

SANITARY SEWER STANDARD DETAILS INDEX

DATE MODIFIED

SS-1.1	SANITARY SEWER DESIGN NOTES (1 OF 3)	2/2020
SS-1.2	SANITARY SEWER DESIGN NOTES (2 OF 3)	2/2020
SS-1.3	SANITARY SEWER DESIGN NOTES (3 OF 3)	2/2020
SS-2.1	SANITARY SEWER CONSTRUCTION NOTES (1 OF 4)	2/2020
SS-2.2	SANITARY SEWER CONSTRUCTION NOTES (2 OF 4)	2/2020
SS-2.3	SANITARY SEWER CONSTRUCTION NOTES (3 OF 4)	2/2020
SS-2.4	SANITARY SEWER CONSTRUCTION NOTES (4 OF 4)	2/2020
SS-3	SANITARY SEWER STANDARD MANHOLE	2/2020
SS-4	SANITARY SEWER MANHOLE COVER	2/2020
SS-5	SANITARY SEWER SHALLOW MANHOLE	2/2020
SS-6	OUTSIDE DROP MANHOLE (STANDARD NEW CONSTRUCTION)	2/2020
SS-7	OUTSIDE DROP MANHOLE (STANDARD)	2/2020
SS-8	OUTSIDE DROP MANHOLE (RETROFIT ONLY)	2/2020
SS-9	INSIDE DROP MANHOLE (RETROFIT ONLY)	2/2020
SS-10	RUBBER BOOT AND PRECAST JOINT CONNECTION	2/2020
SS-11	STORM DRAINAGE CROSSING / SANITARY SEWER LATERAL PIPE CROSSING	2/2020
SS-12	SANITARY SEWER LATERAL	2/2020
SS-13	SANITARY SEWER CLEANOUT	2/2020



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER DETAILS

DATE
02/2020

DETAIL NUMBER
INDEX

SANITARY SEWER DESIGN NOTES (1 OF 3)

1. ALL GRAVITY SANITARY SEWER MAINS SHALL BE 8" DIAMETER MINIMUM. COMMERCIAL SERVICE LATERALS WITH MULTIPLE CONNECTIONS SHALL BE GREEN 6" DIA. OR LARGER. ALL SINGLE FAMILY RESIDENTIAL SERVICE LATERALS SHALL BE 4" - SINGLE SERVICES.
2. ALL GRAVITY SANITARY SEWER LINES SHALL BE GREEN PVC SDR 26, ASTM D-3034. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, AWWA C-900 OR C-905 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED. WATER LINES, RECLAIMED LINES, AND STORM DRAINAGE CROSSINGS SHALL ALSO FOLLOW THE CONCRETE ENCASEMENT REQUIREMENT PER THESE STANDARDS AND AS PER REGULATORY REQUIREMENTS.
3. MINIMUM GRAVITY SANITARY SEWER SLOPES ARE AS FOLLOWS:

8" PIPE 0.40 %
10" PIPE 0.30 %
12" PIPE 0.22 %
4. MAXIMUM DEPTH OF SANITARY MANHOLES SHALL BE 15.0'. MAXIMUM DEPTH OF LIFT STATION WET WELLS SHALL BE 20.0'.
5. GRAVITY SANITARY SEWER LINES SHALL BE INSTALLED WHENEVER POSSIBLE UNDER PAVED AREAS WITHIN PUBLIC RIGHTS-OF-WAY. UTILITY EASEMENTS SHALL BE PROVIDED WHENEVER PUBLICLY-OWNED SEWER LINES ARE CONSTRUCTED OUTSIDE OF A PUBLIC RIGHT-OF-WAY.
6. ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
7. ALL LOCAL COLLECTION SANITARY SEWER MANHOLES SHALL BE PRECAST WITH A MINIMUM INSIDE DIAMETER OF 4 FEET.
8. STANDARD MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 350 FEET.
9. INDIVIDUAL SANITARY SERVICE ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, AND MUST CONNECTED TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS, UNLESS OTHERWISE APPROVED BY THE CITY.
10. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLUED JOINTS ARE PERMITTED ON LATERALS.
11. FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
12. SANITARY SEWER LIFT STATIONS AND FORCE MAINS, SIZE, MATERIAL, AND DESIGNS SHALL BE APPROVED BY THE CITY. LIFT STATIONS SHALL BE CONSTRUCTED WITH A MINIMUM WET WELL INTERIOR DIAMETER OF 6.0 FEET. FORCE MAINS SHALL BE A MINIMUM 6 INCH DIAMETER.
13. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO PREPARE AND SUBMIT FLOTATION CALCULATIONS TO SIZE THE BASE OF THE WET WELL, AND ANY MANHOLES AS DEEMED NECESSARY BY THE CITY.
14. SANITARY SEWER DROP MANHOLES SHALL ONLY BE USED UNDER SPECIAL CONDITIONS AS APPROVED BY THE CITY. DROPS LESS THAN 2.0' SHALL NOT BE ALLOWED.
15. ALL SANITARY SEWER FORCE MAINS, INCLUDING FITTINGS, SHALL BE DIP WITH PROTECTO 401, PVC AWWA C-900, OR C-905 (COLOR "GREEN") (PRESSURE FITTINGS, PRESSURE CLASS 150 OR C-907).



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER DESIGN NOTES

DATE
02/2020

DETAIL NUMBER
SS-1.1

SANITARY SEWER DESIGN NOTES (2 OF 3)

16. SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM SHALL BE FIBERGLASS OR POLY-ETHYLENE LINED OR EPOXY LINED. RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICKNESS UNLESS APPROVED OTHERWISE BY THE CITY. OTHER TYPES OF LINING METHODS AND MATERIALS MAY BE CONSIDERED ON A CASE BY CASE BASIS. UNDER SPECIAL CIRCUMSTANCES WHERE HYDROGEN SULFIDE IS A MAJOR CONCERN MANHOLES UPSTREAM AND/OR DOWNSTREAM OF THE FORCE MAIN TIE-IN OR WET WELL MAY ALSO BE REQUIRED TO HAVE LININGS INSTALLED.
17. ALL SANITARY SEWER MANHOLES SHALL HAVE ALL INTERIOR SURFACES COATED WITH THREE (3) COATS OF WHITE/GRAY OVER RED OVER BLACK EW-1 EPOXY PAINT WITH A TOTAL OF 12 MILS DRY FILM THICKNESS OR BLACK COAL-TAR EPOXY WITH A TOTAL OF 16 MILS THICKNESS. OUTSIDE SURFACE TO BE COATED WITH TWO (2) COATS OF BLACK OVER BLACK EW-1 EPOXY PAINT WITH A TOTAL OF 8 MILS OR ONE (1) COAT OF BLACK COAL-TAR EPOXY WITH A TOTAL OF 8 MILS. ALL COATS SHALL BE APPLIED AT THE FACTORY EXCEPT MINOR FIELD TOUCH UP AT JOINTS AND AT MANHOLE NECK.
18. ALL MANHOLES CONSTRUCTED IN SIDE YARDS, BACKYARDS, AND EASEMENTS OUTSIDE OF THE RIGHT-OF-WAY SHALL BE OUTFITTED WITH FIBERGLASS OR EPOXY LINERS IN COMPLIANCE WITH ASTM-3753 OR OTHER TYPES OF LINERS APPROVED BY THE CITY. IN ADDITION THE CITY MAY REQUIRE LINERS TO BE INSTALLED IN OTHER AREAS WHERE THE PUBLIC WORKS DEPARTMENT BELIEVES THE NEED IS JUSTIFIED SUCH AS IMMEDIATELY UPSTREAM OF FORCE MAINS CONNECTING TO GRAVITY MAINS.
19. ALL SEWER LINES WHICH ARE CONSTRUCTED OUTSIDE OF PUBLIC RIGHTS-OF-WAY WITHIN SIDE YARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
20. CONTEC A-2000 PVC PIPE SHALL NOT BE ALLOWED FOR USE.
21. FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE LOCATION OF ALL FORCE MAINS, MEASURED FROM THE BACK OF CURB (OR EDGE OF PAVEMENT, IF NO CURBING EXISTS).
22. ALL HDPE PIPE INSTALLED FOR SEWAGE FORCE MAINS SHALL BE SDR 11 WITH #10 COPPPER HEAD TRACER WIRE UNLESS SPECIFICALLY NOTED OTHERWISE. THE HDPE PIPE SHALL BE SIZED TO MATCH THE EXTERNAL DIAMETER OF THE PVC TO WHICH IT IS ATTACHED.
23. LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC WORKS AND STORMWATER INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS.
24. GREASE INTERCEPTORS ARE REQUIRED FOR ALL COMMERCIAL BUILDINGS HAVING KITCHEN, FOOD PREPARATION OR SERVING FACILITIES AND / OR MISCELLANEOUS USES. GREASE INTERCEPTORS CONSTRUCTED EXTERNAL TO BUILDINGS SHALL BE SIZED IN ACCORDANCE WITH FAC 64-E-6. CALCULATIONS TO DETERMINE SIZING REQUIREMENTS SHALL BE SUBMITTED AS PART OF BUILDING PERMITTING. AN INSPECTION MANHOLE MAY BE REQUIRED IMMEDIATELY DOWN STREAM OF THE GREASE INTERCEPTOR FOR INSPECTION PURPOSES, AS DEEMED APPROPRIATE BY THE CITY.



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER DESIGN NOTES

DATE
02/2020

DETAIL NUMBER
SS-1.2

SANITARY SEWER DESIGN NOTES (3 OF 3)

25. WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN (18) INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER MAIN IS ABOVE THE WATER MAIN, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE OR ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR PRESSURE RATED PVC PIPE (MEETING THE AWWA C-900 OR C-905 SPECIFICATION) FOR A MINIMUM LENGTH OF (20) FEET, CENTERED ON THE POINT OF CROSSING. A MINIMUM HORIZONTAL SEPARATION OF (10) FEET (EDGE TO EDGE) BETWEEN POTABLE WATER MAINS AND SEWER MAINS SHALL BE MAINTAINED WHEN AT ALL POSSIBLE. WHEN THE 10-FOOT HORIZONTAL SEPARATION CANNOT BE MAINTAINED THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF AT LEAST 18" ABOVE THE SEWAGE MAIN. ALTERNATIVELY, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE OR ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR UPGRADED TO PRESSURE RATED PVC PIPE (MEETING AWWA C-900 OR C-905 SPECIFICATION) AND PRESSURE TESTED AT 150 PSI TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
26. CEMENT USED IN CONCRETE MIX FOR PRECAST STRUCTURES SHALL BE TYPE II, ACID RESISTANT AND SULFIDE RESISTANT CONCRETE.
27. MORTAR TO CONTAIN "HYDRATITE" OR APPROVED EQUAL, TO PREVENT SHRINKAGE.
28. PROFILE VIEWS SHALL BE PROVIDED FOR ALL SEWER MAINS. PROFILE VIEWS SHALL BE ON THE SAME SHEET AS THE ASSOCIATED PLAN VIEW AND SHALL INCLUDE THE FOLLOWING INFORMATION:
 - A. SIZE, SLOPE, LENGTH AND CLASS OF PIPE
 - B. MANHOLE RIM AND INVERT ELEVATIONS
 - C. UTILITY CROSSINGS WITH VERTICAL SEPARATION
 - D. SHOW PROPOSED SEWER AND EXISTING UTILITY
 - E. EXISTING GROUND PROFILE
 - F. MATCH LINE
 - G. VICINITY MAP
 - H. PROFILE VIEW STATIONS TO COINCIDE WITH PLAN VIEW STATIONS



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER DESIGN NOTES

DATE
02/2020

DETAIL NUMBER
SS-1.3

SANITARY SEWER CONSTRUCTION NOTES (1 OF 4)

1. THE CITY'S PUBLIC WORKS DEPARTMENT SHALL BE GIVEN A MINIMUM OF 2 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY SANITARY SEWER CONSTRUCTION.
2. ALL GRAVITY SANITARY SEWER LINES SHALL BE GREEN PVC SDR 26, ASTM D-3034. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, AWWA C-900 OR C-905 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED. WATER LINES, RECLAIMED LINES, AND STORM DRAINAGE CROSSINGS SHALL ALSO FOLLOW THE CONCRETE ENCASEMENT REQUIREMENT PER THESE STANDARDS AND AS PER REGULATORY REQUIREMENTS.
3. GRAVITY SANITARY SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
4. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING OPERATIONS DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
5. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES IS NOT ACCEPTABLE. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
6. ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING IN ACCORDANCE TO O.S.H.A. GUIDELINE IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
7. ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) OF THE MAXIMUM DENSITY OF THAT MATERIAL BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
8. THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND THEN AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. TESTING SHALL BE COMPLETED AND TEST DOCUMENTS SUBMITTED TO THE CITY AT A MINIMUM FREQUENCY OF ONE SET OF TESTS BETWEEN EACH MANHOLE AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
9. THE CONTRACTOR SHALL INSTALL A METALLIZED FOIL LOCATOR TAPE, OR SIMILAR DEVICE AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC SEWAGE FORCE MAINS. THIS PIPE LOCATOR AID SHALL BE INSTALLED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER. TAPE SHALL BE COLOR CODED GREEN FOR SANITARY SEWER AND FORCE MAIN. A CONTINUOUS NO. 10 COPPER HEAD WIRE SHALL BE INSTALLED WITH WIRE BROUGHT UP AT ALL VALVES.
10. ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
11. MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.2 FEET AND MAXIMUM OF 0.5 FEET ABOVE GRADE GENERALLY IN UNPAVED AREAS.
12. THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
13. RUBBER BOOTS AND 316 STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE STANDARD MANHOLE AND BOOT DETAILS).



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER CONSTRUCTION NOTES

DATE
02/2020

DETAIL NUMBER
SS-2.1

SANITARY SEWER DESIGN NOTES (2 OF 4)

14. INDIVIDUAL SANITARY SERVICE ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, AND MUST CONNECTED TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS, UNLESS OTHERWISE APPROVED BY THE CITY.
15. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLUED JOINTS ARE PERMITTED ON LATERALS.
16. ALL SANITARY SEWER MANHOLE COVERS SHALL HAVE THE WORDS "HOLLY HILL FLORIDA SANITARY SEWER" CAST INTO THEM.
17. FORCE MAIN SYSTEMS SHALL BE PRESSURE TESTED AT 100 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS.
18. ALL SANITARY SEWER FORCE MAINS SHALL USE A THRUST RESTRAINT JOINT METHOD IN COMPLIANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION GUIDELINES MODIFIED TO ACCOMMODATE PVC PIPE BY FOLLOWING THE RECOMMENDED INCREASE IN RESTRAINT LENGTH CORRESPONDING TO THE INSTALLATION OF POLYETHYLENE WRAP. IN NO INSTANCE SHALL THRUST BLOCKS BE PERMITTED.
19. THE CITY MAY REQUIRE ALL NEW SANITARY SEWER GRAVITY SYSTEMS TO BE SMOKE TESTED PRIOR TO FINAL ACCEPTANCE. ALL TESTING MUST BE DONE IN THE PRESENCE OF THE CITY'S DESIGNATED SITE INSPECTOR.
20. THE CITY RESERVES THE RIGHT TO REQUIRE THE DEVELOPER TO PERFORM VACUUM TESTING OF ALL SANITARY MANHOLES, AIR TEST SEWER MAINS, AND REQUIRES THAT ALL SANITARY SEWER MAIN LINES BE TELEVISED PRIOR TO FINAL ACCEPTANCE. LATERALS SHALL BE TELEVISED UPON DEMAND BY THE CITY PRIOR TO FINAL ACCEPTANCE WHEN IT IS SUSPECTED THAT A PROBLEM EXISTS.
21. ALL SEWER MAINS, PRIOR TO FINAL ACCEPTANCE BY THE CITY AND PRIOR TO ANY FINAL PAVING OPERATIONS, SHALL BE TELEVISED AND SUBMITTED TO THE CITY USING A "PAN AND TILT CAMERA" WITH DEPTH GAUGE IN FRONT OF THE CAMERA BY A CITY APPROVED CONTRACTOR. THE CAMERA SHALL RUN FROM DOWN STREAM MANHOLE TO UP STREAM MANHOLE. CITY INSPECTOR SHALL BE NOTIFIED IN ADVANCE AND BE PRESENT DURING THE TELEVISIONING OF THE SEWER SYSTEM. THE VIDEO SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN VIDEO LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE VIDEO SUBMISSION TO THE CITY PRIOR TO COMMENCING ANY INSTALLATION OF ASPHALT OR CONCRETE PAVEMENT. THE CITY MAY REQUIRE ADDITIONAL VIDEO TAPING, VIDEO TAPING OF LATERALS, AND/OR INFILTRATION / EXFILTRATION TESTS IF DEFECTS ARE APPARENT OR WORKMANSHIP IS QUESTIONABLE.
22. ALL SEWER LINES WHICH ARE CONSTRUCTED OUTSIDE OF PUBLIC RIGHTS-OF-WAY WITHIN SIDE YARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
23. SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT "V", OR BY A METAL TAB SET INTO THE PAVEMENT.
24. EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER CONSTRUCTION NOTES

DATE
02/2020

DETAIL NUMBER
SS-2.2

SANITARY SEWER DESIGN NOTES (3 OF 4)

25. ALL PROPOSED SEWER FORCE MAINS SHALL BE FLUSHED, PRESSURE TESTED, PIGGED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WATER OR WASTEWATER TREATMENT PLANT (AS APPROPRIATE) AT LEAST 2 BUSINESS DAYS PRIOR TO BEGINNING A FULL-DIAMETER FLUSH OF THE MAINS AND PRIOR TO THE COMMENCEMENT OF PRESSURE TESTING (SUBJECT TO AVAILABILITY).
26. THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL FORCE MAINS IN EXCESS OF 6" IN DIAMETER AND PRIMARY TRANSMISSION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR. ALL PIGGING OPERATIONS SHALL BE WITNESSED BY A CITY REPRESENTATIVE OR INSPECTOR.
27. AS A GENERAL RULE, THE NUMBER OF JOINTS SHALL BE LIMITED WHENEVER POSSIBLE. IN SPECIAL CASES WHERE A POINT REPAIR TO AN 8" TO 12" PVC SEWER MAIN IS REQUIRED, THE PROPER RIGID WRAP AROUND SLEEVE SUCH AS A JCM-210 OVERSIZED DUCTILE IRON COUPLING OR AN APPROVED EQUAL MAY BE ALLOWED BY SPECIAL APPROVAL BY THE CITY.
28. ALL IN-LINE SANITARY SEWER FORCE MAIN VALVES SHALL BE RESILIENT SEAT (AWWA C-509 OR C-515) VALVES FEATURING AN EPOXY LINED DUCTILE IRON BODY.
29. ALL TAPPING OF PRESSURE MAINS AND CORING OF MANHOLES SHALL BE PERFORMED BY THE CITY AND BILLED IN ACCORDANCE WITH THE ADOPTED FEE RESOLUTION. SCHEDULING OF THESE CONNECTIONS SHALL REQUIRE A MINIMUM 2 BUSINESS DAYS NOTIFICATION DIRECTED TO THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE THE WORK DIRECTLY WITH THE PUBLIC WORKS DEPARTMENT. SUBSEQUENTLY, THE CONNECTION SHALL BE SCHEDULED TO COMMENCE BETWEEN 8:00 A.M. AND NOON ON THE APPROPRIATE DAY ESTABLISHED BY CITY. WITH RESPECT TO TIE-IN CONNECTIONS AND CORING OPERATIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS.
30. ALL WORK PERFORMED ON SANITARY SEWER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY AN UNDERGROUND UTILITY CONTRACTOR, OR LICENSED GENERAL CONTRACTOR, WHO IS LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
31. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AS-BUILTS ARE PROVIDED TO THE CITY PRIOR TO ANY USE OF THE SYSTEM.
32. FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE LOCATION, OF ALL FORCE MAINS MEASURED FROM THE BACK OF CURB (OR EDGE OF PAVEMENT, IF NO CURBING EXISTS).
33. ALL HDPE PIPE INSTALLED FOR SEWAGE FORCE MAINS SHALL BE SDR 11 WITH #10 COPPER HEAD TRACER WIRE UNLESS SPECIFICALLY NOTED OTHERWISE. THE HDPE PIPE SHALL BE SIZED TO MATCH THE EXTERNAL DIAMETER OF THE PVC TO WHICH IT IS ATTACHED.
34. ALL P.V.C. PIPE SHALL BE STORED IN SUCH A WAY AS TO PREVENT WARPING, DEFLECTION, OR DEFORMATION. ANY PIPE DEEMED TO BE MISSHAPED IN ANY WAY FOR ANY REASON SHALL BE REJECTED.
35. NO USED, RE-USED, RUSTED, SECOND HAND, OR ANY MATERIAL THAT IS NOT NEW SHALL BE USED IN ANY UTILITY IMPROVEMENT PROJECTS WITHIN THE CITY'S SERVICE AREA.



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER CONSTRUCTION NOTES

DATE
02/2020

DETAIL NUMBER
SS-2.3

SANITARY SEWER DESIGN NOTES (4 OF 4)

36. WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN (18) INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER MAIN IS ABOVE THE WATER MAIN, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE OR ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR PRESSURE RATED PVC PIPE (MEETING THE AWWA C-900 OR C-905 SPECIFICATION) FOR A MINIMUM LENGTH OF (20) FEET, CENTERED ON THE POINT OF CROSSING. A MINIMUM HORIZONTAL SEPARATION OF (10) FEET (EDGE TO EDGE) BETWEEN POTABLE WATER MAINS AND SEWER MAINS SHALL BE MAINTAINED WHEN AT ALL POSSIBLE. WHEN THE 10-FOOT HORIZONTAL SEPARATION CANNOT BE MAINTAINED THE WATER MAIN SHALL BE INSTALLED IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF AT LEAST 18" ABOVE THE SEWAGE MAIN. ALTERNATIVELY, THE SEWER MAIN SHALL BE ENCASED WITH CONCRETE OR ENCLOSED IN A WATER TIGHT CARRIER PIPE, OR UPGRADED TO PRESSURE RATED PVC PIPE (MEETING AWWA C-900 OR C-905 SPECIFICATION) AND PRESSURE TESTED AT 150 PSI TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
37. CEMENT USED IN CONCRETE MIX FOR PRECAST STRUCTURES SHALL BE TYPE II, ACID RESISTANT AND SULFIDE RESISTANT CONCRETE.
38. MORTAR TO CONTAIN "HYDRATITE" OR APPROVED EQUAL, TO PREVENT SHRINKAGE
39. CONTRACTORS SHALL PROVIDE THICKER MANHOLE WALLS AND BASES AS REQUIRED TO PREVENT FLOTATION BASED ON HIGH GROUND WATER TABLE ELEVATIONS AS DETERMINED USING ACCEPTED ENGINEERING PRACTICES AND/OR APPROVED BY PUBLIC WORKS DEPT.
40. SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO AND APPROVED BY THE DESIGN ENGINEER PRIOR TO INSTALLATION WITH TWO COPIES FORWARDED BY THE DESIGN ENGINEER TO THE CITY.
41. NO BUG HOLES OR HONEYCOMB WILL BE ACCEPTED.
42. ALL SANITARY SEWER MANHOLES SHALL HAVE ALL INTERIOR SURFACES COATED WITH THREE (3) COATS OF WHITE/GRAY OVER RED OVER BLACK EW-1 EPOXY PAINT WITH A TOTAL OF 12 MILS THICKNESS OR BLACK COAL-TAR EPOXY WITH A TOTAL OF 16 MILS THICKNESS. OUTSIDE SURFACE TO BE COATED WITH TWO (2) COATS OF BLACK OVER BLACK EW-1 EPOXY PAINT WITH A TOTAL OF 8 MILS AND ONE (1) COAT OF BLACK COAL-TAR EPOXY WITH A TOTAL OF 8 MILS. ALL COATS SHALL BE APPLIED AT THE FACTORY EXCEPT MINOR FIELD TOUCH UP AT JOINTS AND AT MANHOLE NECK.

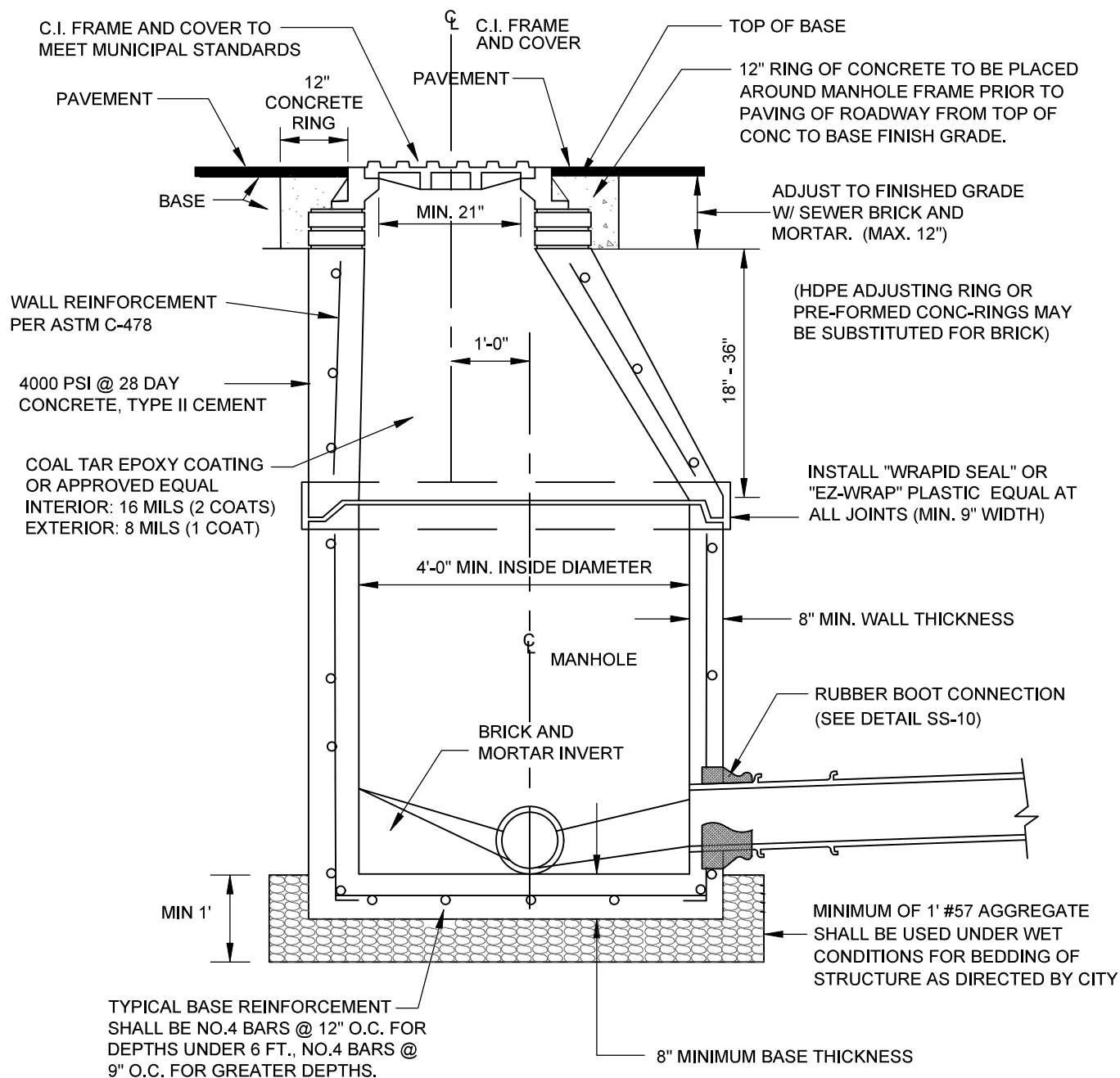


CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER CONSTRUCTION NOTES

DATE
02/2020

DETAIL NUMBER
SS-2.4



NOTES:

1. ON TRANSITIONS BETWEEN LARGER DIAMETER AND SMALLER SEWER COLLECTORS, THE TOP OF THE INSIDE OF THE TWO SEWER PIPES SHALL BE MATCHED.
2. NON-PENETRATING PICK-HOLES IN ALL CONCRETE SECTIONS.
3. USE FARBERTITE BITUMASTIC SEALER BETWEEN SECTIONS OF MANHOLES.
4. 0.1' - DROP ACROSS MANHOLE (TYPICAL).
5. MAXIMUM DEPTH NOT TO EXCEED 15.0 FEET MEASURED FROM MANHOLE TOP TO INSIDE BOTTOM.

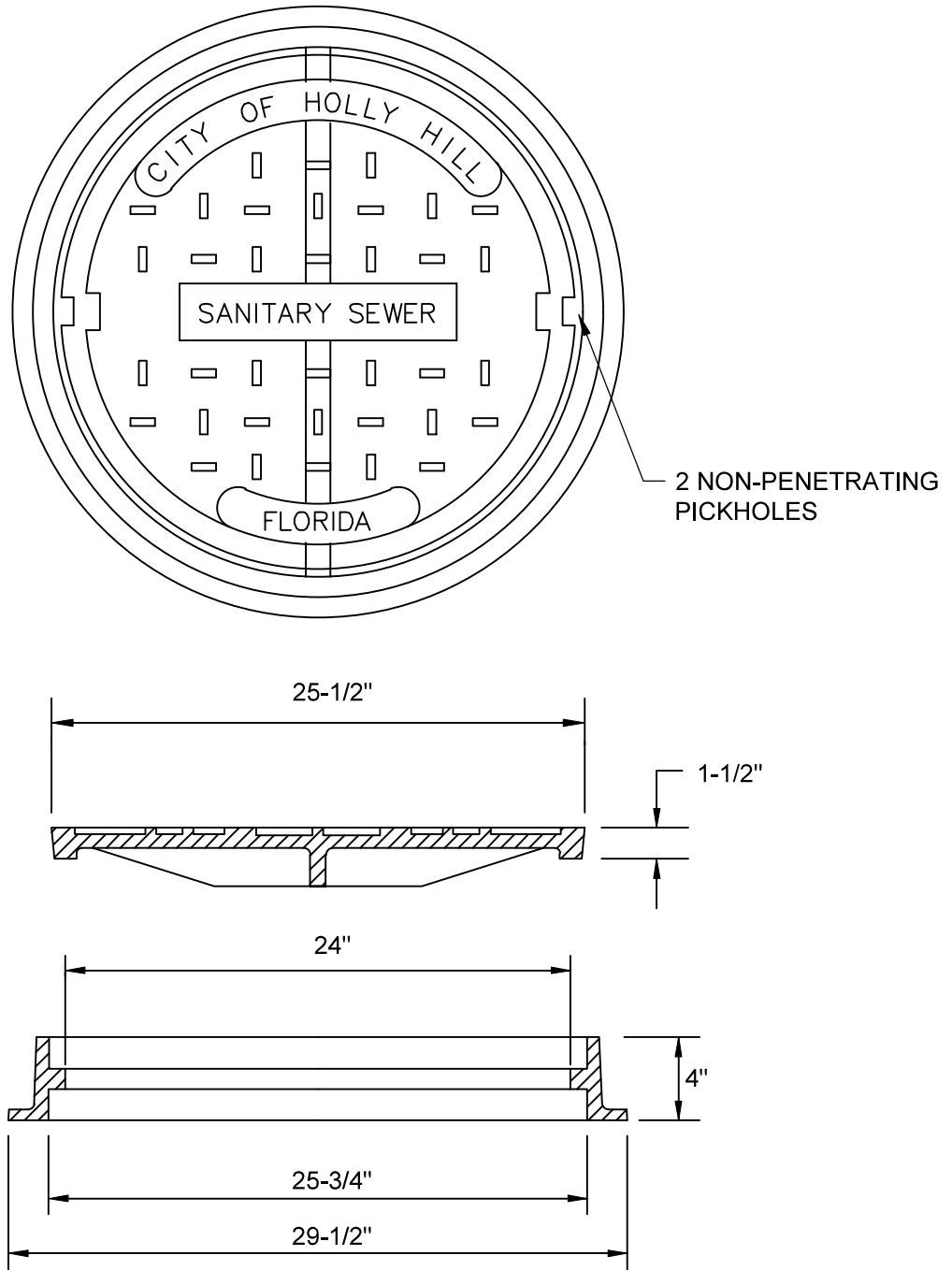


CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER STANDARD MANHOLE

DATE
02/2020

DETAIL NUMBER
SS-3



NOTES:

1. MATERIAL: ASTM-A48 CLASS 35B GRAY IRON
2. RING WT.: 85 LBS. APP
3. COVER WT.: 120 LBS. APP



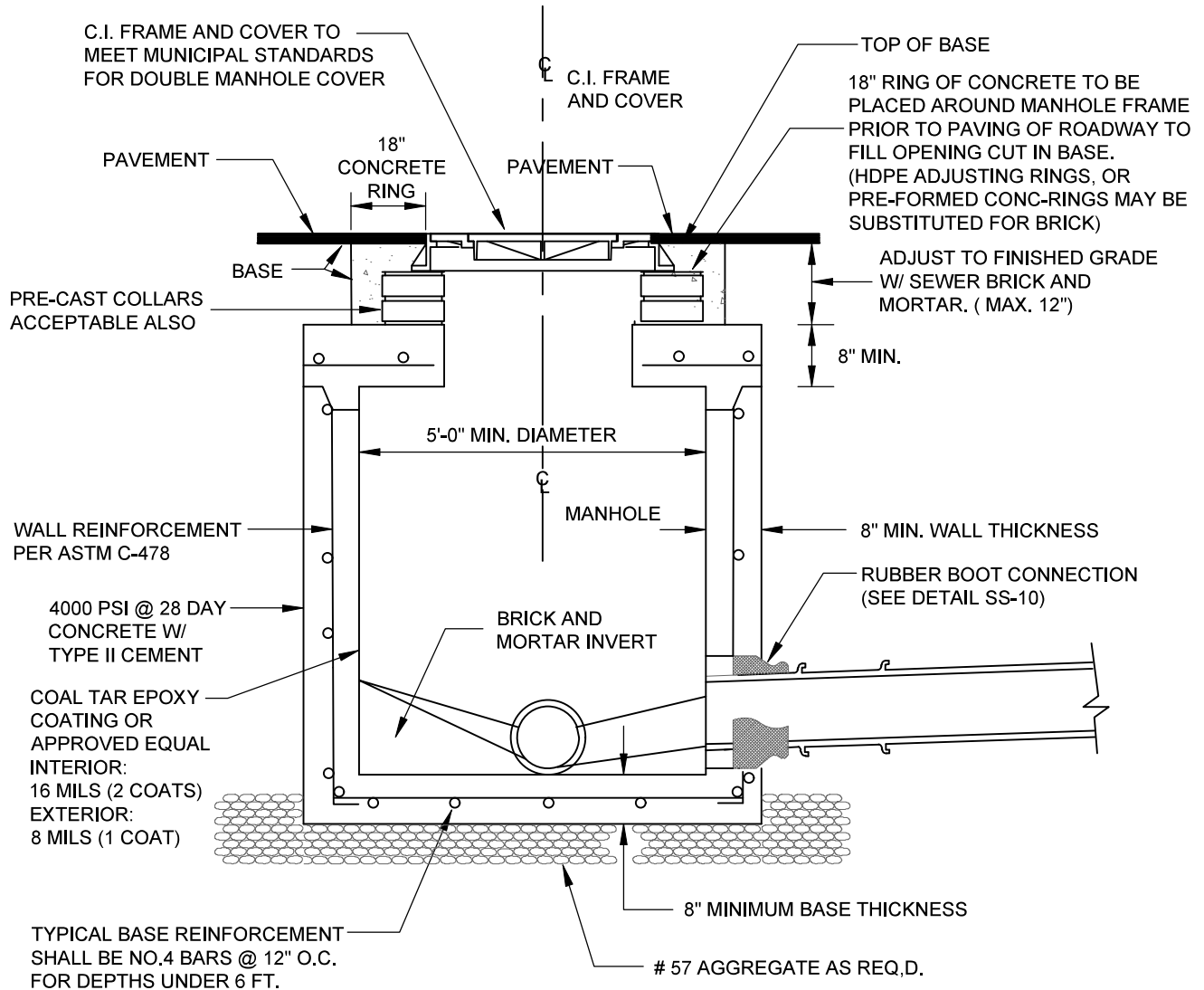
CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

**SANITARY SEWER
MANHOLE COVER**

DATE
02/2020

DETAIL NUMBER

SS-4



SECTION - SHALLOW MANHOLE
USE FOR MANHOLES OF 5'-0" OR LESS IN DEPTH

NOTES:

1. INSTALL EZ-WRAP PLASTIC OR EQUAL AT ALL JOINTS (MIN. 9" WIDTH).
2. NON-PENETRATING PICK-HOLES IN ALL CONCRETE SECTIONS.
3. USE FARBERTITE BITUMASTIC SEALER BETWEEN SECTIONS OF MANHOLE.

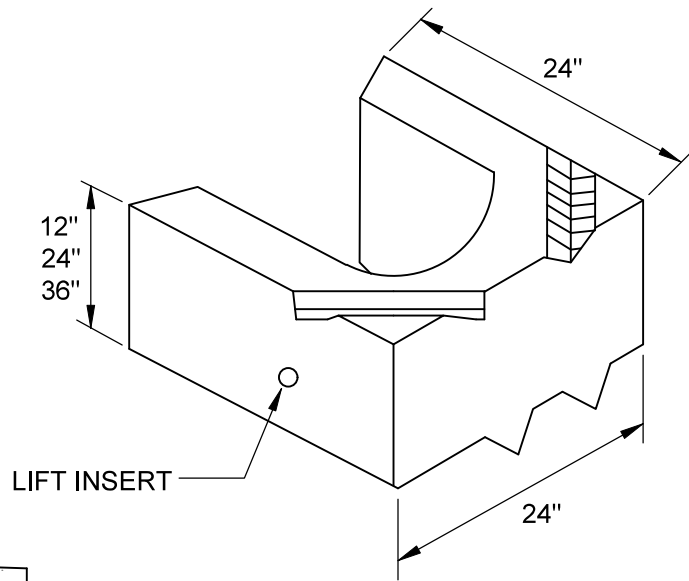


CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

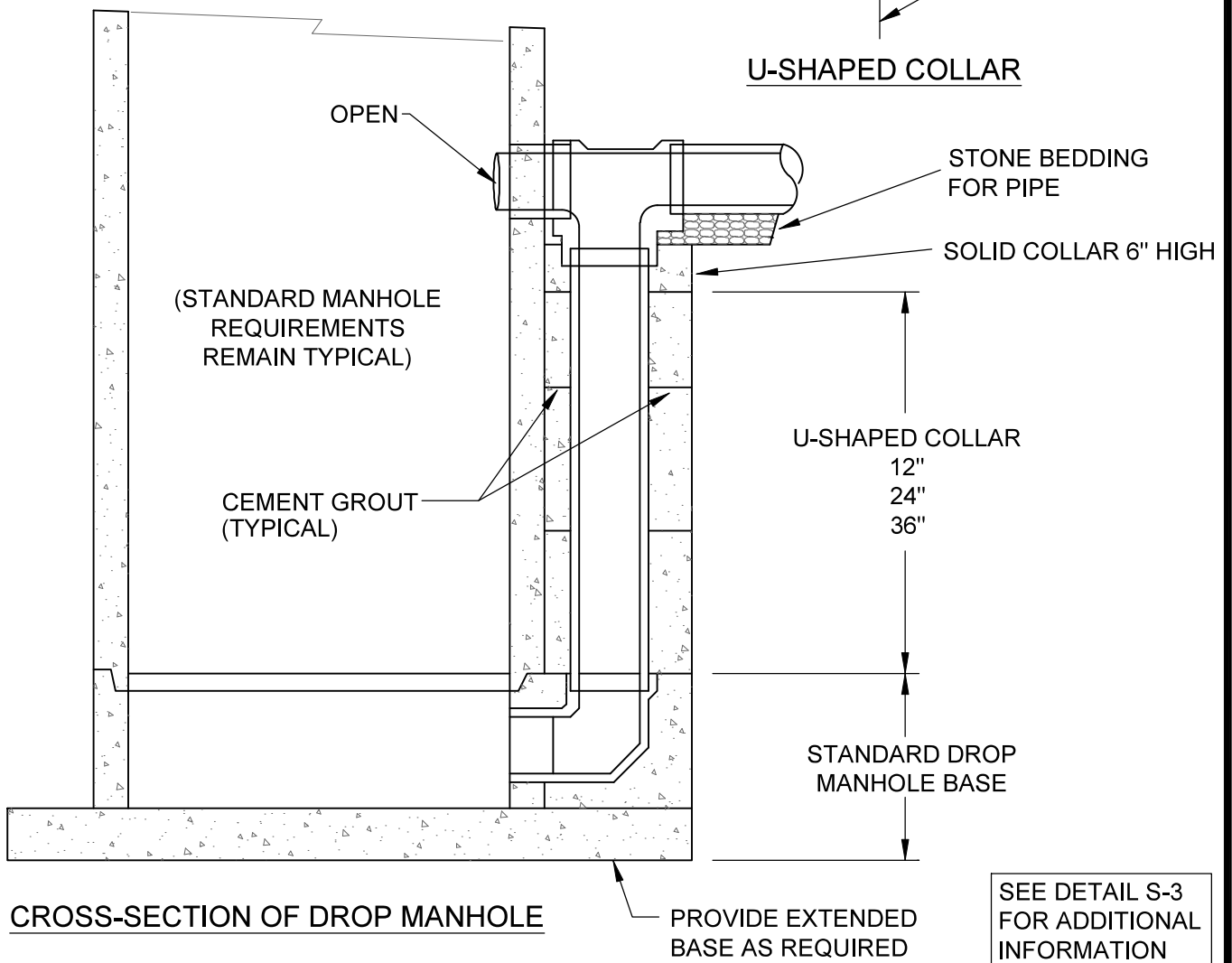
**SANITARY SEWER
SHALLOW MANHOLE**

DATE
02/2020

DETAIL NUMBER
SS-5



U-SHAPED COLLAR



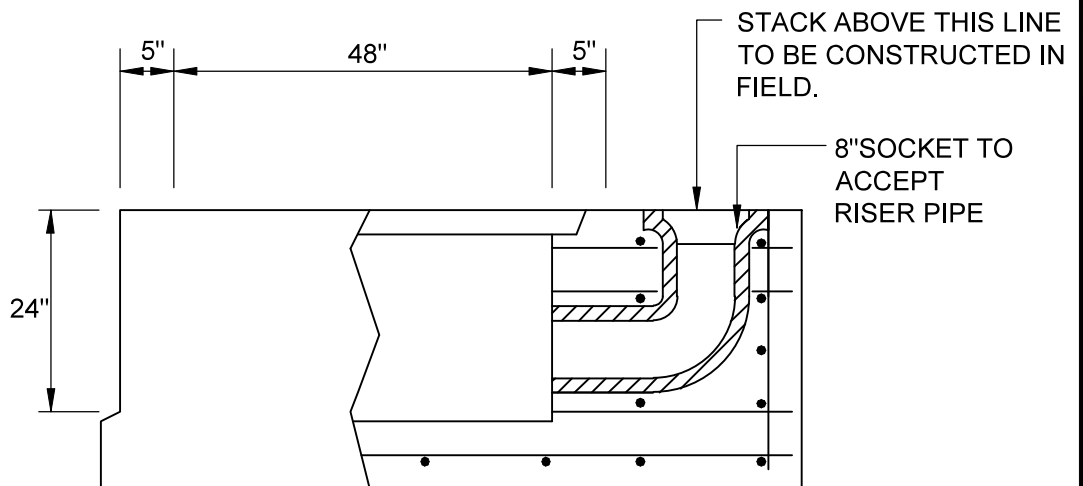
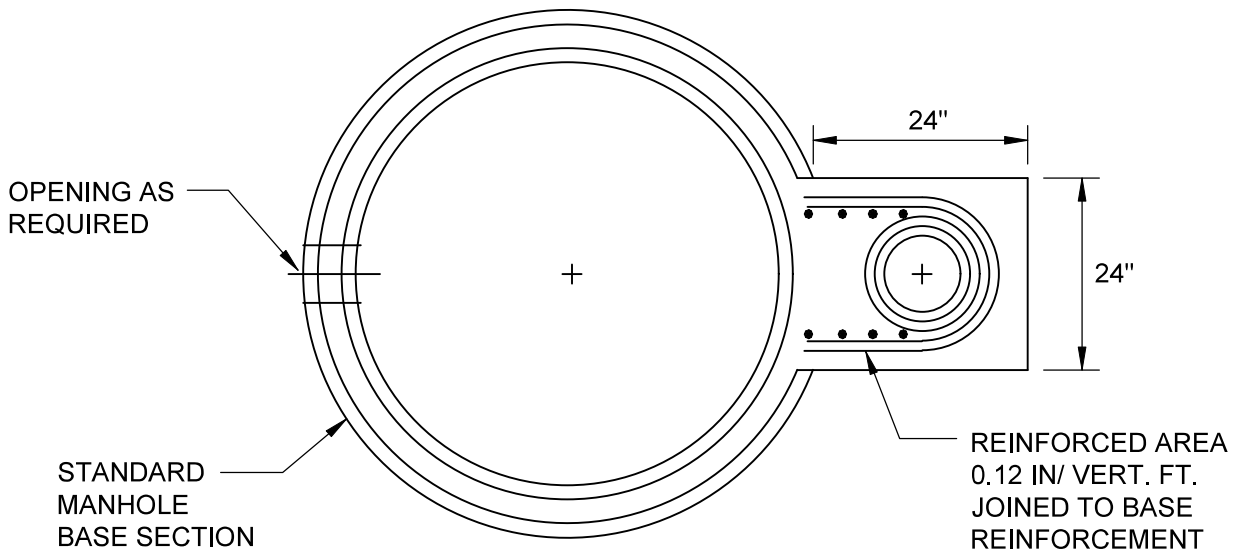
SEE DETAIL S-3
FOR ADDITIONAL
INFORMATION



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS
OUTSIDE DROP MANHOLE
(STANDARD NEW CONSTRUCTION)

DATE
02/2020

DETAIL NUMBER
SS-6



MANHOLE BASE WITH PRECAST DROP

NOTE:

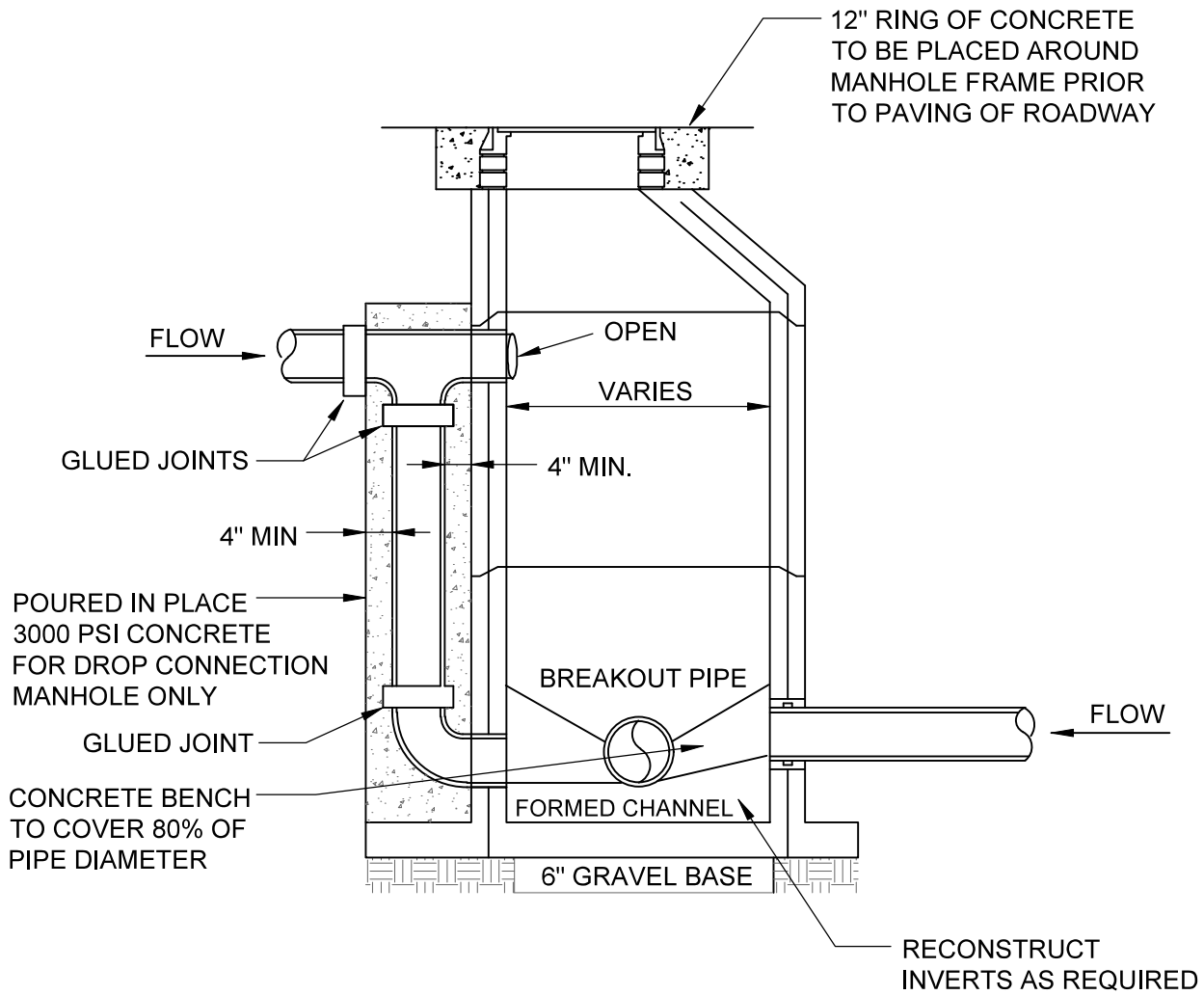
1. MANHOLE DESIGN SPECIFICATIONS CONFORM TO PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS
**OUTSIDE DROP MANHOLE
(STANDARD)**

DATE
02/2020

DETAIL NUMBER
SS-7



FOR SPECIAL CONDITIONS
(RETROFIT ONLY)

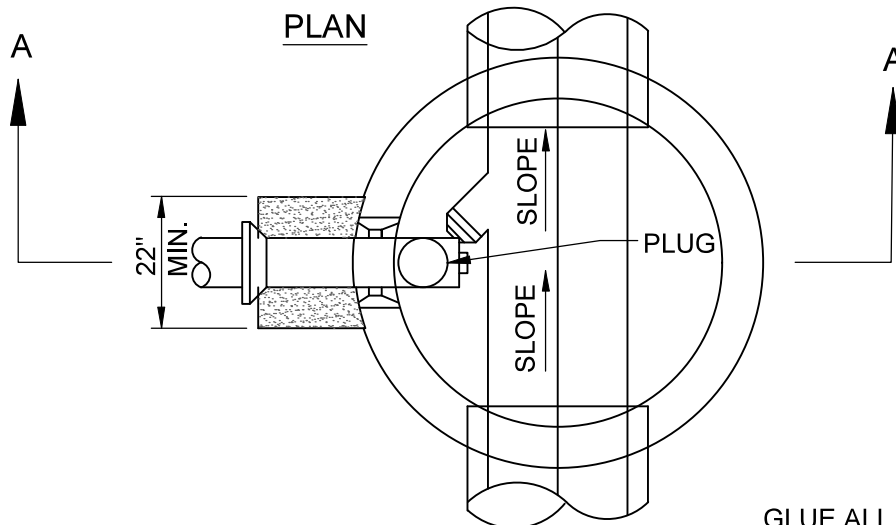
SEE DETAIL SS-3
 FOR ADDITIONAL
 INFORMATION



CITY OF HOLLY HILL, FLORIDA
 STANDARD CONSTRUCTION DETAILS
OUTSIDE DROP MANHOLE
(RETROFIT ONLY)

DATE
 02/2020

DETAIL NUMBER
SS-8



GLUE ALL JOINTS INTERNAL TO MANHOLE AS REQUIRED

SECTION A-A

INSPECTION REQUIRED PRIOR TO BACK-FILLING

THE CORED HOLE SHALL NOT BE AT MANHOLE JOINT

WRAP PIPE WITH VISQUEEN

PVC GRAVITY SEWER

LAY PIPE TO UNDISTURBED SOIL

FILL EXCAVATED SPACE OUTSIDE MANHOLE AND PIPE WITH 3000 PSI CONCRETE FOR A WIDTH OF 6" EACH SIDE OF PIPE BUT NOT LESS THAN A TOTAL MINIMUM WIDTH OF 22"

ELBOW EMBEDDED IN CONC. @ 45° W/ SEWER FLOW

CONC. BENCH TO COVER 80% OF MAINLINE PIPE DIAMETER

RUBBER BOOTS REQUIRED

OPEN

TEE

5'-0" (MIN.)

MATCH OVERTS

DROP CONNECTION PIPE AND FITTINGS TO BE SAME MATERIAL AS LATERAL

CLAMPS TO BE 1-1/2"x12" STAINLESS STEEL, ANCHORED TO MANHOLE WALL WITH 2-1/2"x1/2" S.S. BOLTS (2' O.C.)

EITHER PLASTIC OR P.T. WOOD BLOCK SPACERS MIDWAY BETWEEN CLAMPS

PIPE TO BE PLACED AS CLOSE AS POSSIBLE TO MANHOLE WALL AND TO BE SECURED TO THE WALL WITH STAINLESS STEEL CLAMPS

FOR SPECIAL CONDITIONS (RETROFIT ONLY)

NOTES:

1. ALL INSIDE PIPING TO BE P.V.C.
2. USE FARBERTITE BITUMASTIC SEALER BETWEEN MANHOLE SECTIONS.
3. PRE-FABRICATED INSIDE DROP ASSEMBLIES ARE ACCEPTABLE ALTERNATES, (RELINER - DURAN OR ENGINEER APPROVED EQUAL).

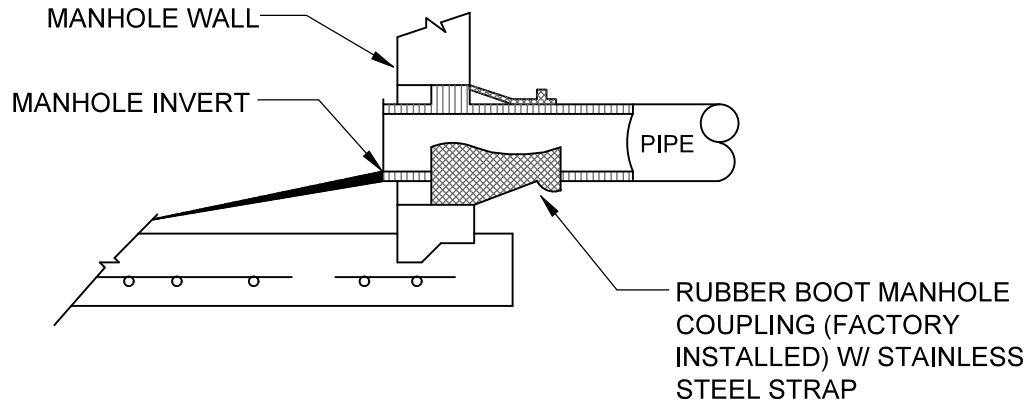
SEE DETAIL SS-3 FOR ADDITIONAL INFORMATION



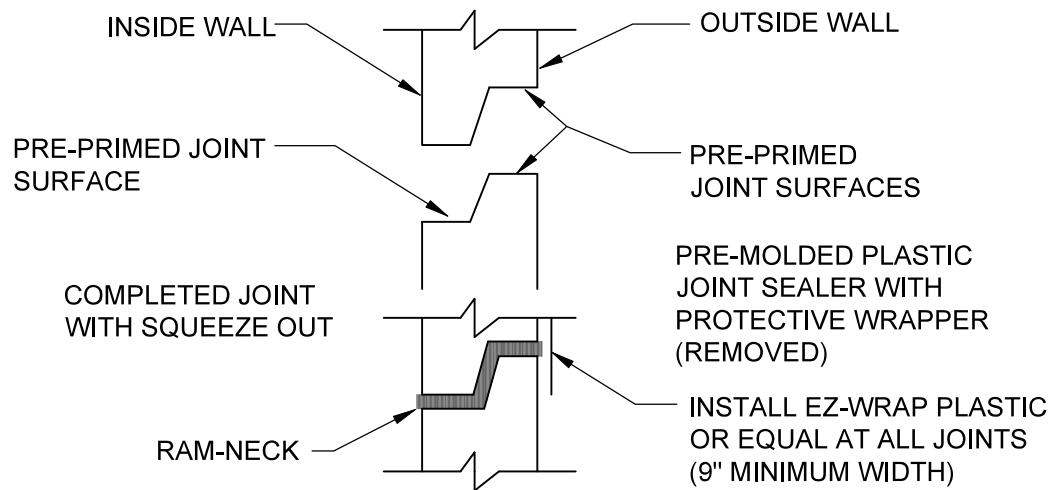
CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS
INSIDE DROP MANHOLE
(RETROFIT ONLY)

DATE
02/2020

DETAIL NUMBER
SS-9



MANHOLE PIPE CONNECTION
(FOR NEW CONNECTIONS IN EXISTING MANHOLES)



PRECAST JOINT CONNECTION

NOTE:

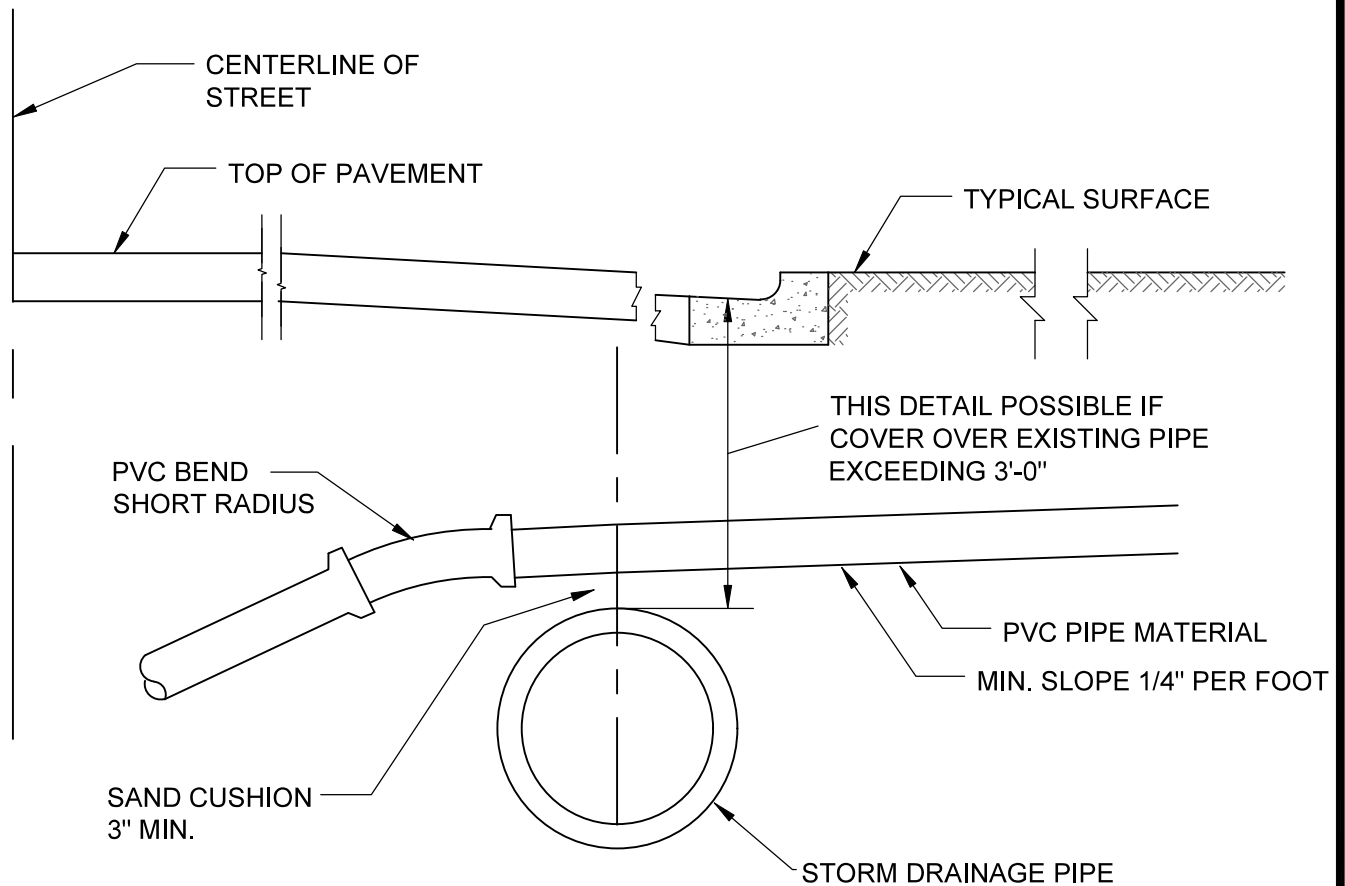
1. ALL NEW CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES SHALL UTILIZE A CORING METHOD AND THE IN-FIELD INSTALLATION OF A RUBBER BOOT INTO THE MANHOLE.



CITY OF HOLLY HILL, FLORIDA
 STANDARD CONSTRUCTION DETAILS
**RUBBER BOOT AND PRECAST JOINT
 CONNECTION**

DATE
02/2020

DETAIL NUMBER
SS-10



ALTERNATE GRADIENT FOR HOUSE SERVICE SEWERS
AT CONFLICTS WITH EXISTING STORM SEWERS
AND OTHER EXISTING CONDUITS

NOTE:

1. APPROVED PIPE MATERIALS: PVC (SDR 26)

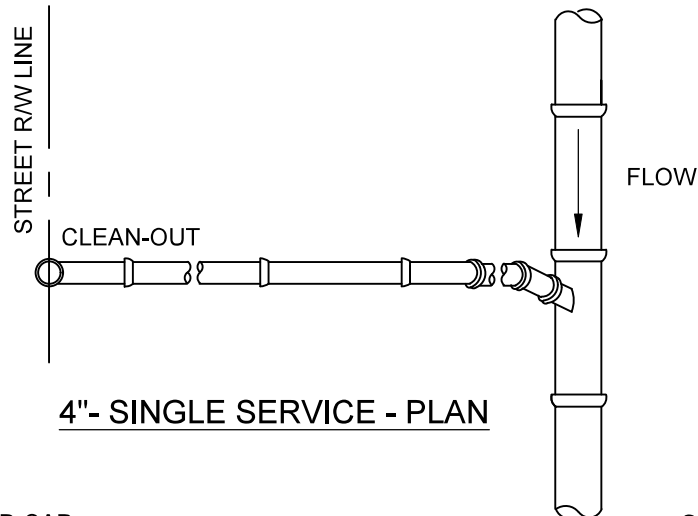


CITY OF HOLLY HILL, FLORIDA
 STANDARD CONSTRUCTION DETAILS

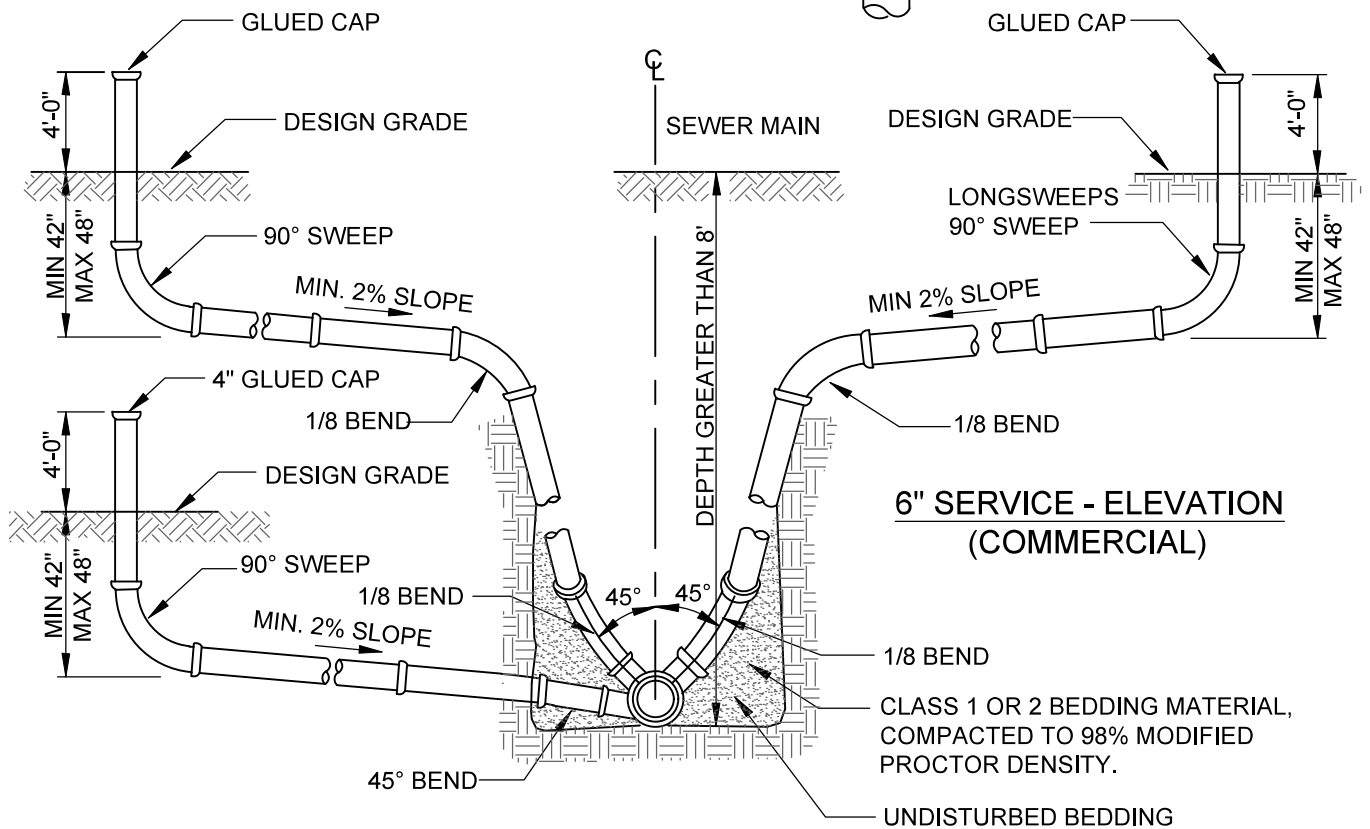
**STORM DRAINAGE CROSSING / SANITARY
 SEWER LATERAL PIPE CROSSING**

DATE
 02/2020

DETAIL NUMBER
SS-11



4" - SINGLE SERVICE - PLAN



4" - 6" SINGLE SERVICE - ELEVATION

NOTES:

1. USE OF STYRENE MATERIAL WILL NOT BE PERMITTED.
2. ALL JOINTS TO BE RUBBER GASKET (NO GLUED FITTINGS) TYPICAL.
3. USE ALL HARCO SDR-26 FITTINGS OR CITY APPROVED EQUAL.
4. APPROVED EQUAL IS MULTI FITTINGS 8"x6" OR 8"x4" T-WYE AND 8"x6" OR 8"x4" WYE WITH A DATE STAMP.

**4" - RESIDENTIAL
6" - COMMERCIAL**

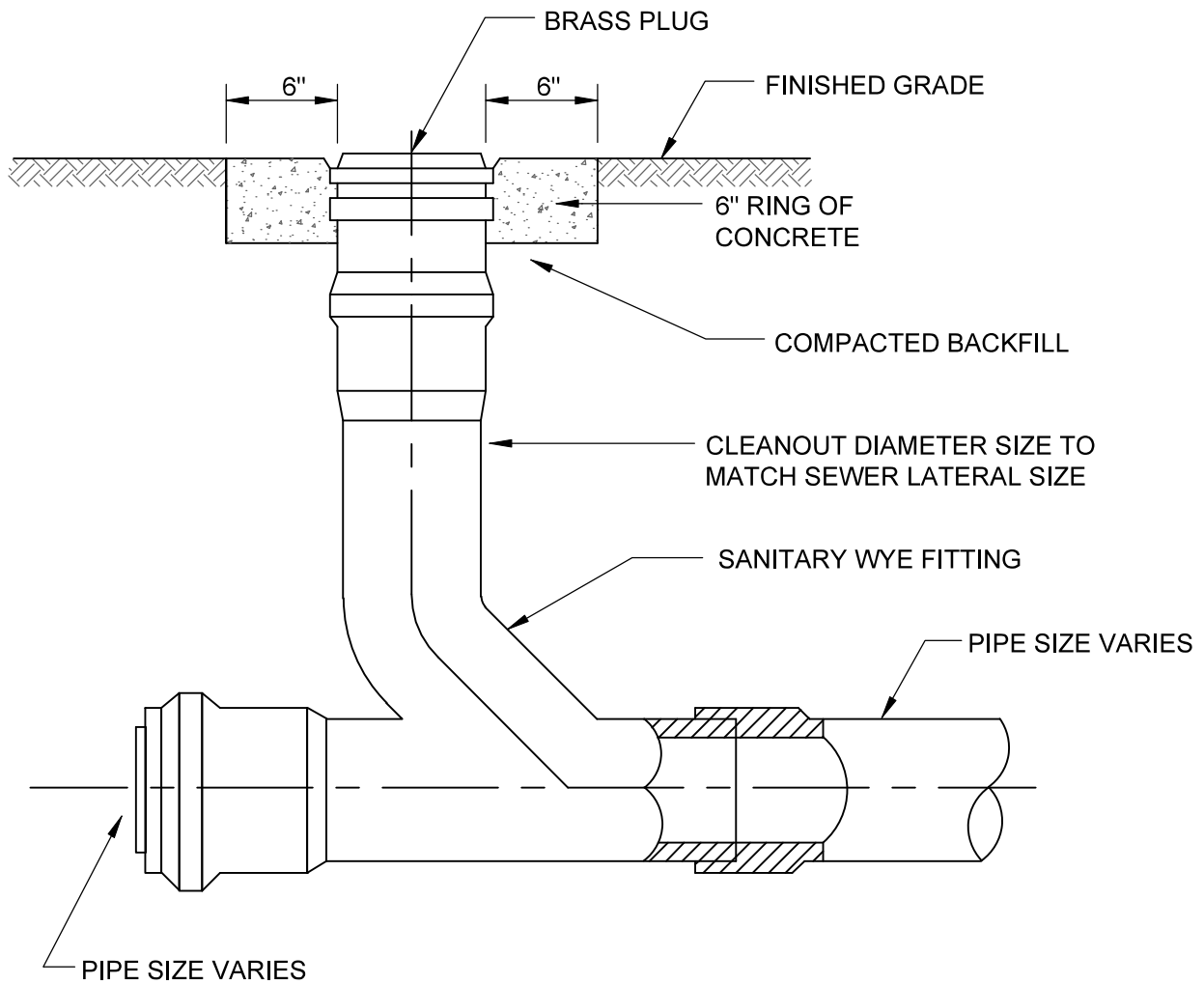


CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

**SANITARY SEWER
SERVICE LATERAL**

DATE
02/2020

DETAIL NUMBER
SS-12



NOTE:

1. CLEANOUT SIZE SHOULD ALWAYS MATCH MAIN LINE SIZE TO ALLOW FOR PROPER CLEANING



CITY OF HOLLY HILL, FLORIDA
STANDARD CONSTRUCTION DETAILS

SANITARY SEWER CLEANOUT

DATE
02/2020

DETAIL NUMBER
SS-13