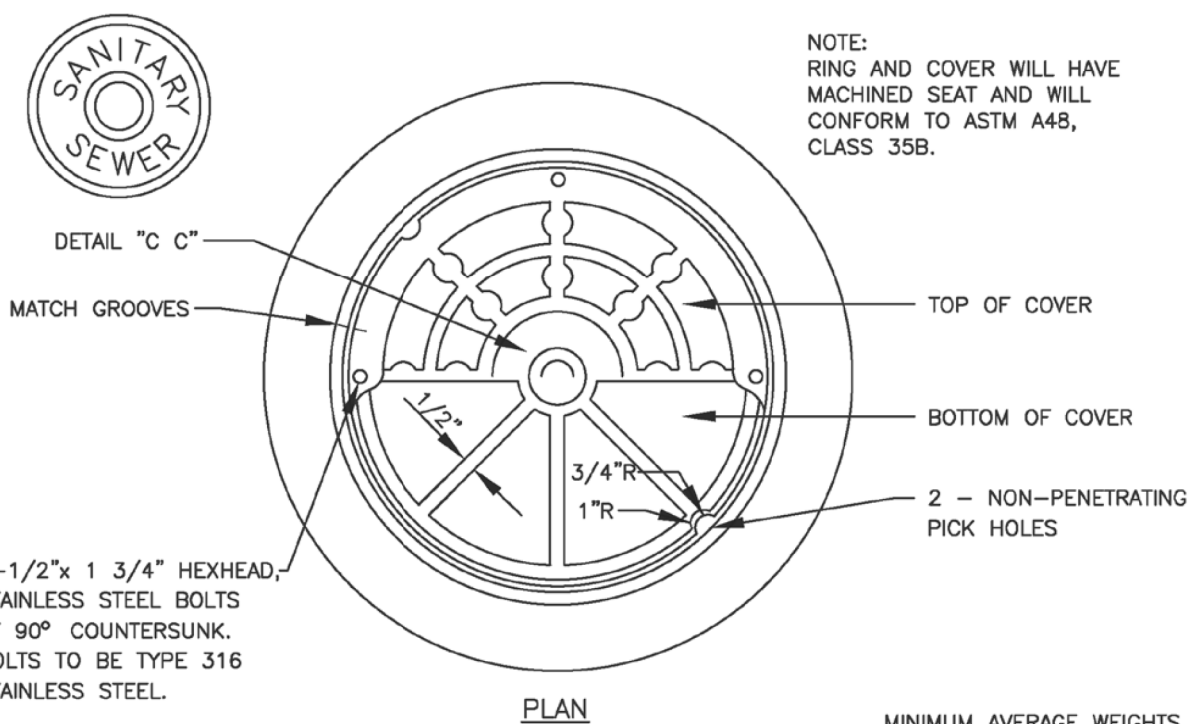
MINIMUM AVERAGE WEIGHTS	
RING	190 LBS.
COVER	120 LBS.
	310 LBS.

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 3-1-17
R:\Data\Utility\Utility Spec Drawings\mh ring & cover type 2.dwg

C-19

Manhole Ring and Cover (Type 3)

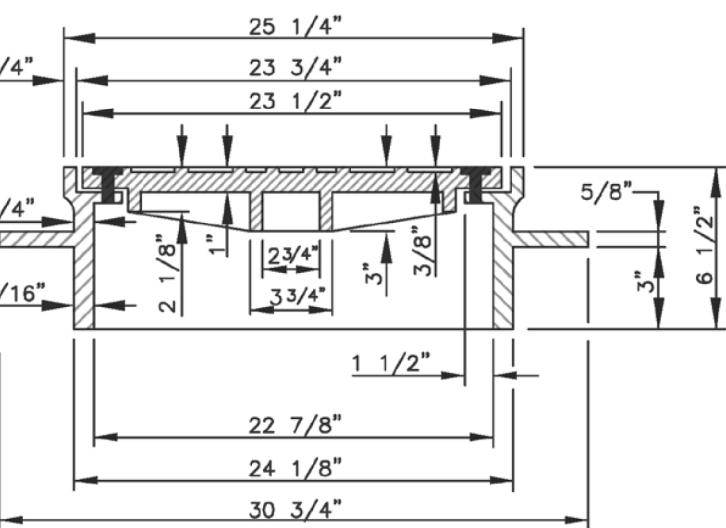


NOTE: RING AND COVER WILL HAVE MACHINED SEAT AND WILL CONFORM TO ASTM A48, CLASS 35B.

4-1/2" x 1 3/4" HEXHEAD, STAINLESS STEEL BOLTS AT 90° COUNTERSUNK. BOLTS TO BE TYPE 316 STAINLESS STEEL.

CONTINUOUS RUBBER GASKET (1/8" THICK) GLUED TO RING SEAT.

MINIMUM AVERAGE WEIGHTS	
RING	136 LBS.
COVER	120 LBS.
	256 LBS.

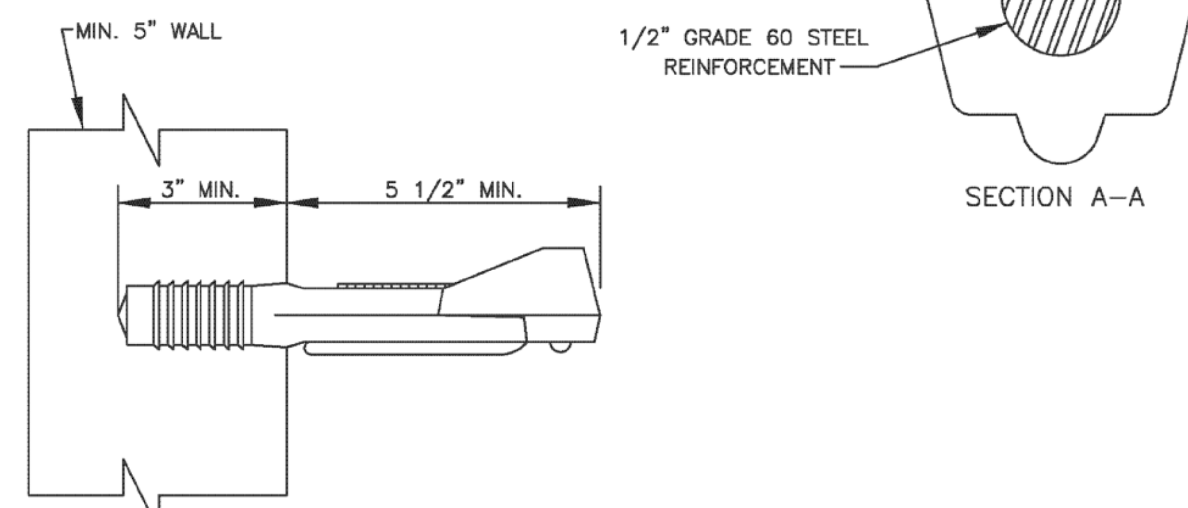
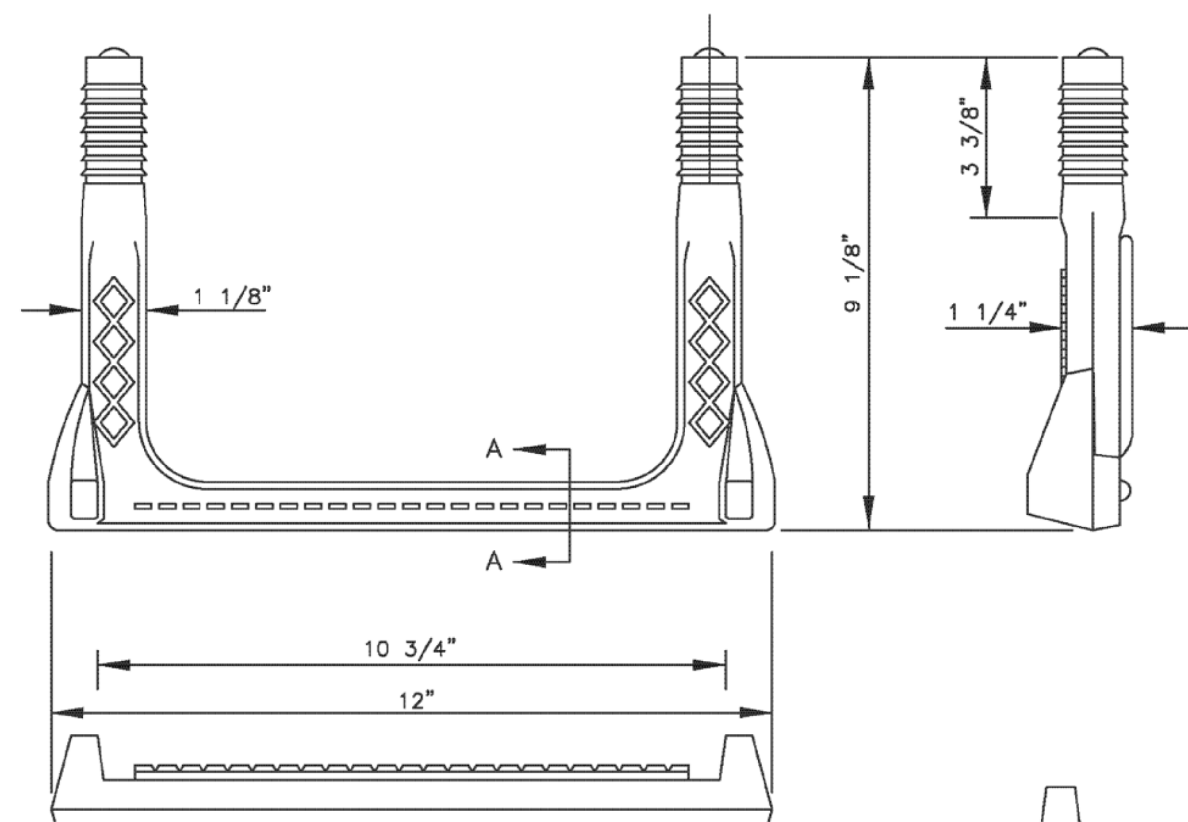


CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 3-1-17
R:\Data\Utility\Utility Spec Drawings\mh ring & cover type 3.dwg

C-20

Polypropylene Manhole Step

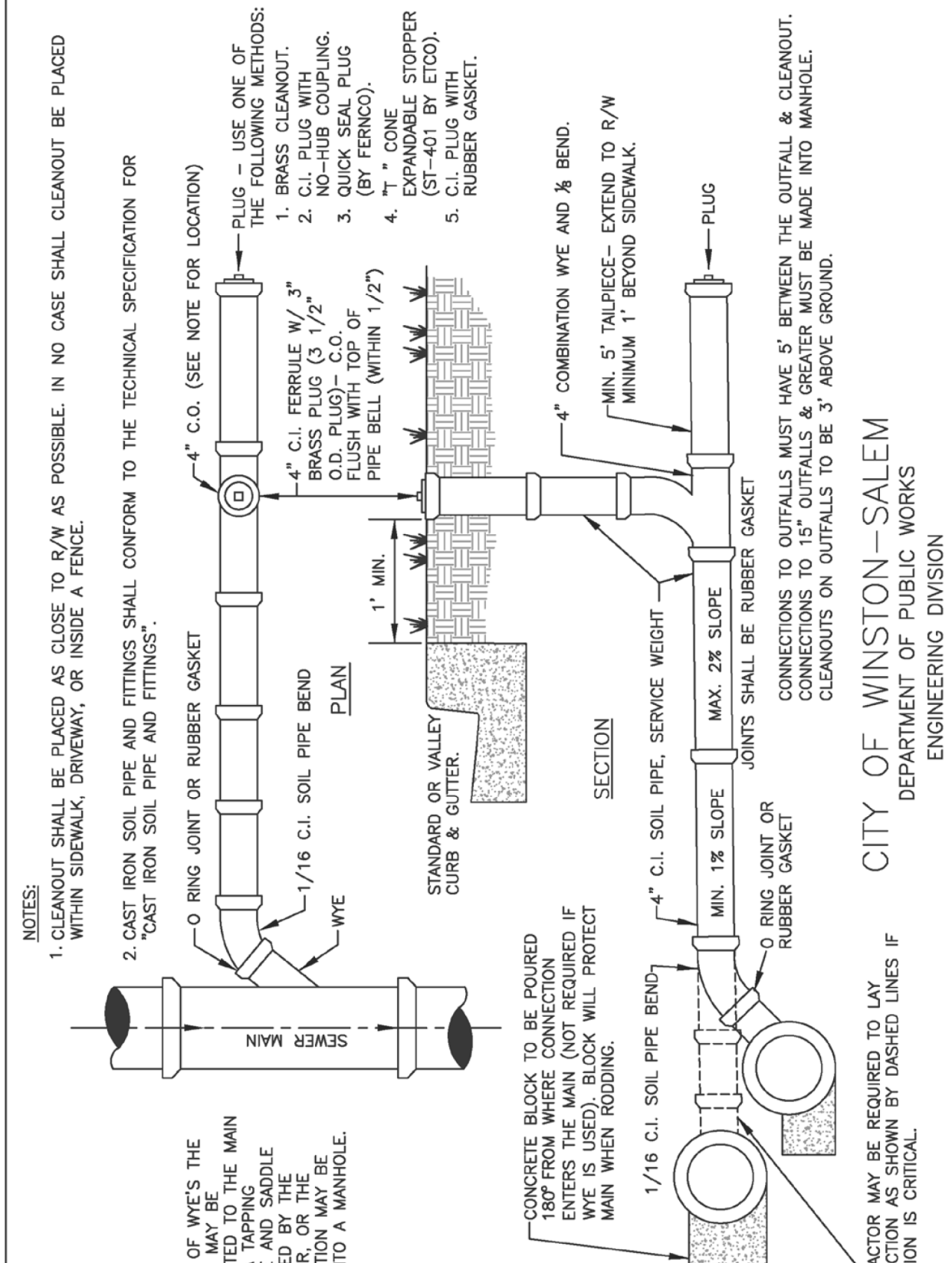


CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 3-1-17
R:\Data\Utility\Utility Spec Drawings\mh step.dwg

C-21

4" Sewer Connection



NOTES:
1. CLEANOUT SHALL BE PLACED AS CLOSE TO R/W AS POSSIBLE. IN NO CASE SHALL CLEANOUT BE PLACED WITHIN SIDEWALK, DRIVEWAY, OR INSIDE A FENCE.
2. CAST IRON SOIL PIPE AND FITTINGS SHALL CONFORM TO THE TECHNICAL SPECIFICATION FOR "CAST IRON SOIL PIPE AND FITTINGS".
3. USE ONE OF THE FOLLOWING METHODS:
1. BRASS CLEANOUT.
2. NO-PLUG COUPLING.
3. QUICK SEAL PLUG (BY FERRO).
4. 7" CONE EXPANDABLE STOPPER (BY FERRO).
5. C.I. PLUG WITH RUBBER GASKET.
4" C.O. (SEE NOTE FOR LOCATION)
4" C.I. FERRULE W/ 3" BRASS PLUG (3 1/2" O.D. - PLUG) - C.O. OF PIPE BELL (WITHIN 1/2")
1" MIN. STANDARD AS VALLEY CURB & GUTTER
MIN. 1 1/2" SOIL PIPE, SERVICE WEIGHT
MAX. 2% SLOPE
MIN. 1 1/2" SOIL PIPE BEND
4" COMBINATION WYE AND BEND.
MIN. 5" TAILPIECE - EXTEND TO R/W MINIMUM 1" BEYOND SIDEWALK.
JOINTS SHALL BE RUBBER GASKET
CONNECTIONS TO OUTFALLS MUST HAVE 5' BETWEEN THE OUTFALL & CLEANOUT.
CONNECTIONS TO 15" OUTFALLS & GREATER MUST BE MADE INTO MANHOLE.
CLEANOUTS ON OUTFALLS TO BE 3' ABOVE GROUND.
CONCRETE BLOCK TO BE POURED 180° FROM WHERE CONNECTION ENTERS THE MAIN (NOT REQUIRED IF 15" SIZED BLOCK WILL PROTECT MAIN WHEN RIGGING).
1/16 C.I. SOIL PIPE BEND
O RING JOINT OR RUBBER GASKET
MIN. 1% SLOPE
4" C.I. SOIL PIPE, SERVICE WEIGHT
MIN. 1 1/2" SOIL PIPE BEND
CONTRACTOR MAY BE REQUIRED TO LAY CONTRACTOR SHALL 5' DASHED LINES IF ELEVATION IS CRITICAL.

CITY OF WINSTON-SALEM
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

N.T.S. REVISED 10-8-18
R:\Data\Utility\Utility Spec Drawings\4inch s conn.dwg

C-22

PROJECT REFERENCE NO.	SHEET NO.
U-2579AB	UC-3B
DESIGNED BY: APL	
DRAWN BY: RDL	
CHECKED BY: APL	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	7/13/2021
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED