

DRAWING NO.

TITLE

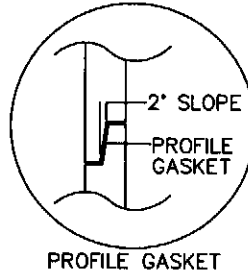
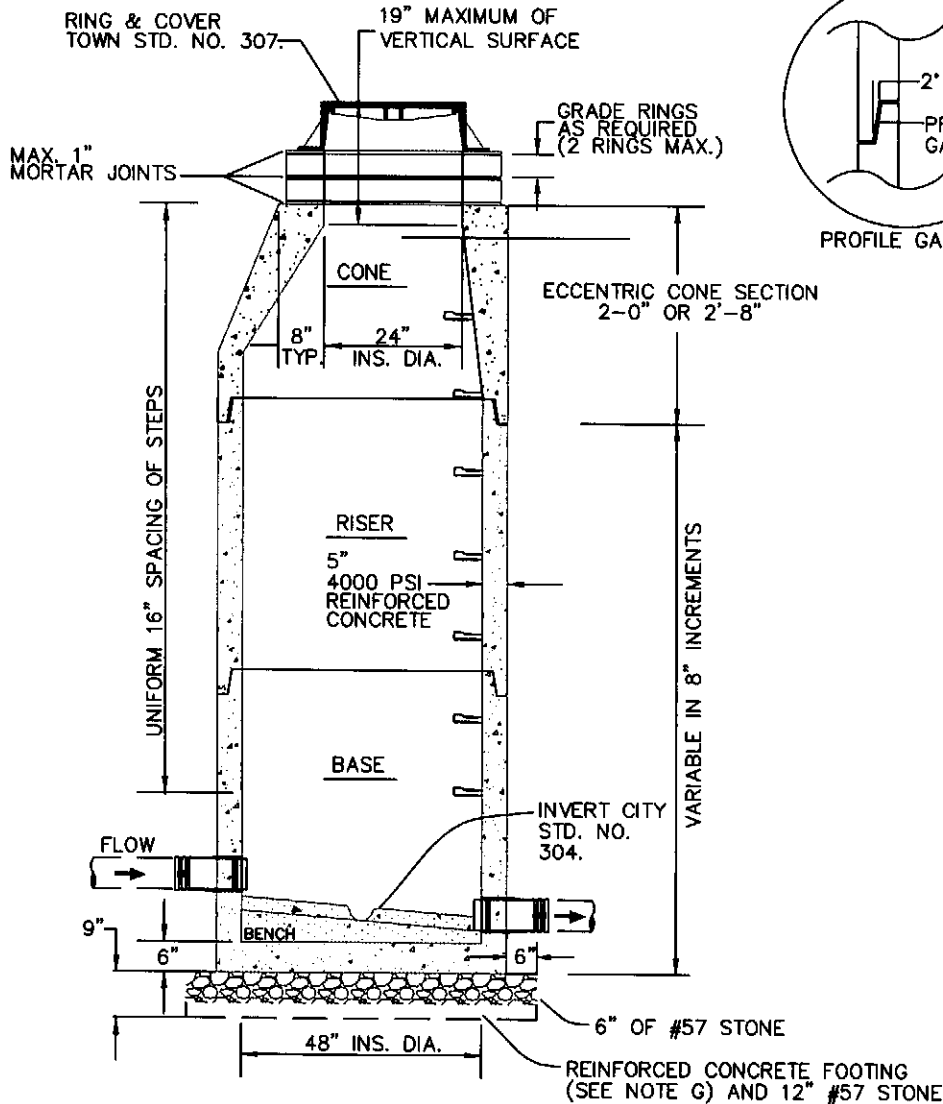
301.00	4' DIAMETER SANITARY MANHOLE FOR SANITARY SEWER MAINS LESS THAN 21"
302.00	5' DIAMETER SANITARY MANHOLE FOR SEWER MAINS GREATER THAN OR EQUAL TO 21"
303.00	MANHOLE STEPS FOR UTILITY AND STORM SEWER STRUCTURES
304.00	TYPICAL SANITARY MANHOLE INVERT FOR SANITARY SEWER MANHOLES
305.00	MANHOLE LIFT SECTION FOR PRECAST CONCRETE MANHOLES
307.00	UTILITY MANHOLE RING AND COVER FOR ROADWAY APPLICATIONS
308.00	OUTFALL MANHOLE LOCKABLE RING AND COVER, TYPE FT FOR USE IN WATERTIGHT OUTFALL MANHOLES
310.00	VENTED OUTFALL MANHOLE FOR 4' OR 5' SANITARY SEWER MANHOLES
311.00 (1 OF 2)	NON-VENTED OUTFALL MANHOLE FOR 4' OR 5' SANITARY SEWER MANHOLES
311.00 (1 OF 2)	NON-VENTED OUTFALL MANHOLE FOR 4' OR 5' SANITARY SEWER MANHOLES
312.00	"HORSESHOE" MANHOLE FOR PROPOSED MANHOLES BUILT OVER EXISTING LINES
314.00	OUTSIDE DROP MANHOLE FOR SANITARY SEWER
315.00	SANITARY MANHOLE ABOVE GROUND FOR USE IN CONJUNCTION WITH PIERS
320.00	SANITARY SEWER SERVICE (REHAB & NEW) FOR CIP LATERAL SERVICES
321.00	SANITARY SEWER SERVICE (NEW & REHAB) FOR PVC SCH. 40 SEWER LATERALS
322.00	SDR-26 PVC PIPE BEDDING & BACKFILL FOR DEPTHS RANGING FROM 3' - 24'
323.00 (1 OF 2)	V.C. PIPE BEDDING & MAXIMUM DEPTH OF COVER
323.00 (2 OF 2)	V.C. PIPE BEDDING & MAXIMUM DEPTH OF COVER



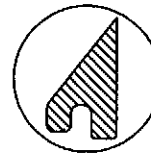
STANDARD DRAWING FOR
TABLE OF CONTENTS
 FOR SANITARY SEWER DRAWING TITLES

300.00

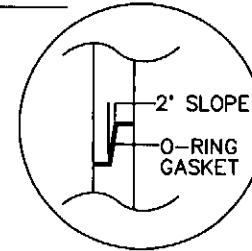
SHEET 1 OF 1



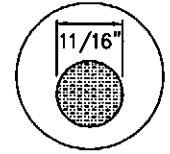
ENLARGED VIEW OF JOINTS



ENLARGED VIEW OF PROFILE GASKET ASTM C361



O-RING GASKET



ENLARGED VIEW OF O-RING GASKET ASTM C361

NOTES:

- A. ALL PRECAST SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF ASTM C-478 AND AASHTO M199. THE PRECAST CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.
- B. ALL MANHOLE STEPS SHALL CONFORM TO CITY STD. NO. 303. OR AN APPROVED EQUAL. STEPS SHALL BE INSTALLED IN LINE WITH THE EFFLUENT OPENING UNLESS OTHERWISE SPECIFIED.
- C. THE MANHOLE JOINTS SHALL BE SEALED BY A PROFILE GASKET, O-RING GASKET, OR BUTYL RUBBER SEALANT. THE PROFILE GASKET OR THE O-RING GASKET SHALL MEET ASTM C-361. THE BUTYL RUBBER SEALANT SHALL BE 1" SQUARE AND SHALL CONFORM TO ASTM C-990 AND AASHTO M-198.
- D. THE LIFT INSERT AND HOLES SHALL BE ACCORDING TO STANDARD 305. ALL LIFT HOLES SHALL BE COMPLETELY FILLED WITH NON-SHRINK GROUT AFTER MH INSTALLATION.
- E. THE MAXIMUM NUMBER OF SEWER SERVICES ALLOWED IN A MANHOLE SHALL BE THREE (3).
- F. A REINFORCED CONCRETE FOOTING IS REQUIRED WHEN THE MANHOLE IS OVER 12' OR ON A POOR SOIL BASE. THE REINFORCED CONCRETE FOOTING MAY BE POURED OR PRECAST ACCORDING TO CURRENT NCDOT STD. NO 1525.01 SHEET 2 OF 2. THE CONTRACTOR HAS THE OPTION OF PROVIDING AN EXPANDED MANHOLE BASE SECTION AND SETTING THE BASE SECTION ON 12" MIN. #57 STONE WITH NO EXTRA COST TO THE CITY.
- G. ALL JOINTS ON OUTSIDE OF MANHOLE AND OUTSIDE JOINT AT TOP OF CONE SHALL BE WRAPPED WITH 6" MIN. WIDTH BUTYL ADHESIVE TAPE.

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JAMESTOWN
NORTH CAROLINA

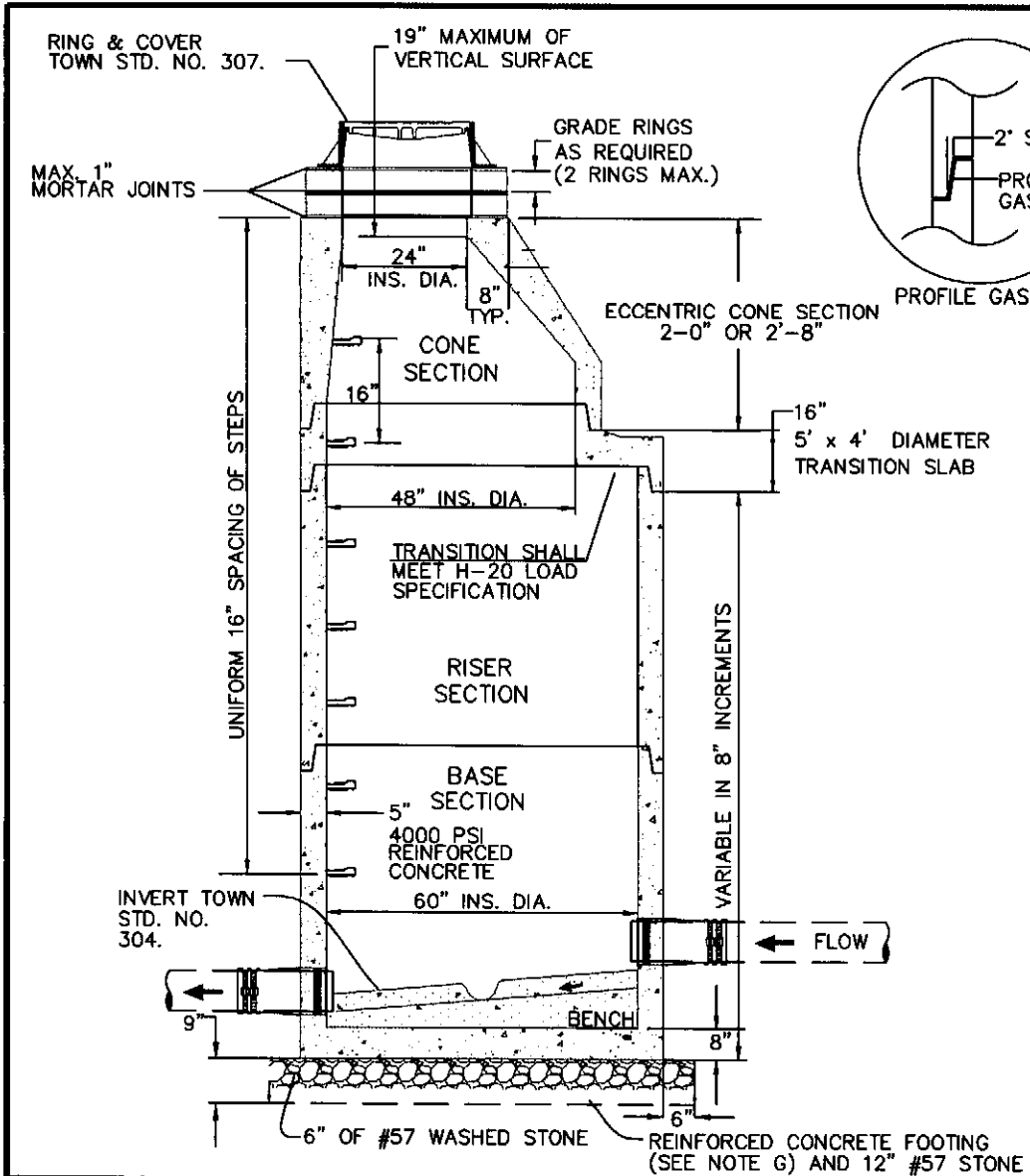
APPROVED MAY 19 2009

REVISIONS

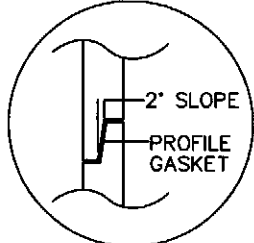
STANDARD DRAWING FOR
4' DIAMETER SANITARY MANHOLE
FOR SANITARY SEWER MAINS LESS THAN 21"

301.00

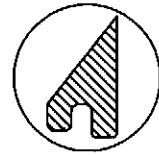
SHEET 1 OF 1



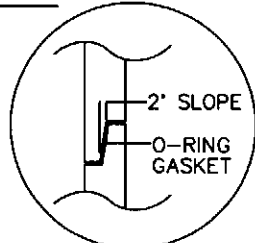
ENLARGED VIEW OF JOINTS



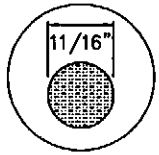
PROFILE GASKET



ENLARGED VIEW OF PROFILE GASKET ASTM C361



O-RING GASKET



ENLARGED VIEW OF O-RING GASKET ASTM C361

NOTES:

- A. ALL PRECAST SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF ASTM C-478 AND AASHTO M199. THE PRECAST CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.
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- D. THE LIFT INSERT AND HOLES SHALL BE ACCORDING TO CITY STD. NO. 305. ALL LIFT HOLES SHALL BE COMPLETELY FILLED WITH NON-SHRINK GROUT AFTER MH INSTALLATION.
- E. THE MAXIMUM NUMBER OF SEWER SERVICES ALLOWED IN A MANHOLE SHALL BE THREE (3).
- F. A REINFORCED CONCRETE FOOTING IS REQUIRED WHEN THE MANHOLE IS OVER 12' OR ON A POOR SOIL BASE. THE REINFORCED CONCRETE FOOTING MAY BE POURED OR PRECAST ACCORDING TO CURRENT NCDOT STD. NO 1525.01 SHEET 2 OF 2. THE CONTRACTOR HAS THE OPTION OF PROVIDING AN EXPANDED MANHOLE BASE SECTION AND SETTING THE BASE SECTION ON 12" MIN. #57 STONE WITH NO EXTRA COST TO THE CITY.
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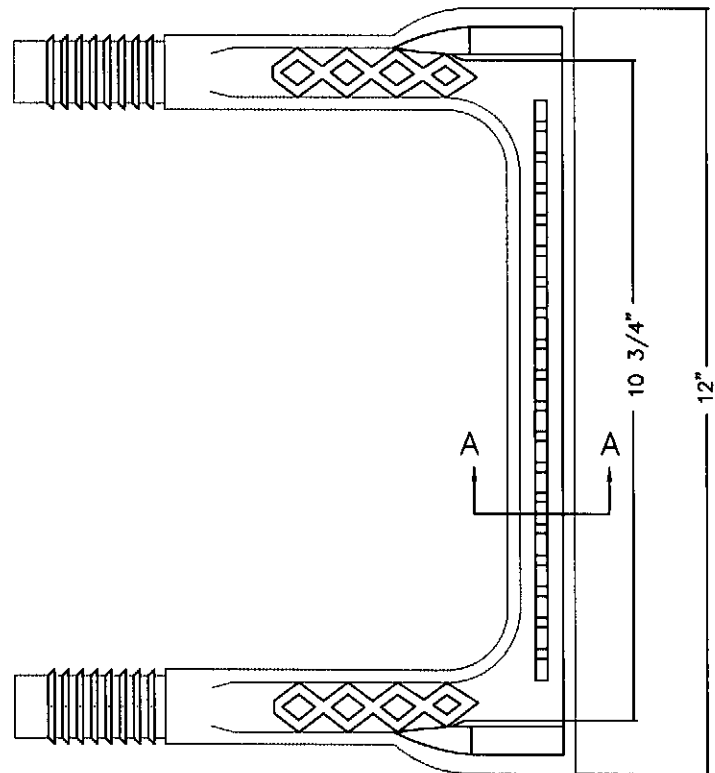
APPROVED MAY 19 2009

REVISIONS

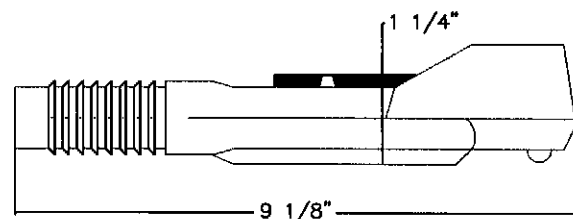
STANDARD DRAWING FOR
5' DIAMETER SANITARY MANHOLE
 FOR SEWER MAINS GREATER THAN OR EQUAL TO 21"

302.00

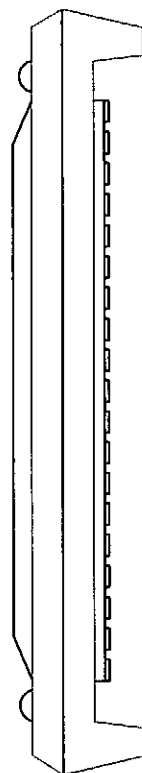
SHEET 1 OF 1



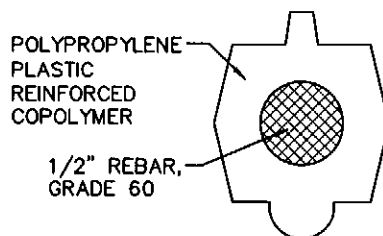
STEP TOP VIEW DETAIL



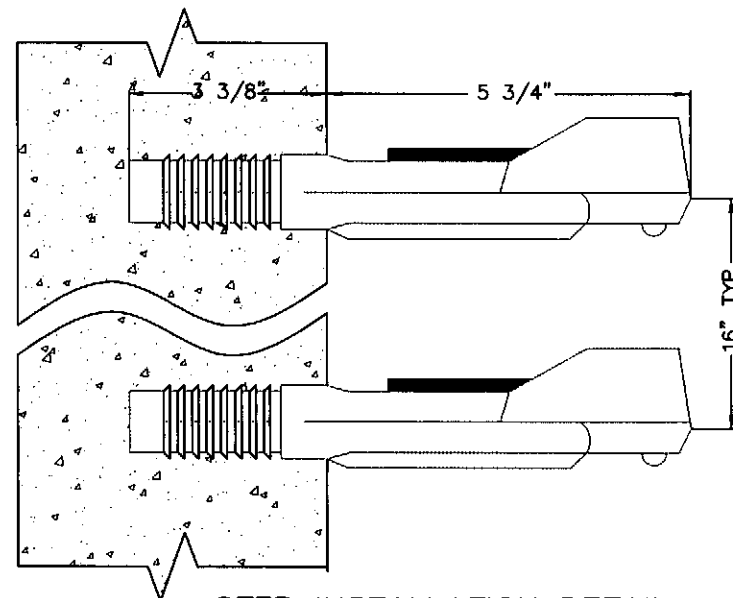
STEP SIDE VIEW DETAIL



STEP END VIEW DETAIL



SECTION A-A



STEP INSTALLATION DETAIL

NOTES:

1. STEP DESIGN, INSTALLATION, AND MATERIAL SHALL MEET THE REQUIREMENTS OF ASTM C478 AND NCDOT SECTION 1074-8.
2. PLASTIC MATERIAL CONSISTS OF SUPER HIGH IMPACT RESISTANT COPOLYMER POLYPROPYLENE AND SHALL CONFORM TO SPECIFIC REQUIREMENTS DETAILED IN ASTM D4101.
3. REINFORCING STEEL SHALL BE 1/2" REBAR, GRADE 60 AND MEET THE REQUIREMENTS OF ASTM A615.
4. STEP WIDTH AND SPACING SHALL BE CONSISTENT WITH THE LATEST REQUIREMENTS OF OSHA.
5. THE UPPER SURFACE OF EACH STEP SHALL HAVE A TRACTION TREAD AND GUIDE LUGS ON EACH EDGE TO PREVENT THE FOOT FROM SLIPPING OFF.
6. STEPS SHALL BE MANUFACTURED BY M.A. INDUSTRIES, INC OR APPROVED EQUAL.

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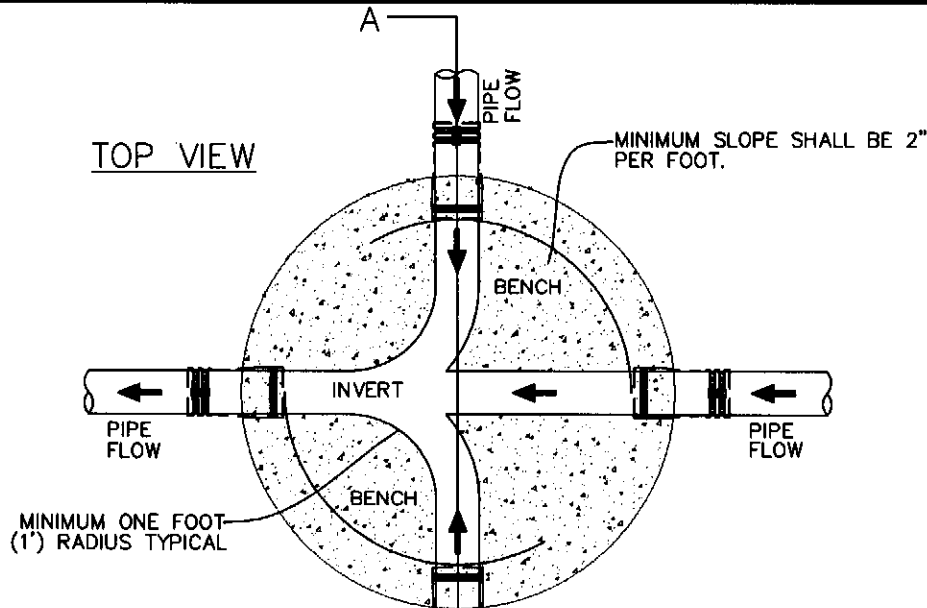
REVISIONS	

STANDARD DRAWING FOR
MANHOLE STEPS
 FOR UTILITY AND STORM SEWER STRUCTURES

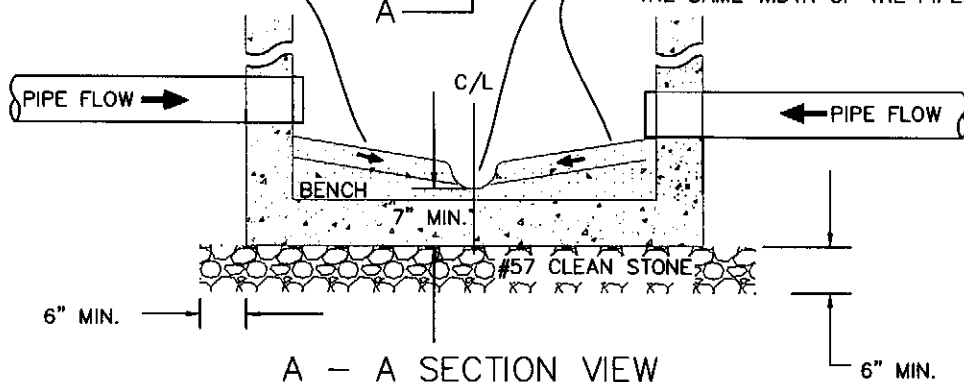
303.00

SHEET 1 OF 1

TOP VIEW



1:1 MAXIMUM SLOPE
WITH A MAXIMUM
VERTICAL CHANGE OF 20"



A - A SECTION VIEW

NOTES:

- A. OUTFALL SEWER MANHOLES- THE DEPTH OF THE INVERT SHALL BE A MINIMUM OF 75 % OF THE PIPE DIAMETER AND A MAXIMUM OF 100% OF THE PIPE DIAMETER.
- B. THE TYPICAL SLOPE OF THE BENCH SHALL BE 2" PER FOOT.
- C. THE MATERIAL USED FOR THE BENCH SHALL BE 3000 PSI CONCRETE OR BRICK AND MORTAR MIX. PRECAST INVERTS ARE ENCOURAGED.
- D. THE MAXIMUM NUMBER OF SEWER SERVICES ALLOWED IN A MANHOLE SHALL BE THREE (3).
- E. THE INVERT FOR A SERVICE MUST BE A MINIMUM OF (1/2") ABOVE THE BENCH AREA.
- F. A DROP MANHOLE IS REQUIRED WHEN THE DISTANCE BETWEEN THE MANHOLE INVERT AND PIPE INVERT EXCEEDS 2.5 FEET.
- G. BOOTS SHALL BE REQUIRED FOR ALL SEWER SERVICES AND MAINS ENTERING THE MANHOLE.
- H. MOOR-BASE INVERTS ARE NOT ALLOWED.

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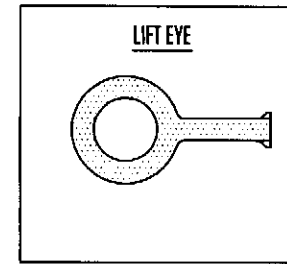
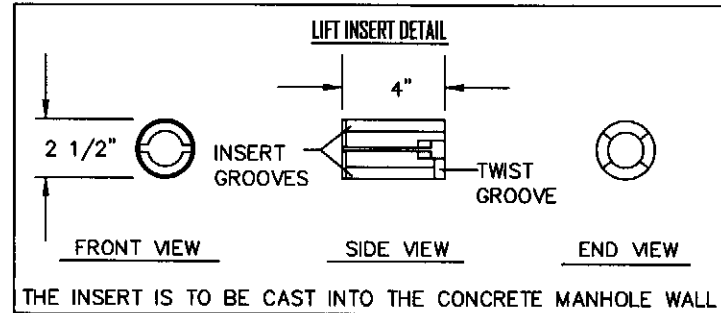
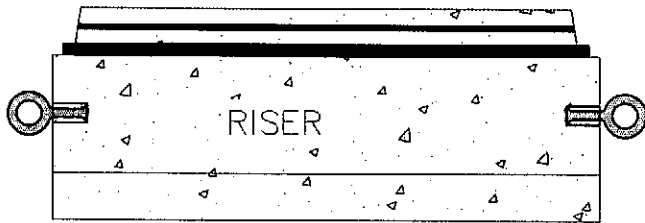
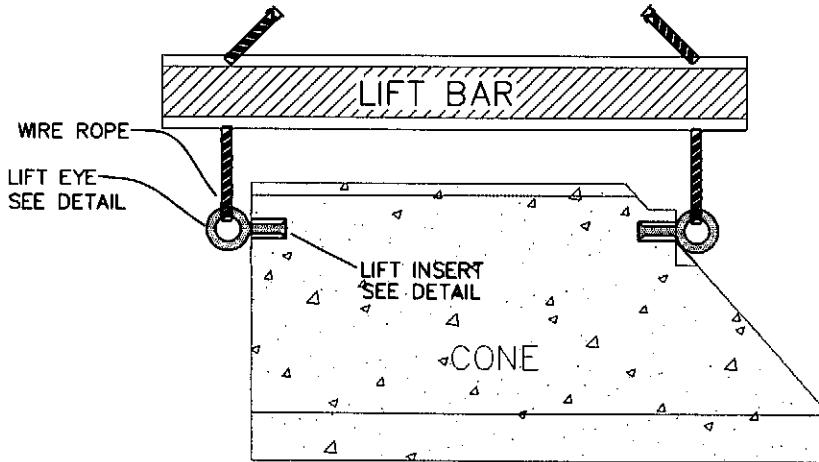
REVISIONS

STANDARD DRAWING FOR
TYPICAL SANITARY MANHOLE INVERT
FOR SANITARY SEWER MANHOLES

304.00

SHEET 1 OF 1

LIFT ASSEMBLY



NOTES:

- A. ALL STANDARD SEWER MANHOLE SECTIONS SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM C478.
- B. ALL LIFT ASSEMBLY CASTINGS SHALL BE MADE OF CAST OR FORGED STEEL AND RATED TO LIFT THE SECTION.
- C. THE INSERT SHALL BE MADE OF BONDED IMPACT STYRENE, ABS PLASTIC, OR APPROVED ALTERNATIVE.
- D. THE LIFT BAR AND ALL ACCOMPANYING EQUIPMENT SHALL MEET OR EXCEED ALL ASTM AND OSHA REQUIREMENTS FOR SAFETY AND PERFORMANCE.
- E. LIFT INSERTS AND HOLES SHALL BE SIZED FOR A PRECISION FIT WITH THE LIFT DEVICES, AND SHALL COMPLY WITH OSHA 1926.704, AND SHALL NOT PENETRATE THROUGH THE MANHOLE WALL.
- F. LIFT INSERTS AND HOLES SHALL BE SEALED WITH NON-SHRINK GROUT PRIOR TO BACKFILLING.
- G. LIFT INSERTS SHALL BE MANUFACTURED BY PRESS SEAL GASKET CORP., M.A. INDUSTRIES, INC, OR APPROVED EQUAL.

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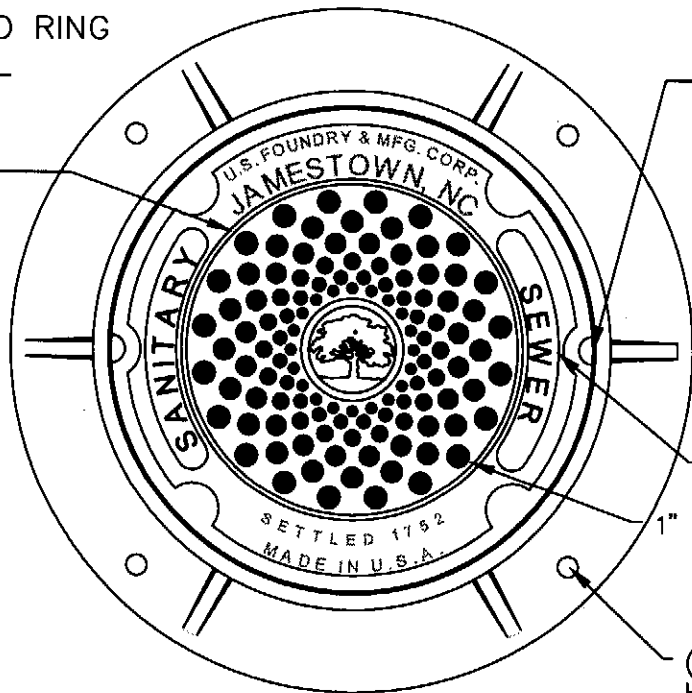
STANDARD DRAWING FOR
MANHOLE LIFT SECTION
FOR PRECAST CONCRETE MANHOLES

305.00

SHEET 1 OF 1

COVER AND RING
TOP DETAIL

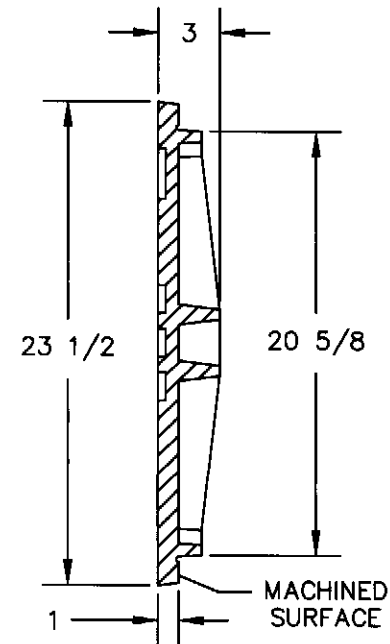
1" VENT HOLE
AS REQUIRED



2 NON-PENETRATING
PICK-HOLES

COVER MUST DENOTE
TYPE OF UTILITY
1" VENT HOLE AS REQUIRED

(4)-Ø1" ANCHOR
HOLES @ 90° OC



CROSS SECTION COVER DETAIL

NOTES:

A. MINIMUM AVERAGE WEIGHT:

COVER 125 LBS.

FRAME 190 LBS.

UNIT 315 LBS.

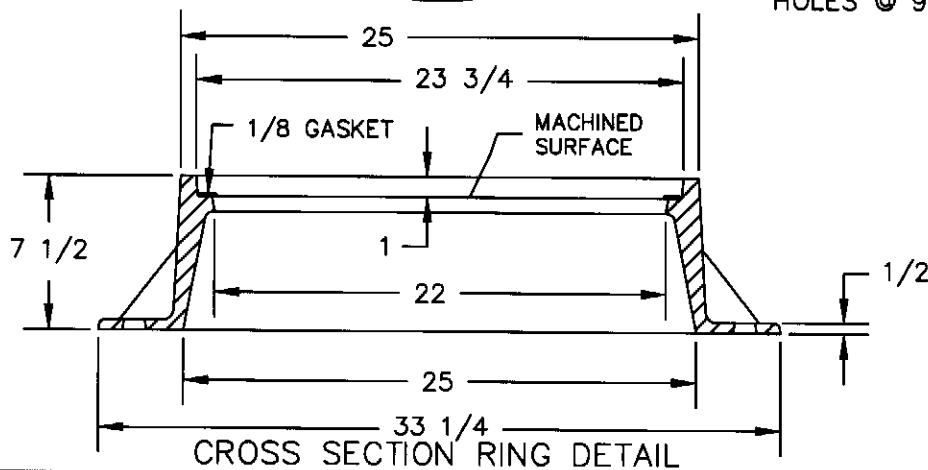
B. MANHOLE RING AND COVERS SHALL BE MADE OF GRAY CAST IRON AND SHALL CONFORM TO AASHTO M105 AND ASTM A48, CLASS 35B.

C. RING & COVER SHALL HAVE MACHINED SEATS.

D. TWO 1" VENT HOLES WILL BE PROVIDED AS DETERMINED BY TOWN STAFF. SPECIFY TWO VENT HOLES WHEN ORDERING COVERS.

E. APPROVED RING & COVERS

1. US FOUNDRY & MFG. CORP. RING USF 669,
"JAMESTOWN" COVER 8015781 (SANITARY SEWER)
AND "JAMESTOWN" COVER 8015715 (WATER).



CROSS SECTION RING DETAIL

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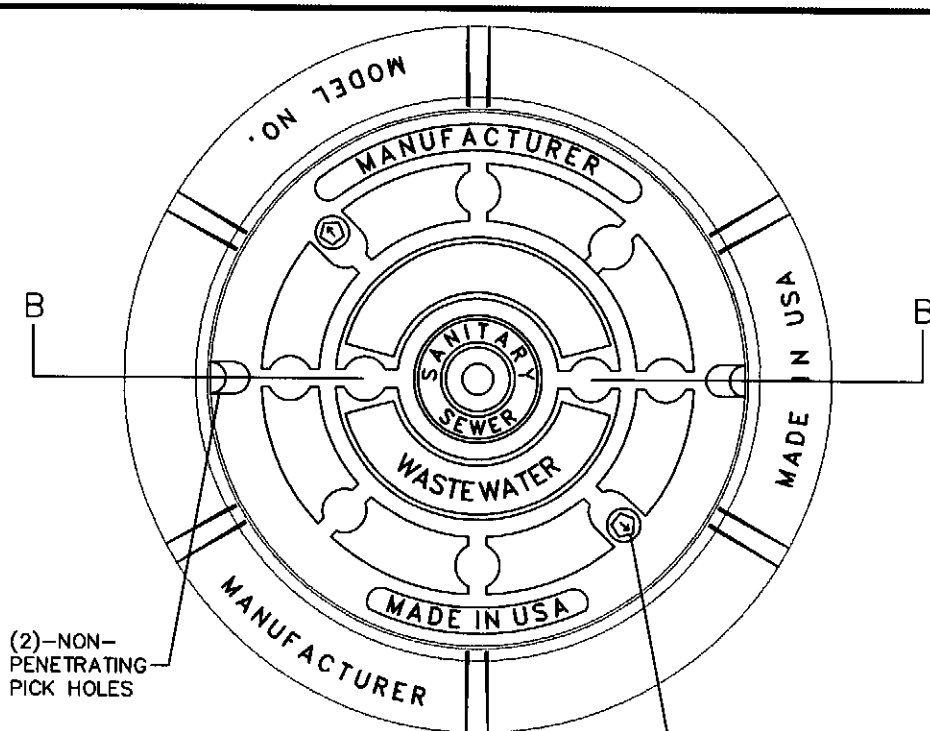
REVISIONS

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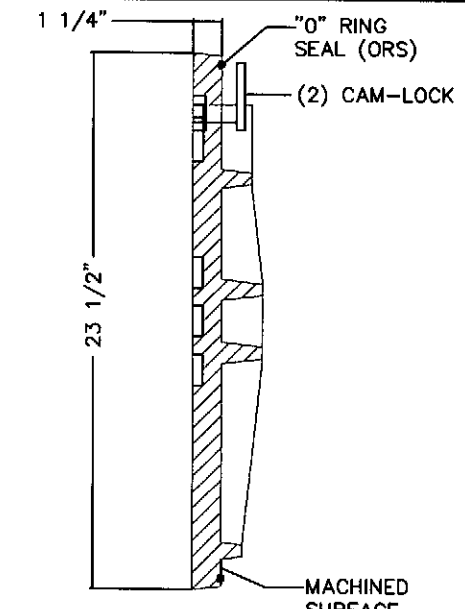
STANDARD DRAWING FOR
UTILITY MANHOLE RING AND COVER
FOR ROADWAY APPLICATIONS

307.00

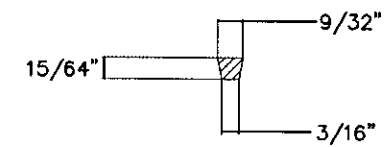
SHEET 1 OF 1



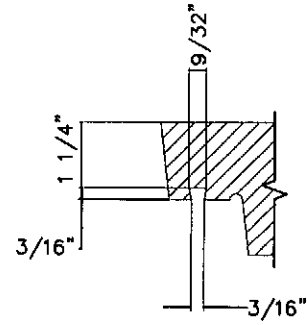
PLAN VIEW



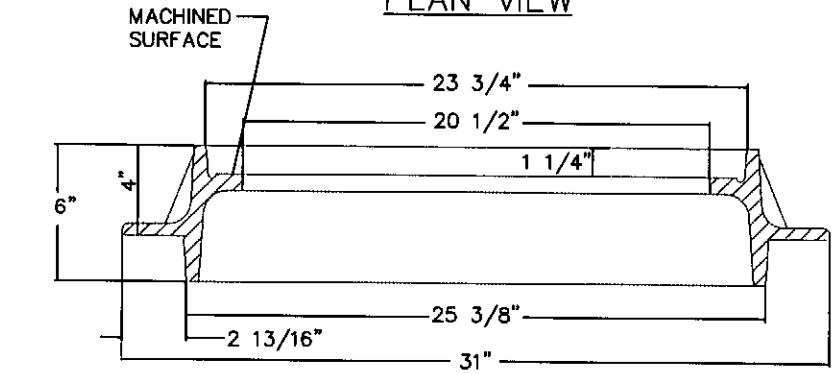
SECTION B-B (COVER)



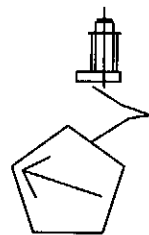
"O" RING SEAL SECTION DETAIL



"O" RING SEAL GROVE DETAIL



SECTION B-B (RING)



CAM-LOCK DETAIL

LOCKING DEVICE—
STAINLESS STEEL
PENTAGON HEAD
BOLTS. TWO (2)
3/4" x 1 3/4"
LONG BOLTS SHALL
BE PROVIDED IN
THE COVER AS
SHOWN.

NOTES:

- A. TO BE USED IN THE 100 YEAR FLOOD AREA AS DETERMINED BY F.E.M.A.
- B. MANHOLE RINGS AND COVERS SHALL BE MADE OF GRAY CAST IRON AND SHALL CONFORM TO ASTM A48, CLASS 35B.
- C. FOR OUTFALL USE ONLY— NOT FOR USE ON MANHOLES LOCATED IN ROADWAYS.
- D. APPROVED MANUFACTURERS:
 - U.S. FOUNDRY, MODEL 8020600
 - EAST JORDAN IRON WORKS, MODEL V1484-3 FRAME WITH V1384GS CAMLOCK COVER
 - OR APPROVED EQUAL.
- E. OUTFALL MANHOLE LOCKABLE RING & COVER, TYPE FT SHALL BE CAST INTO THE OUTFALL MANHOLE FLAT TOP. INSTALL LOCK COVER ONLY AS DIRECTED BY PS DIRECTOR.
- F. ESTIMATED WEIGHTS ARE: COVER 130 LBS
 FRAME 135 LBS
 UNIT 265 LBS

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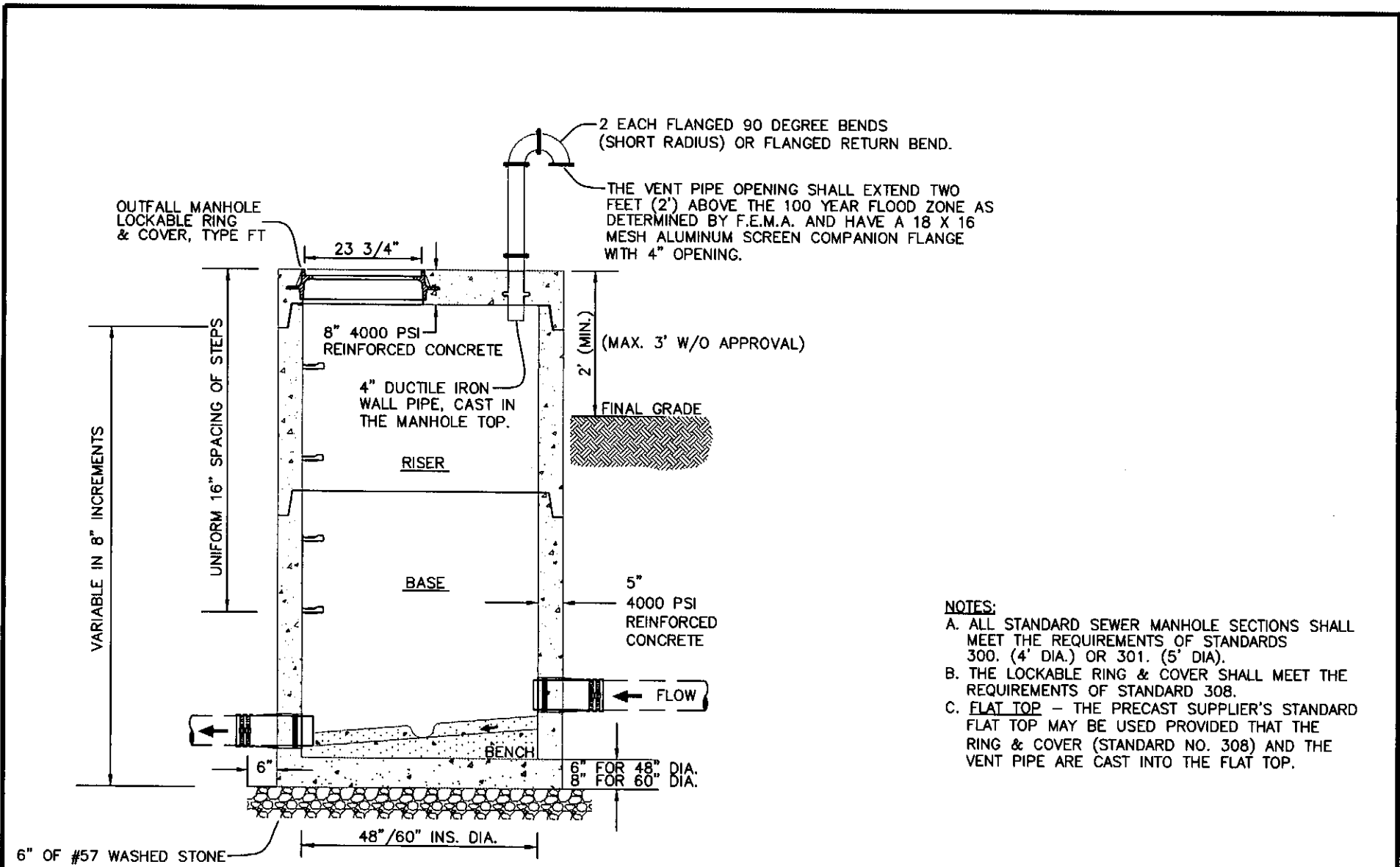
REVISIONS

STANDARD DRAWING FOR
OUTFALL MANHOLE LOCKABLE RING AND COVER, TYPE FT
FOR USE IN WATERTIGHT OUTFALL MANHOLES

308.00

APPROVED... MAY 19 2009

SHEET 1 OF 1



- NOTES:**
- A. ALL STANDARD SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF STANDARDS 300. (4' DIA.) OR 301. (5' DIA).
 - B. THE LOCKABLE RING & COVER SHALL MEET THE REQUIREMENTS OF STANDARD 308.
 - C. FLAT TOP - THE PRECAST SUPPLIER'S STANDARD FLAT TOP MAY BE USED PROVIDED THAT THE RING & COVER (STANDARD NO. 308) AND THE VENT PIPE ARE CAST INTO THE FLAT TOP.

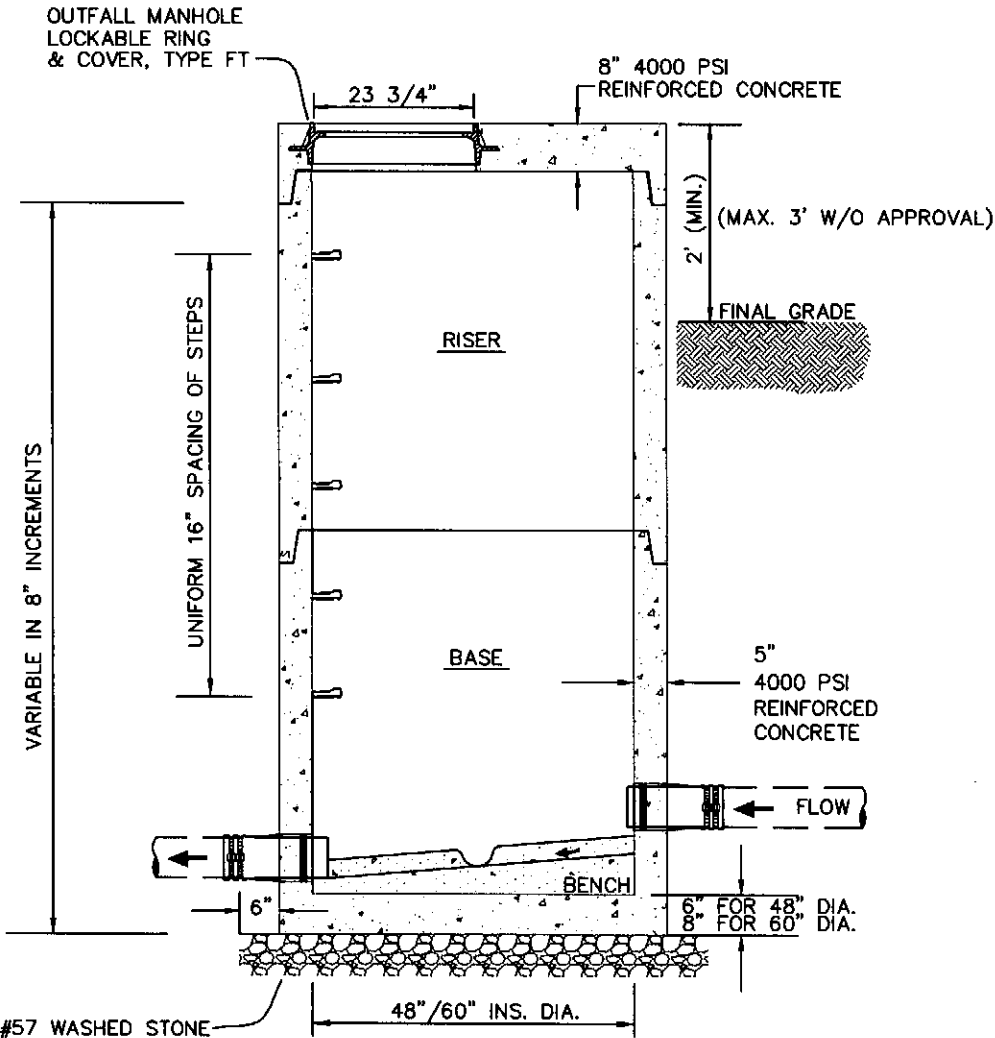
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STANDARD DRAWING FOR
VENTED OUTFALL MANHOLE
 FOR 4' OR 5' SANITARY SEWER MANHOLES

310.00
SHEET 1 OF 1



NOTES:

- A. ALL STANDARD SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF STANDARDS 300. (4' DIA.) OR 301. (5' DIA).
- B. THE LOCKABLE RING & COVER SHALL MEET THE REQUIREMENTS OF STANDARD 308.
- C. FLAT TOP- THE PRECAST SUPPLIER'S STANDARD UNIT MAY BE USED PROVIDED THAT THE RING & COVER (STANDARD 308) IS CAST INTO THE FLAT TOP.

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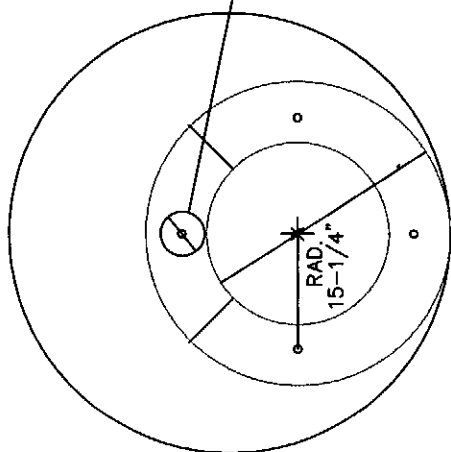
REVISIONS

STANDARD DRAWING FOR
NON-VENTED OUTFALL MANHOLE
 FOR 4' OR 5' SANITARY SEWER MANHOLES

311.00

SHEET 1 OF 2

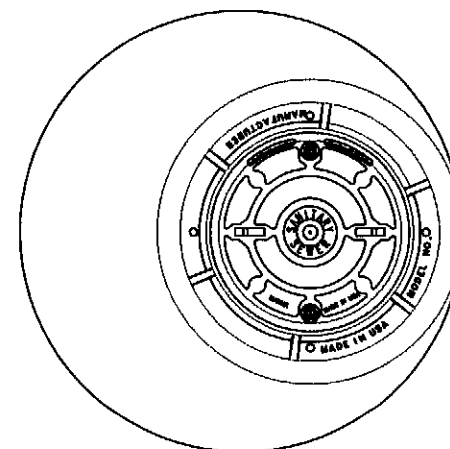
NO BOLTS IN TAPER
OF PRECAST MH CONE



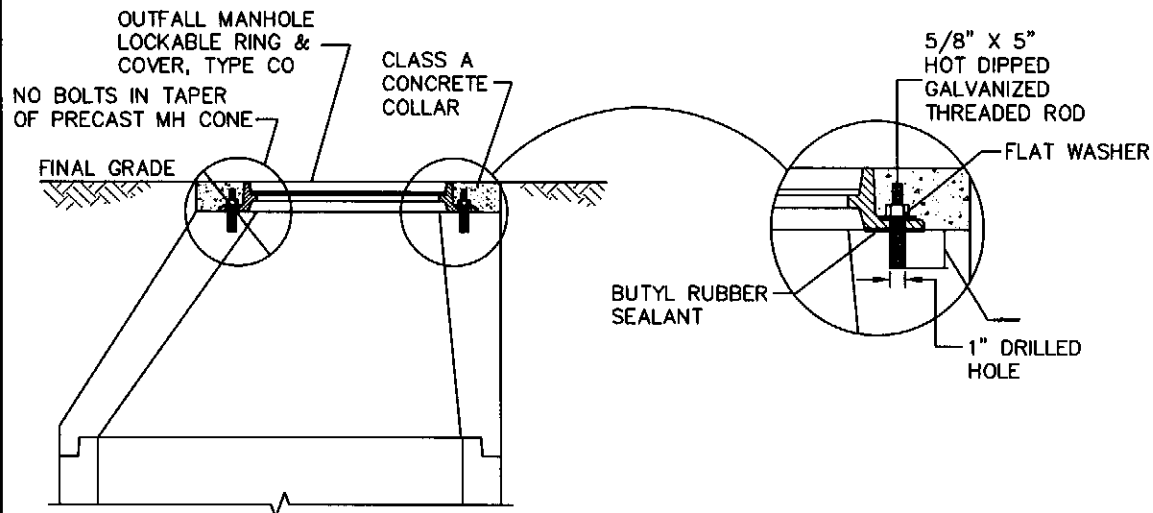
TOP VIEW CONE

INSTALLATION OF FRAME & COVER

1. THREE (MINIMUM—OUT OF 4 AVAILABLE FRAME HOLES) 1" DIA. ANCHOR HOLES DRILLED IN TOP OF CONE AS SHOWN IN THE DETAIL DRAWING.
2. 5/8" X 5" GALVANIZED THREADED ROD EPOXIED INTO TOP OF CONE.
3. COAT (FULL WIDTH AND FULL LENGTH) THE UNDERSIDE OF THE MANHOLE FRAME WITH BUTYL RUBBER SEALANT. PLACE THE FRAME OVER THE THREADED RODS AND BOLT DOWN FRAME TO COVER.
4. CLASS A CONCRETE FORMED AND POURED AROUND THE DIAMETER OF THE RING AND POURED FLUSH WITH THE OUTSIDE WALLS OF THE CONE.



TOP VIEW— CONE WITH F & C



SIDE VIEW

NOTES:

- A. ALL STANDARD SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF STANDARD NOS. 300. (4' DIA) OR 301. (5' DIA).
- B. THE LOCKABLE RING & COVER SHALL MEET THE REQUIREMENTS OF STANDARD NO 309.
- C. INSTALLATION OF THE FRAME & COVER AND THE CONCRETE COLLAR ONTO THE CONE SECTION SHALL BE DONE AT THE PRECAST CONCRETE PLANT. NO FIELD INSTALLATION WILL BE ALLOWED.
- D. GRADE ADJUSTMENT SHALL BE DONE WITH MANHOLE RISER SECTIONS. THE TOP OF THE MANHOLE SHALL BE BETWEEN 2' TO 3' ABOVE THE SURROUNDING DIRT FINAL GRADE.

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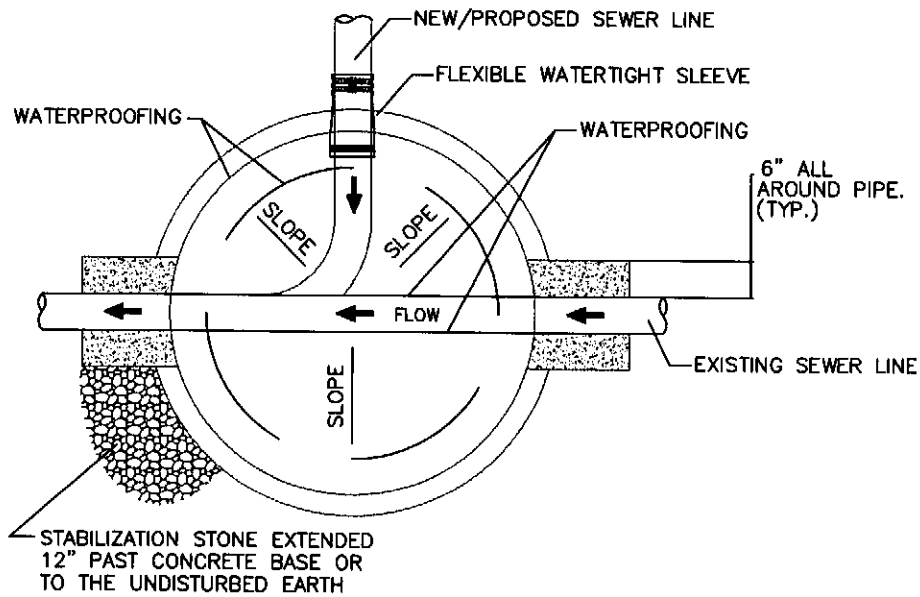
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REVISIONS

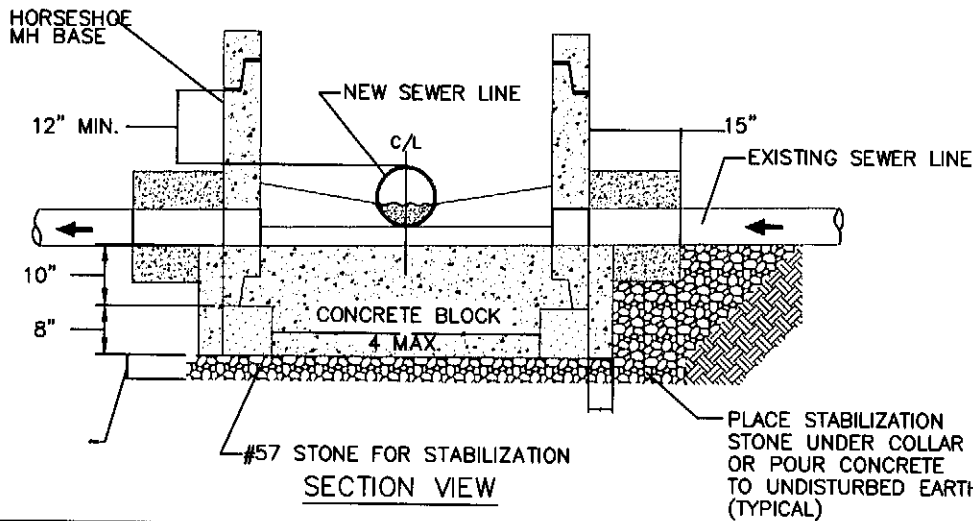
STANDARD DRAWING FOR
NON-VENTED OUTFALL MANHOLE
FOR 4' OR 5' SANITARY SEWER MANHOLES

311.00

SHEET 2 OF 2



PLAN VIEW



SECTION VIEW

INSTALLATION PROCEDURES

1. PLACE HORSESHOE MH BASE IN WET CONCRETE (4000 PSI).
2. AFTER CONCRETE SETS, CORE HOLE & SET NEW SEWER LINE.
3. CUT OUT TOP HALF OF EXISTING PIPE. FINISH INVERTS & WATERPROOF ALL COLD JOINTS & AROUND ALL PIPE.
4. POUR CONCRETE COLLARS.

NOTES:

- A. ALL STANDARD SEWER MANHOLE SECTIONS SHALL MEET THE REQUIREMENTS OF STANDARDS NO. 300. OR 301.
- B. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 4000 PSI UNLESS OTHERWISE NOTED.
- C. HORSESHOE MH BASE TO SIT OVER EXISTING LINE.
- D. PROPOSED SEWER LINE SHALL BE CORED ON SITE. FLEXIBLE CONNECTION SLEEVES WILL BE REQUIRED.
- E. A HORSESHOE MANHOLE SHALL BE USED ONLY WITH SPECIAL PERMISSION FROM THE TOWN OF JAMESTOWN.

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 NORTH CAROLINA

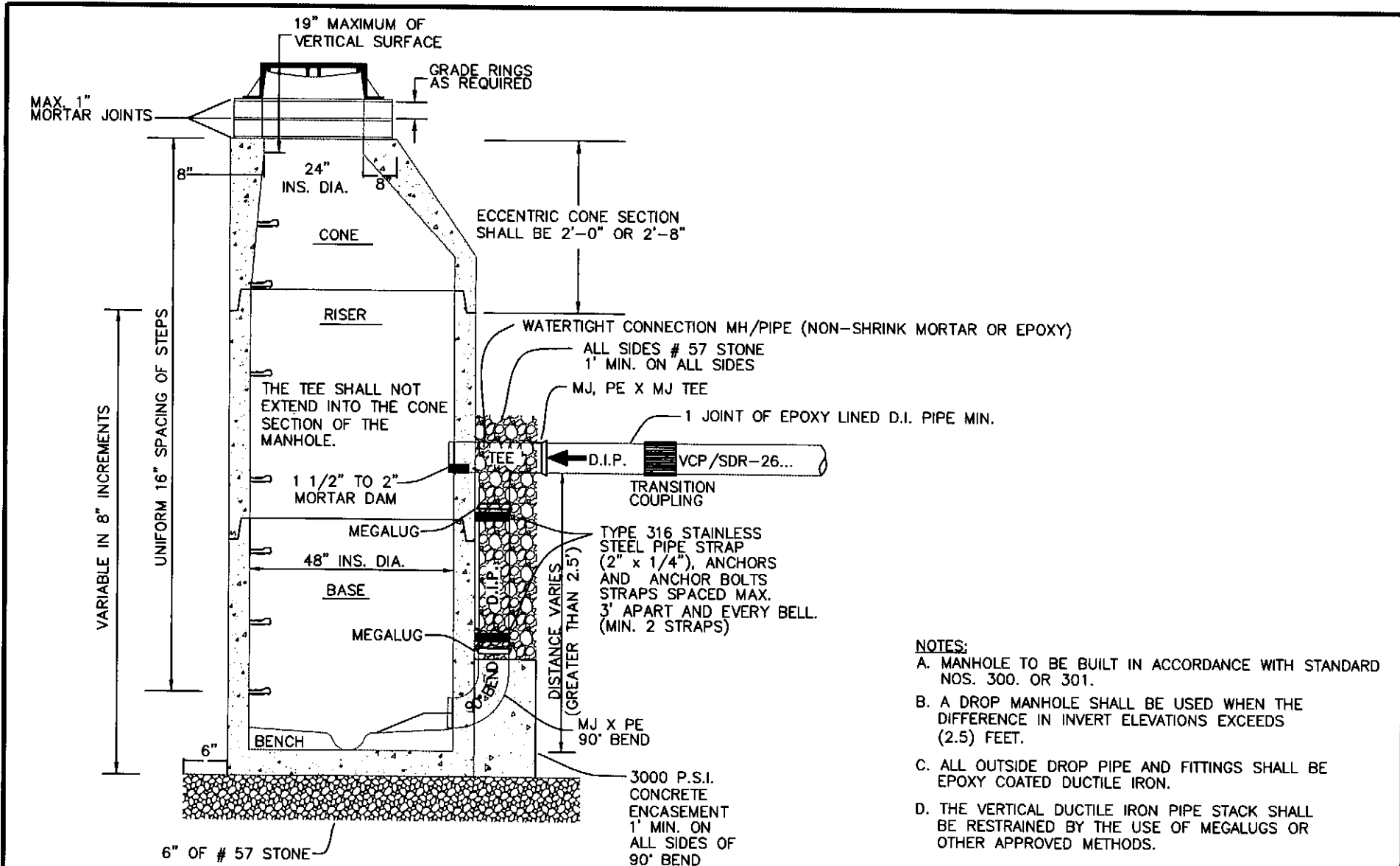
APPROVED...MAY 19 2009

REVISIONS

STANDARD DRAWING FOR
 "DOGHOUSE" MANHOLE
 FOR PROPOSED MANHOLES BUILT OVER EXISTING LINES

312.00

SHEET 1 OF 1



- NOTES:**
- A. MANHOLE TO BE BUILT IN ACCORDANCE WITH STANDARD NOS. 300. OR 301.
 - B. A DROP MANHOLE SHALL BE USED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS (2.5) FEET.
 - C. ALL OUTSIDE DROP PIPE AND FITTINGS SHALL BE EPOXY COATED DUCTILE IRON.
 - D. THE VERTICAL DUCTILE IRON PIPE STACK SHALL BE RESTRAINED BY THE USE OF MEGALUGS OR OTHER APPROVED METHODS.

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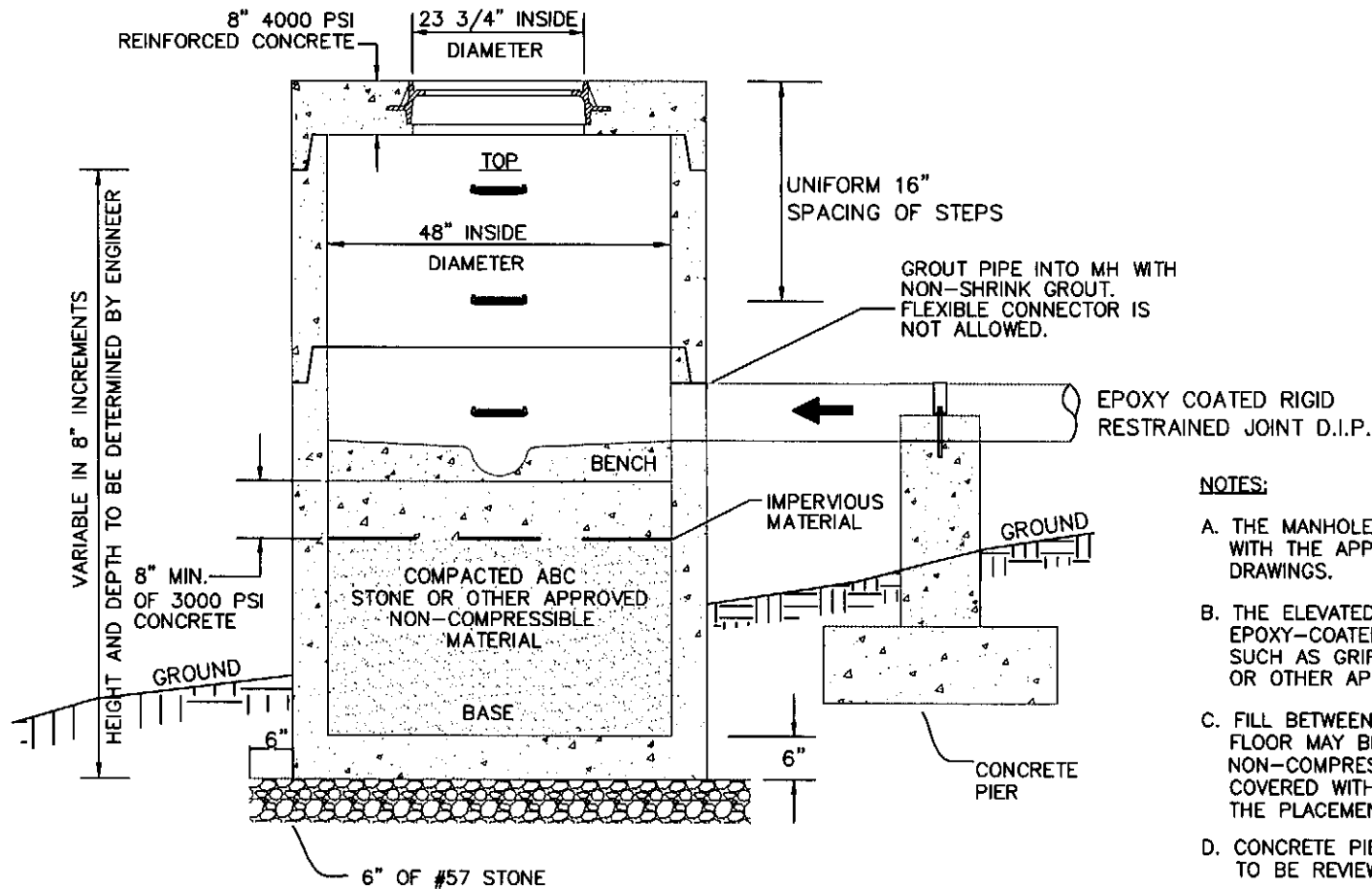
APPROVED... MAY 19 2009 *GPS*

REVISIONS

STANDARD DRAWING FOR
OUTSIDE DROP MANHOLE
 FOR SANITARY SEWER

314.00

SHEET 1 OF 1



NOTES:

- A. THE MANHOLE SHALL BE BUILT IN ACCORDANCE WITH THE APPLICABLE MANHOLE TOWN STANDARD DRAWINGS.
- B. THE ELEVATED SANITARY SEWER PIPE SHALL BE EPOXY-COATED, RIGID-RESTRAINED JOINT D.I.P. SUCH AS GRIFFIN PIPE PRODUCTS CO. MECH-LOK OR OTHER APPROVED PIPE.
- C. FILL BETWEEN THE BOTTOM SLAB AND ELEVATED FLOOR MAY BE CRUSHED STONE OR ANY APPROVED NON-COMPRESSIBLE MATERIAL. THE FILL SHALL BE COVERED WITH AN IMPERVIOUS MATERIAL BEFORE THE PLACEMENT OF CONCRETE.
- D. CONCRETE PIER LOCATION, SPACING, AND DESIGN TO BE REVIEWED DURING PLAN SUBMITTAL/REVIEW.

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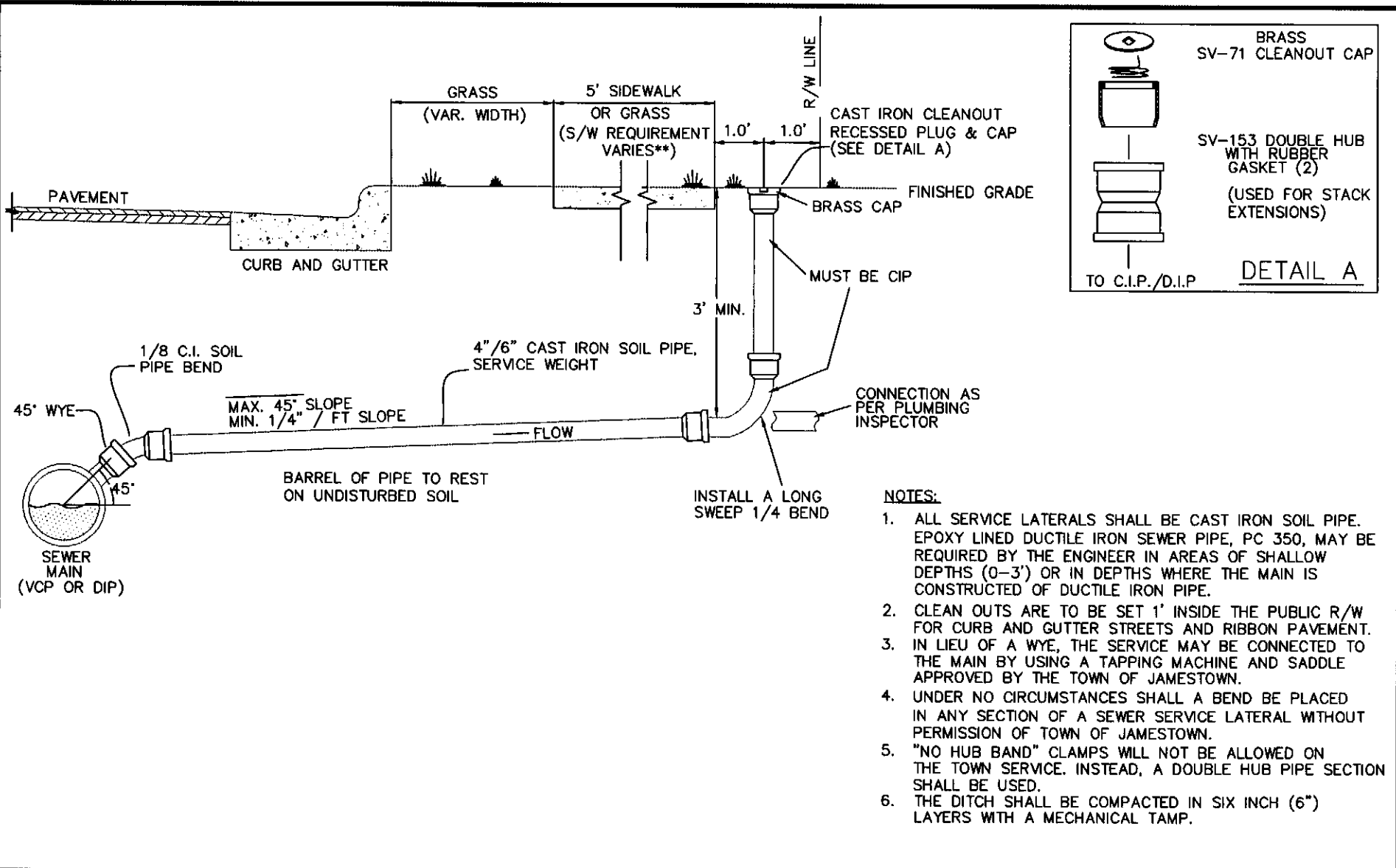
APPROVED...MAY 19, 2009

REVISIONS

STANDARD DRAWING FOR
SANITARY MANHOLE ABOVE GROUND
 FOR USE IN CONJUNCTION WITH PIERS

315.00

SHEET 1 OF 1



- NOTES:**
1. ALL SERVICE LATERALS SHALL BE CAST IRON SOIL PIPE. EPOXY LINED DUCTILE IRON SEWER PIPE, PC 350, MAY BE REQUIRED BY THE ENGINEER IN AREAS OF SHALLOW DEPTHS (0-3') OR IN DEPTHS WHERE THE MAIN IS CONSTRUCTED OF DUCTILE IRON PIPE.
 2. CLEAN OUTS ARE TO BE SET 1' INSIDE THE PUBLIC R/W FOR CURB AND GUTTER STREETS AND RIBBON PAVEMENT.
 3. IN LIEU OF A WYE, THE SERVICE MAY BE CONNECTED TO THE MAIN BY USING A TAPPING MACHINE AND SADDLE APPROVED BY THE TOWN OF JAMESTOWN.
 4. UNDER NO CIRCUMSTANCES SHALL A BEND BE PLACED IN ANY SECTION OF A SEWER SERVICE LATERAL WITHOUT PERMISSION OF TOWN OF JAMESTOWN.
 5. "NO HUB BAND" CLAMPS WILL NOT BE ALLOWED ON THE TOWN SERVICE. INSTEAD, A DOUBLE HUB PIPE SECTION SHALL BE USED.
 6. THE DITCH SHALL BE COMPACTED IN SIX INCH (6") LAYERS WITH A MECHANICAL TAMP.

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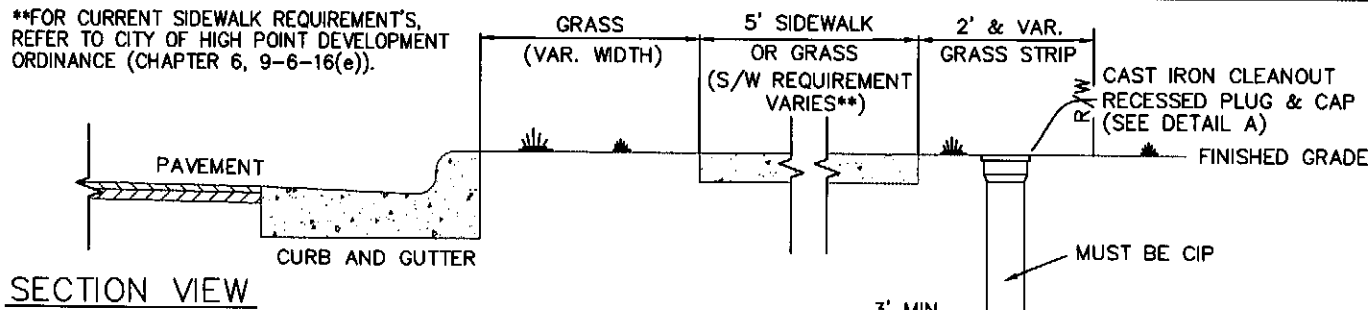
REVISIONS

STANDARD DRAWING FOR
SANITARY SEWER SERVICE (REHAB & NEW)
 FOR CIP SERVICE LATERALS

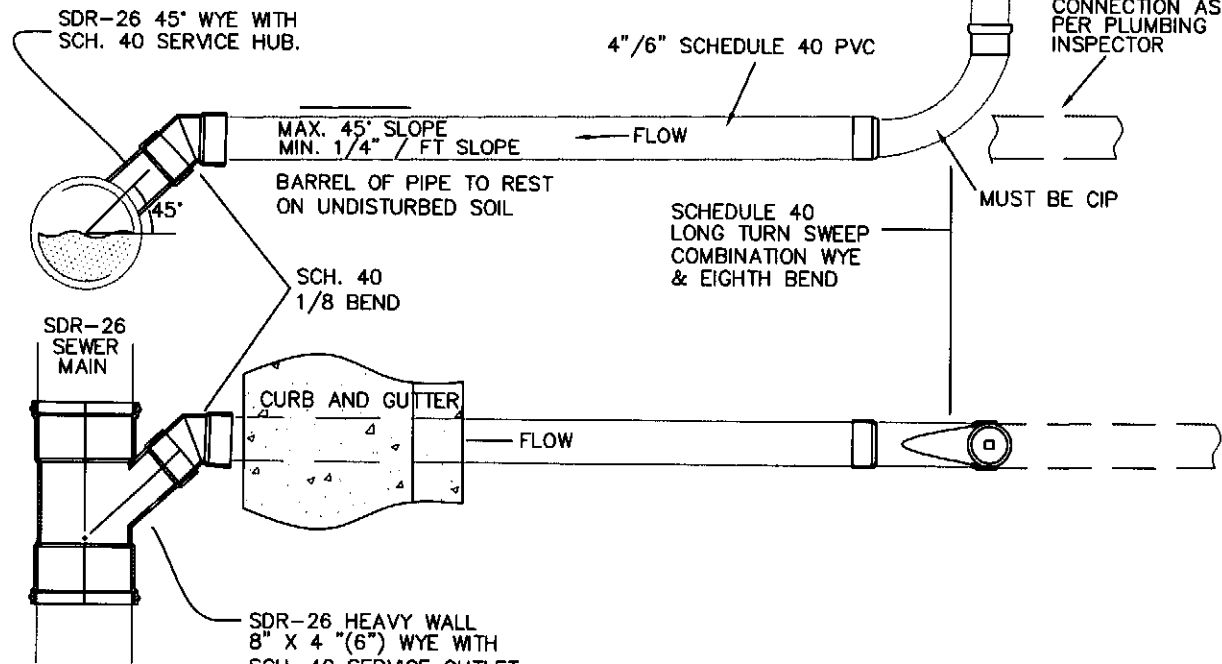
320.00

SHEET 1 OF 1

**FOR CURRENT SIDEWALK REQUIREMENTS, REFER TO CITY OF HIGH POINT DEVELOPMENT ORDINANCE (CHAPTER 6, 9-6-16(e)).

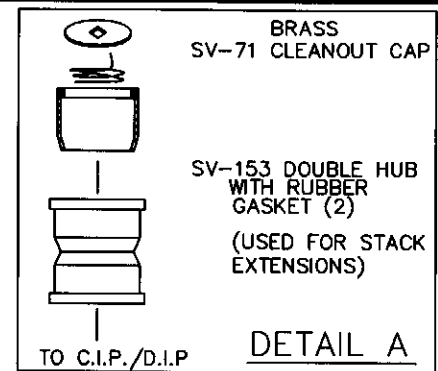


SECTION VIEW



PLAN VIEW

SDR-26 HEAVY WALL 8" X 4" (6") WYE WITH SCH. 40 SERVICE OUTLET (NO ADAPTER SPIGOT NEEDED)
 AS MANUFACTURED BY:
 - HARCO 501-0804-DWV (8" X 4")
 - GPK PRODUCTS 977-0084 (8" X 4") AND 977-0086 (8" X 6")
 - OR APPROVED EQUAL



NOTES:

1. FOR ALL PVC SDR-26 SANITARY SEWER MAINS, ALL SERVICE LATERALS AND FITTINGS SHALL BE SCHEDULE 40 PVC.
2. FOR RIBBON PAVEMENT ROADS, THE SANITARY SEWER SERVICE CLEANOUT SHALL BE LOCATED WITHIN THE GRASS STRIP, WHICH IS LOCATED 2' INSIDE OF THE RIGHT-OF-WAY LINE.
3. IN LIEU OF A WYE, THE SERVICE MAY BE CONNECTED TO THE MAIN BY USING A TAPPING MACHINE AND SADDLE APPROVED BY THE TOWN OF JAMESTOWN.
4. UNDER NO CIRCUMSTANCES SHALL A BEND BE PLACED IN ANY SECTION OF A SEWER SERVICE LATERAL WITHOUT PERMISSION OF THE TOWN OF JAMESTOWN.
5. THE DITCH SHALL BE COMPACTED IN SIX INCH (6") LAYERS WITH A MECHANICAL TAMP.
6. SCHEDULE 40 PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM'S D 1784, D 2665, AND D 1785.
7. SOLVENT CEMENT JOINTS SHALL BE MADE IN A TWO STEP PROCESS WITH PRIMER MANUFACTURED FOR THERMOPLASTIC PIPING SYSTEMS (PURPLE) AND SOLVENT CEMENT CONFORMING TO ASTM'S D 2564 AND F 656.
8. "NO HUB BAND" CLAMPS WILL NOT BE ALLOWED ON THE TOWN SERVICE. INSTEAD, A DOUBLE HUB PIPE SECTION SHALL BE USED.

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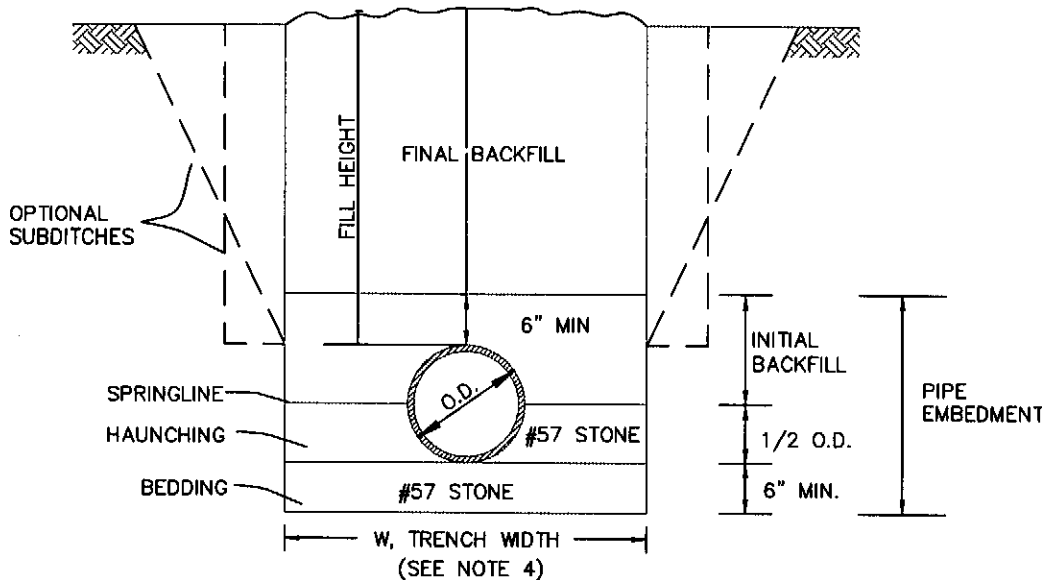
REVISIONS	

STANDARD DRAWING FOR
SANITARY SEWER SERVICE (NEW & REHAB)
 FOR PVC SCH. 40 SEWER LATERALS

321.00

SHEET 1 OF 1

FILL HEIGHT	DEPTH	MATERIAL TYPE/DENSITY REQUIREMENTS (% MOD. STD. PROCTOR)	
		UNDER ROADBED	UNDER NON-ROADBED
FILL HEIGHT 3'-6' BEDDING HAUNCH INITIAL BACKFILL FINAL BACKFILL	6" 1/2 O.D. MIN 6" OVER PIPE VAR.	#57 STONE/ABC - 95% #57 STONE/ABC - 95% ABC/FLOW FILL - 100% ABC/FLOW FILL - 100%	#57 STONE/ABC - 95% #57 STONE/ABC - 95% SELECT (NOTE 3) - 95% SELECT (NOTE 3) - 95%
FILL HEIGHT >6'-12' BEDDING HAUNCH INITIAL BACKFILL FINAL BACKFILL	6" 1/2 O.D. MIN 6" OVER PIPE VAR.	#57 STONE - 95% #57 STONE - 95% CLASS IV-A (OPT. MOIST. ± 3%) OR BETTER CLASS IV-A-95% CLASS III-95% SAME AS INITIAL BACKFILL	#57 STONE - 95% #57 STONE - 95% SELECT (NOTE 3) - 90% SELECT (NOTE 3)-AS APPROVED BY THE ENGINEER
FILL HEIGHT >12'-24' BEDDING HAUNCH INITIAL BACKFILL FINAL BACKFILL	6" 1/2 O.D. MIN 6" OVER PIPE VAR.	#57 STONE - 95% #57 STONE - 95% #57 STONE - 95% AS APPROVED BY THE ENGINEER / 95%	#57 STONE - 95% #57 STONE - 95% #57 STONE - 95% #57 STONE - 95% AS APPROVED BY THE ENGINEER % AS REQUIRED BY THE ENGINEER



NOTES:

- DENSITY REQUIREMENTS SHALL BE BASED ON AASHTO T99 AS MODIFIED BY THE NCDOT.
- INSTALLATION OF SDR 26 PVC PIPE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM D 2321. COPIES OF ASTM D 2321 ARE AVAILABLE.
- REFER TO ASTM D 2321.
- TRENCH WIDTH-**
MIN W= SHALL NOT BE LESS THAN THE GREATER OF EITHER O.D. + 16" OR (1.25)O.D. + 12"
MAX W= O.D. + 40"
IF CONTRACTOR CHOOSES TO EXCAVATE PAST THE MAX W, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN THE EXCAVATION BEYOND THE MAX. W LIMITS.
- THE LAST 8" OF BACKFILL BELOW THE FINISHED SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO 100% OF THE AASHTO T99 NCDOT MODIFIED PROCTOR.
- THIS STANDARD DOES NOT APPLY FOR SDR 26 PVC PIPE WITH DIAMETERS OF GREATER THAN 12". THE ENGINEER SHALL CHECK THE LOADING CONDITIONS FOR PIPE WITH DIAMETERS GREATER THAN 12".

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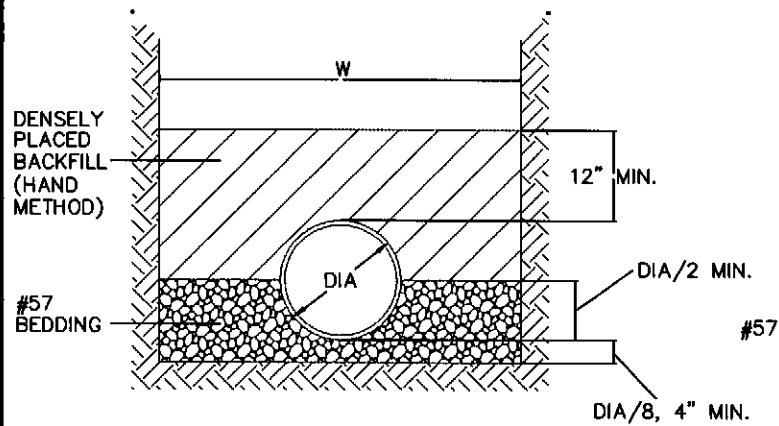
APPROVED... MAY 19, 2009

REVISIONS

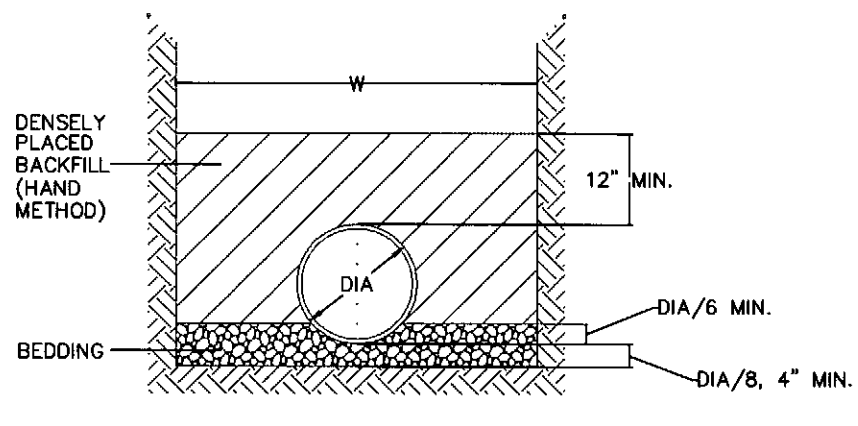
STANDARD DRAWING FOR
SDR-26 PVC PIPE BEDDING & BACKFILL
FOR DEPTHS RANGING FROM 3' - 24'

322.00

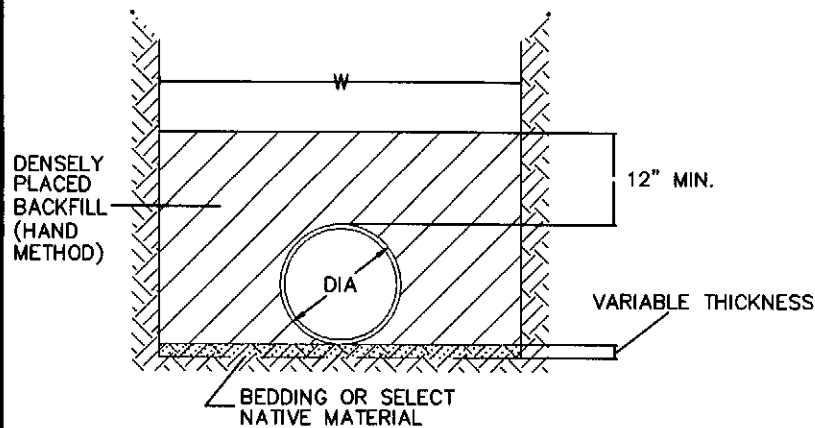
SHEET 1 OF 1



**GRANULAR FOUNDATION
BEDDING CLASS B**



**GRANULAR FOUNDATION
BEDDING CLASS C**



**CONTINUOUS BEARING SUPPORT
MODIFIED BEDDING CLASS D**

TRENCH WIDTH

MIN W = DIA + 16"
 MAX W = THE LESSER OF
 DIA + 30" OR
 3*DIA

IF CONTRACTOR CHOOSES TO EXCAVATE PAST THE MAX W, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN THE EXCAVATION BEYOND THE MAX W LIMITS.

BACKFILLING NOTES ACCORDING TO CURRENT EDITION OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES:

- A. EXCAVATION, TRENCHING, AND BACKFILLING SHALL BE DONE ACCORDING TO SECTION 1505.
- B. BACKFILLING SHALL ALSO BE IN ACCORDANCE WITH ARTICLE 300-7 AND COMPACTED TO 95% OF THE AASHTO T99 NCDOT MODIFIED PROCTOR.
- C. THE LAST 8" OF BACKFILL BELOW THE FINISHED SURFACE OF THE SUBGRADE SHALL BE COMPACTED TO 100% OF THE AASHTO T99 NCDOT MODIFIED PROCTOR.

BEDDING

- A. FOR CLASS B & C BEDDINGS, SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

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REVISIONS	


STANDARD DRAWING FOR
**V.C. PIPE BEDDING & MAXIMUM
 DEPTH OF COVER**

323.00

SHEET 1 OF 2

SAFE COVER	PIPE SIZE										
	6"	8"	10"	12"	15"	18"	21"	24"	27"	30"	36"
0'											
2'											
4'					D	D	D	D	D	D	D
6'			D								
8'	D	D									
10'				C	C	C	C	C		C	C
12'			C							B	B
14'		C		B	B	B	B	B			
16'	C		B								
18'		B									
20'	B										
22'											

TABLE NOTES:
A. TABLE DERIVED FROM INFORMATION FOUND IN CLAY PIPE ENGINEERING MANUAL, NATIONAL CLAY PIPE INSTITUTE, COPYRIGHT 1978.
B. ASSUMED BACKFILL OF WET CLAY, 130 LBS/CF.
C. ASSUMED TRENCH WIDTH AT BEYOND TRANSITION WIDTH.
D. USED FACTOR OF SAFETY= 1.25.

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REVISIONS	

STANDARD DRAWING FOR
V.C. PIPE BEDDING & MAXIMUM
DEPTH OF COVER

323.00
SHEET 2 OF 2