

MERIDIAN METROPOLITAN DISTRICT

UTILITY DETAIL DRAWINGS

JULY 2020



Meridian Metropolitan District

Utility Detail Drawings

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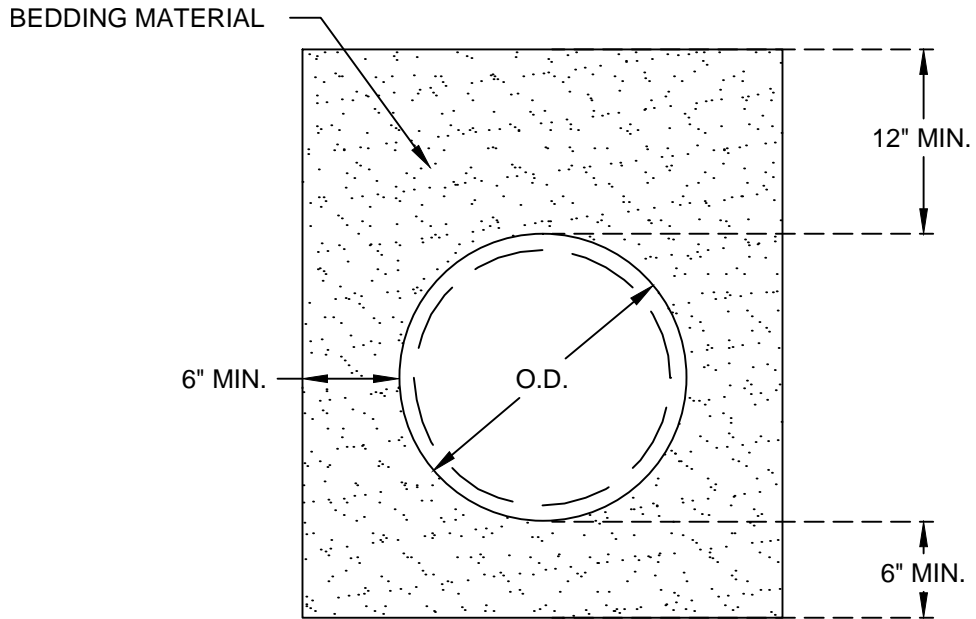
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1. BACKFILL OVER PIPE SHALL BE COMPACTED TO 90% MAXIMUM DRY WEIGHT DENSITY ASHTO T-99
2. PIPE BEDDING SHALL BE SQUEEGEE OR $\frac{3}{4}$ " CRUSHED ROCK.

REV. DATE

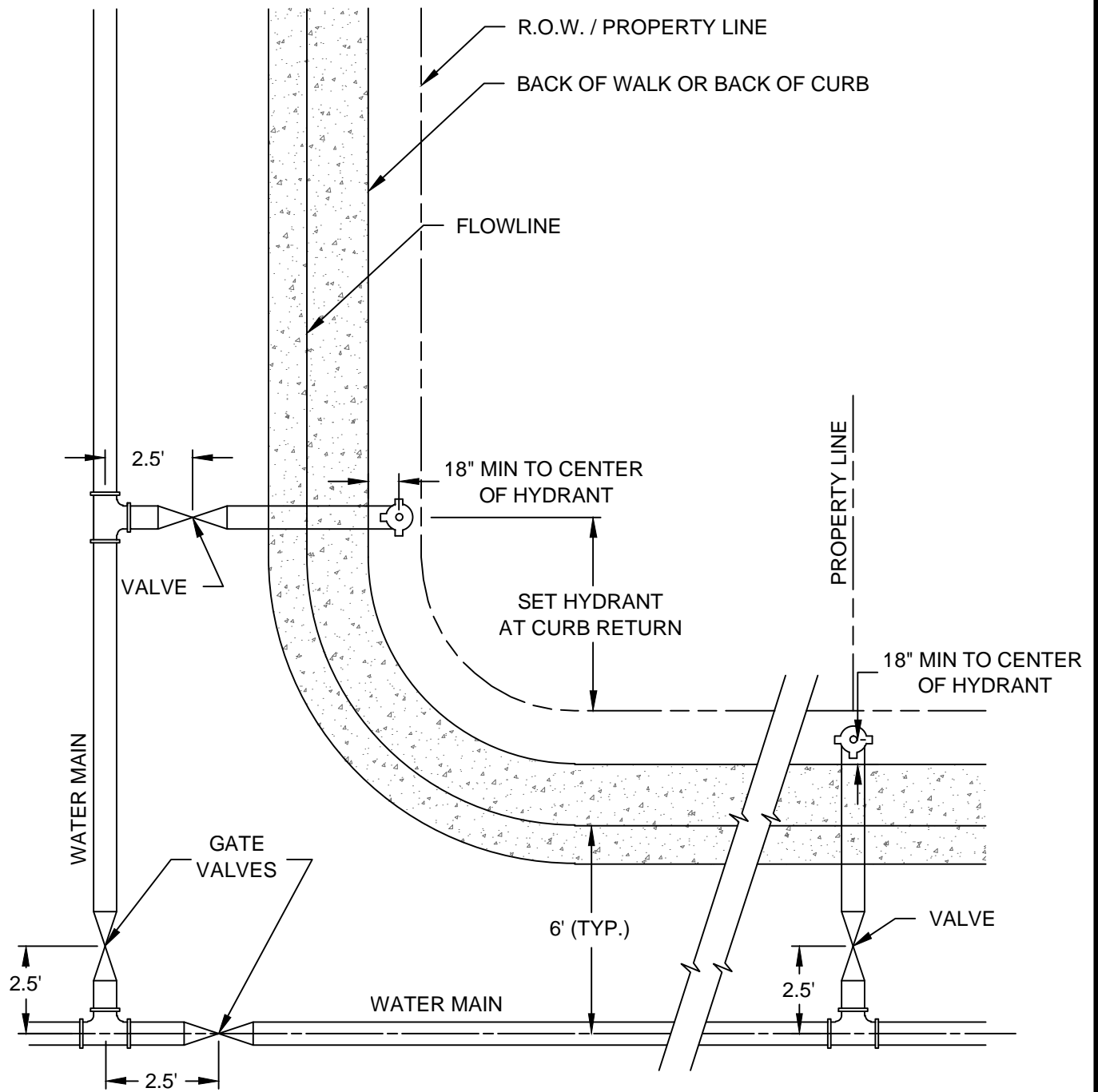
August, 2012



MERIDIAN METROPOLITAN DISTRICT

PIPE BEDDING DETAIL

WM-1



REV. DATE

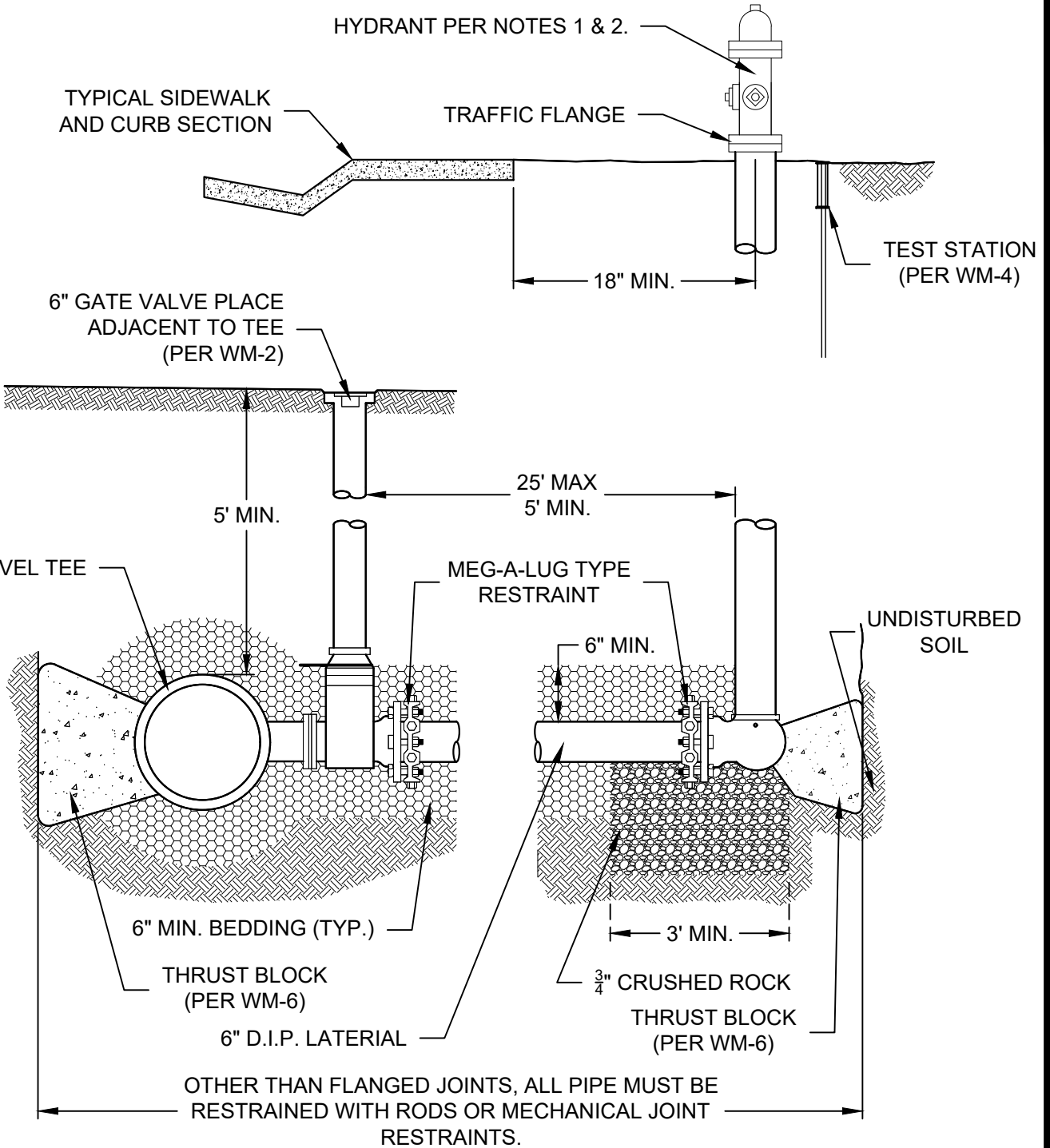
August, 2012



MERIDIAN METROPOLITAN DISTRICT

VALVE AND FIRE HYDRANT LOCATION DETAIL

WM-2



NOTES:

1. HYDRANT SHALL BE WATEROUS PACER 150 OR MUELLER CENTURION, OPEN LEFT, AND THE THREADED HOSE CONNECTIONS SHALL BE 2½" NOMINAL DIAMETER WITH 4½ THREADS PER INCH ON THE STEAMER NOZZLE, IN COMPLIANCE WITH SOUTH METRO FIRE PROTECTION DISTRICT REQUIREMENTS. FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS OPEN RIGHT VALVES, AND MATERIALS NECESSARY TO INSTALL THE HYDRANT COMPLETE AND IN PLACE.
2. ALL FIRE HYDRANTS ARE TO BE PAINTED WATEROUS HYDRANT COLOR MERIDIAN TAN #4168.
3. HYDRANT PIT SHALL CONTAIN A MINIMUM OF 1 C.Y. OF ¾" CRUSHED ROCK
4. DISTANCE FROM BACK OF WALK, SEE WM-2.

REV. DATE

JULY 2020

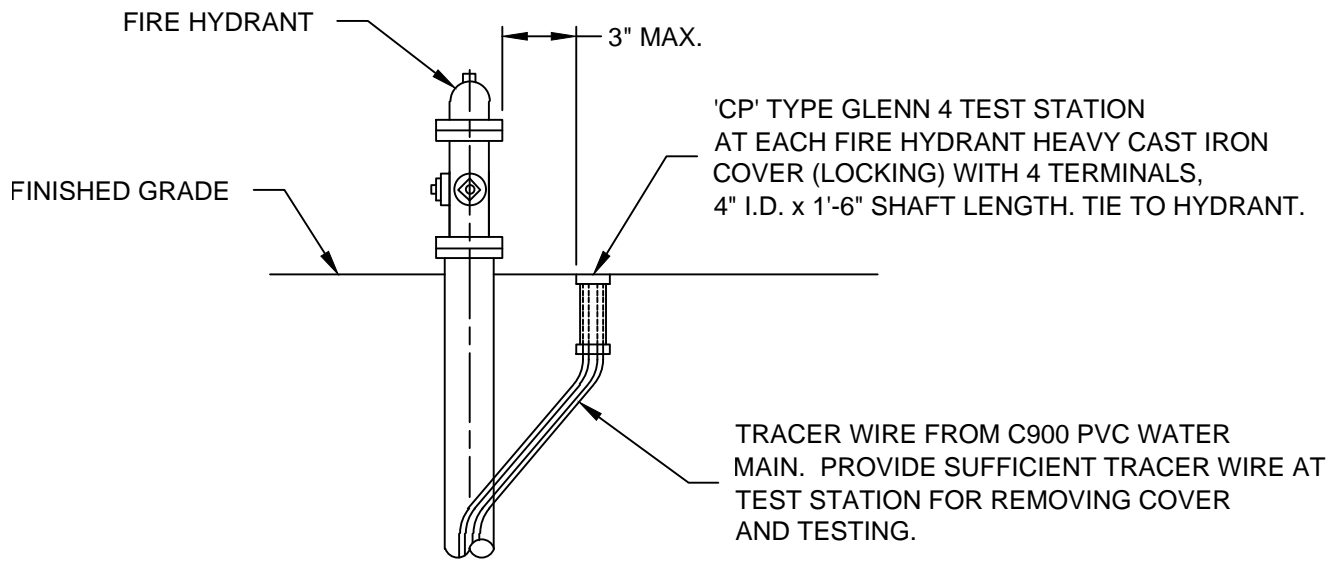


MERIDIAN METROPOLITAN DISTRICT

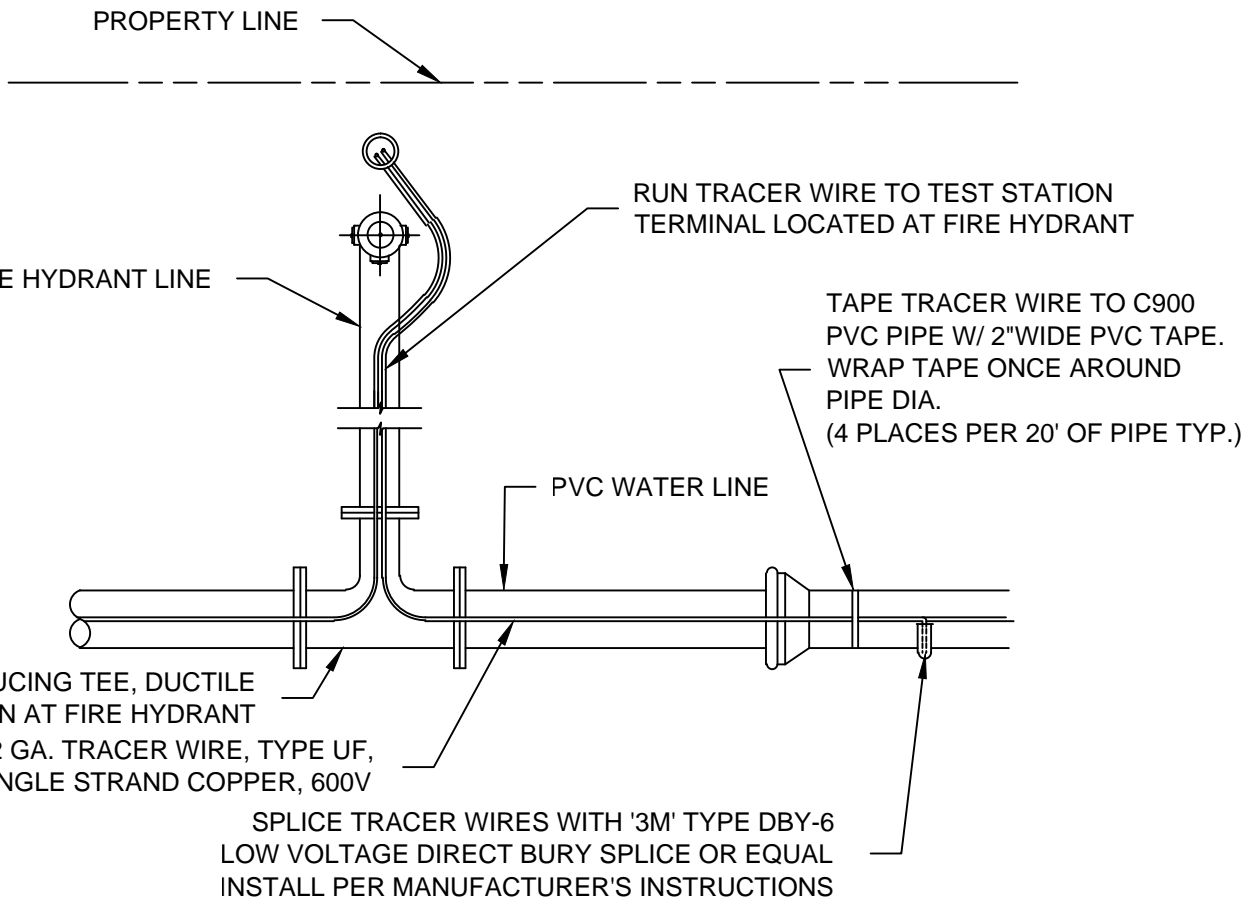
TYPICAL FIRE HYDRANT & ASSEMBLY

WM-3

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WM-3 FIRE HYDRANT AND ASSEMBLY.dwg, 7/10/2020 10:02:08 AM, Inedved, ANSI full bleed A (8.50 x 11.00 Inches), 1:1



PROFILE



PLAN

REV. DATE

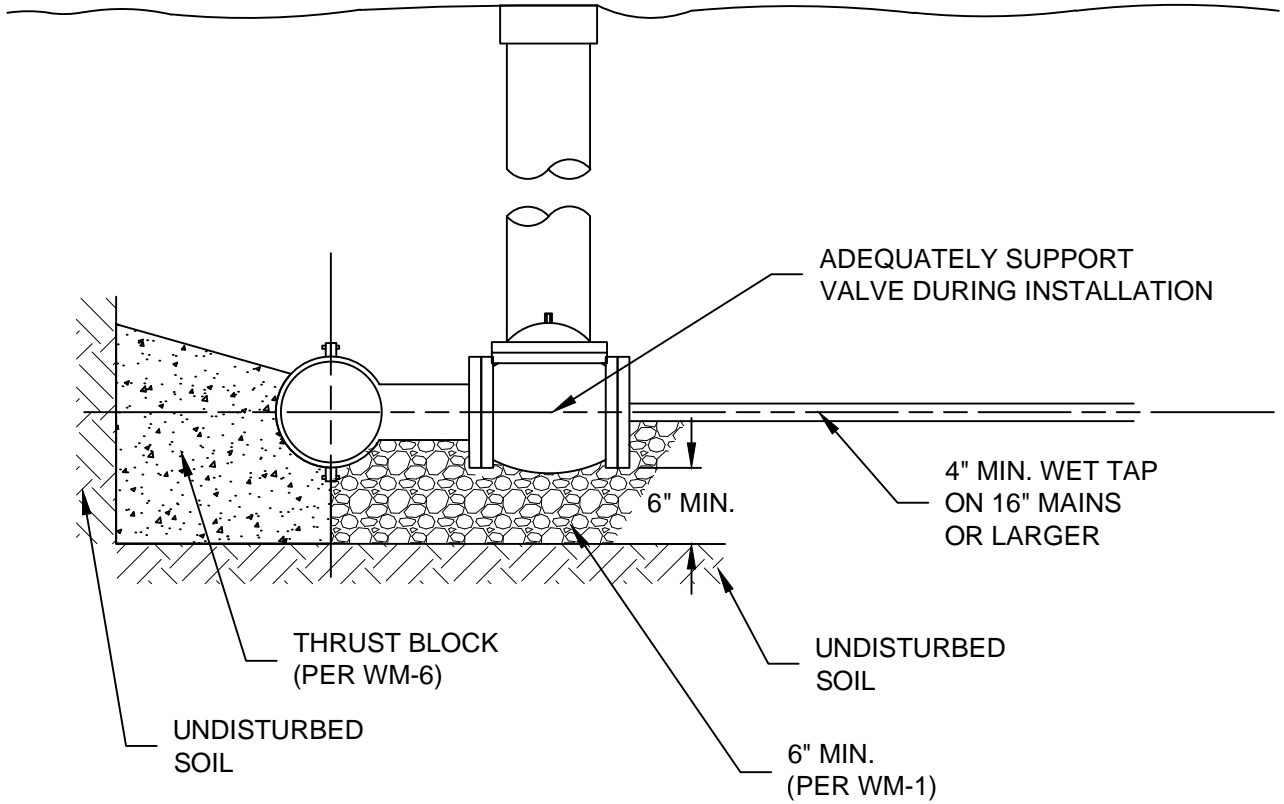
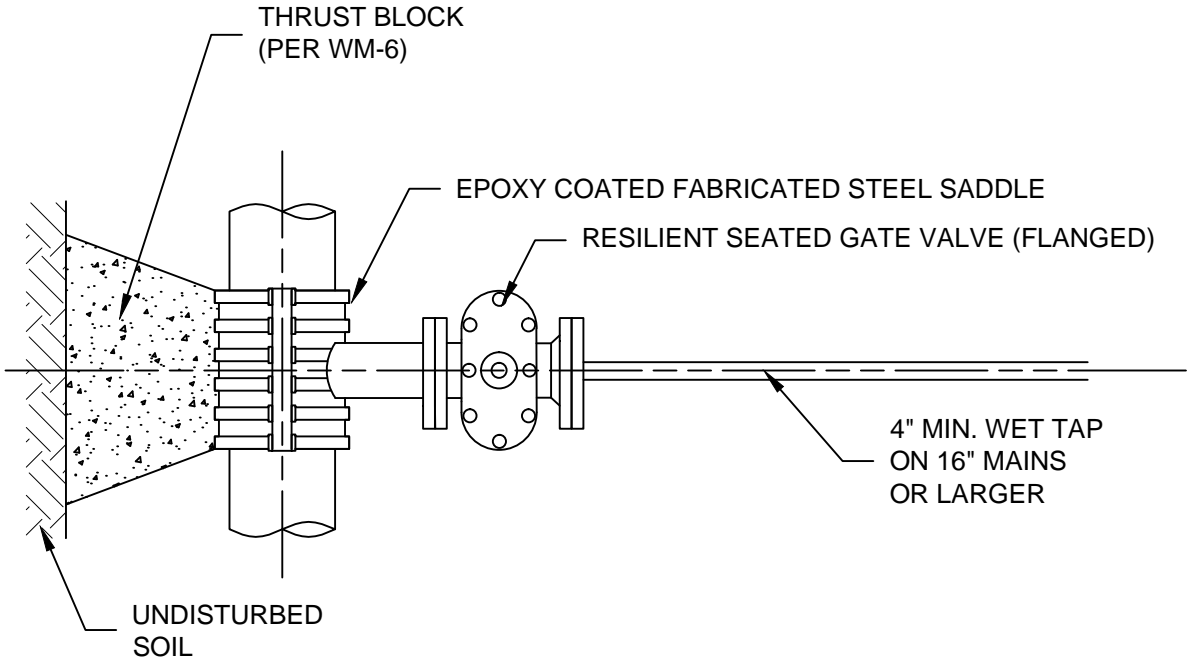
August, 2012



MERIDIAN METROPOLITAN DISTRICT

TRACER WIRE INSTALLATION DETAIL

WM-4



REV. DATE

November, 2014

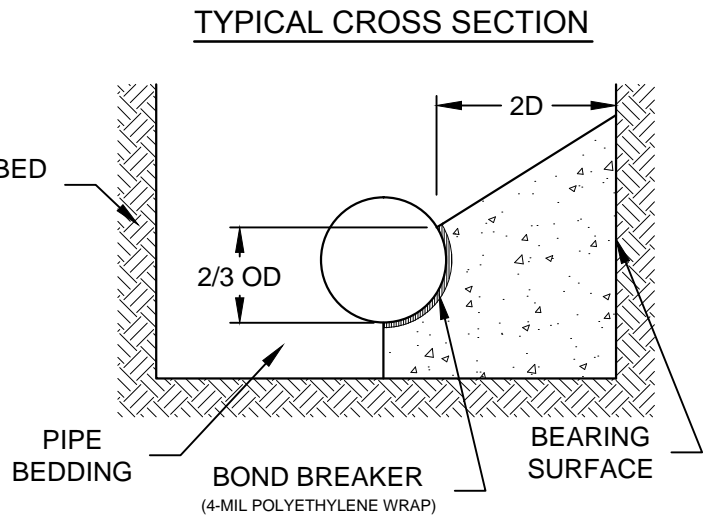
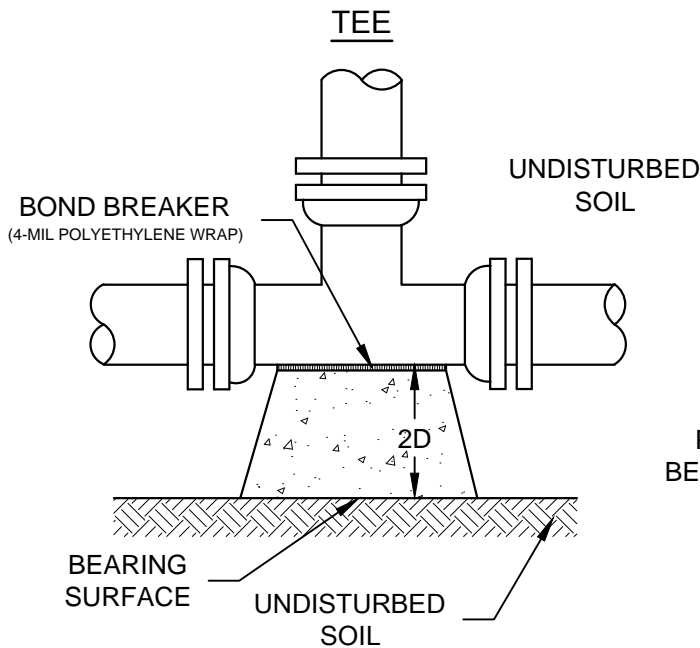
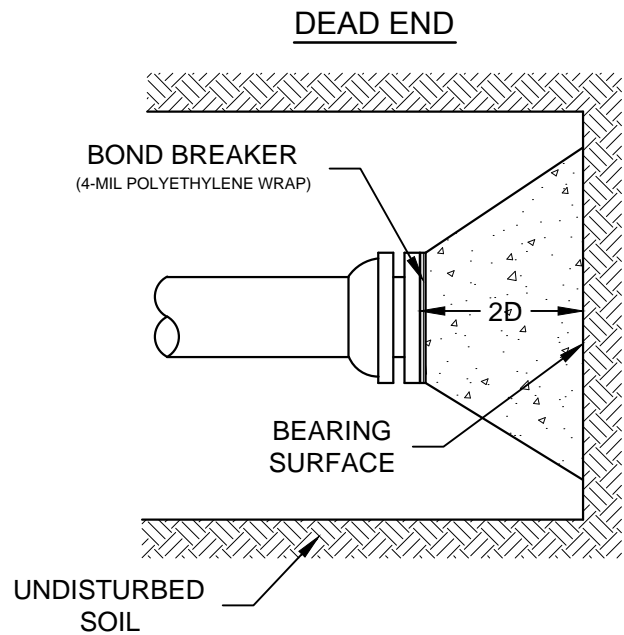
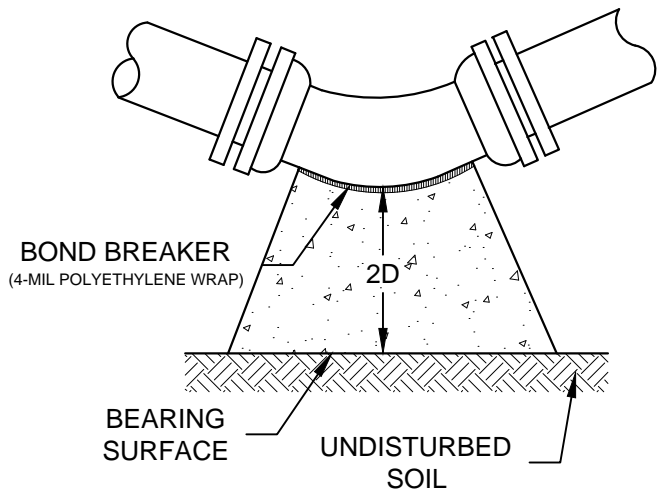


MERIDIAN METROPOLITAN DISTRICT

WET TAP

WM-5

11 $\frac{1}{4}$ °, 22 $\frac{1}{2}$ °, 45°, AND 90° BENDS



MINIMUM BEARING SURFACE AREA

SQUARE- FOOT AREA FOR
150 PSI INTERNAL PRESSURE PIPES

PIPE SIZE	BEND				TEE	DEAD END
	11 $\frac{1}{4}$ °	22 $\frac{1}{2}$ °	45°	90°		
6"	0.6	1.3	2.5	4.6	2.3	3.1
8"	1.1	2.2	4.3	7.9	4.0	5.4
12"	2.4	4.6	9.1	16.8	8.6	11.4
16"	3.9	7.7	15.2	28.0	14.9	20.0
20"	8.5	17.0	33.5	61.7	32.7	43.6
24"	8.5	17.0	33.5	61.7	32.7	43.6
36"	18.9	37.5	73.5	135.0	72.0	96.0

NOTES:

1. ALL CONCRETE THRUST BLOCKS FOR FIRELINE MAINS AND/OR CONNECTIONS MUST MEET NFPA 24 REQUIREMENTS, USING THE BEARING PRESSURES FROM THE APPROVED GEOTECHNICAL REPORT.
2. THIS INFORMATION AND ANY CALCULATIONS MUST BE PROVIDED ON THE APPROVED CONSTRUCTION DRAWINGS.

REV. DATE

JULY 2015

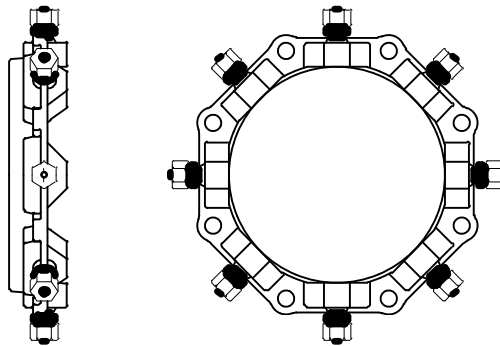


MERIDIAN METROPOLITAN DISTRICT

CONCRETE THRUST BLOCK DETAILS

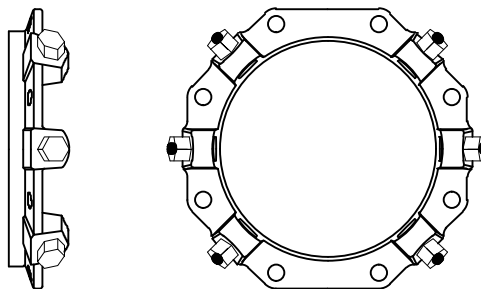
WM-6

MECHANICAL JOINT RESTRAINT FOR PVC - C-900 PIPE (TYPICAL)



PVC RESTRAINT - SERIES 2000 MEGALUG, SERIES 1500 UNI-FLANGE OR MMD
PRE-APPROVED EQUIVALENT; COLOR IS RED

MECHANICAL JOINT RESTRAINT FOR DUCTILE IRON PIPE (TYPICAL)



DUCTILE IRON RESTRAINT - SERIES 1100 MEGALUG, SERIES 1400 UNI-FLANGE OR
MMD PRE-APPROVED EQUIVALENT; COLOR IS BLACK

NOTE: DO NOT MODIFY RESTRAINTS AND INSTALL PER MANUFACTURES' RECOMMENDATION.

REV. DATE

August 2012



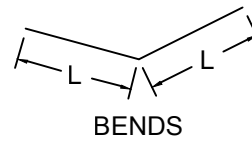
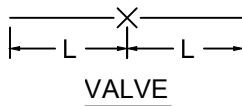
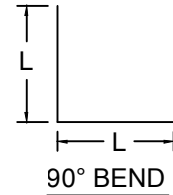
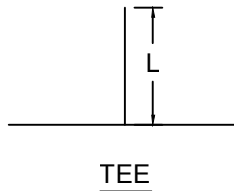
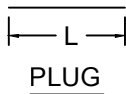
MERIDIAN METROPOLITAN DISTRICT

MECHANICAL JOINT RESTRAINT

WM-7

ROD DIAMETER, GRADE AND LENGTH OF RESTRAINED PIPE

PIPE SIZE	4"			6"			8"			12"			16"			20"			24"			30"		
	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G
90° BEND, TEE, VALVE > 12", PLUG	$\frac{3}{4}$ "	40'	MS	$\frac{3}{4}$ "	45'	MS	$\frac{3}{4}$ "	60'	MS	$\frac{3}{4}$ "	86'	MS	$\frac{3}{4}$ "	108'	HS	1"	132'	HS	1"	155'	HS	1"	218'	HS
45° BEND	$\frac{3}{4}$ "	9'	MS	$\frac{3}{4}$ "	13'	MS	$\frac{3}{4}$ "	18'	MS	$\frac{3}{4}$ "	25'	MS	$\frac{3}{4}$ "	32'	MS	$\frac{3}{4}$ "	39'	HS	$\frac{3}{4}$ "	45'	HS	$\frac{3}{4}$ "	64'	HS
22 $\frac{1}{2}$ ° BEND	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	4'	MS	$\frac{3}{4}$ "	5'	MS	$\frac{3}{4}$ "	7'	MS	$\frac{3}{4}$ "	8'	MS	$\frac{3}{4}$ "	10'	MS	$\frac{3}{4}$ "	12'	MS	$\frac{3}{4}$ "	17'	MS
11 $\frac{1}{4}$ ° BEND	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	2'	MS	$\frac{3}{4}$ "	3'	MS	$\frac{3}{4}$ "	3'	MS	$\frac{3}{4}$ "	5'	MS
VERTICAL BENDS	ALL TOTALLY RESTRAINED, L = 40'																							



NOTES

1. LENGTH OF RESTRAINED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
2. CLAMPS, RODS & MEGALUGS NOT ALLOWED FOR PIPES LARGER THAN 30". CLAMPS AND RODS SHALL BE EXTENDED TO THE NEXT PIPE.
3. D=DIAMETER, L=LENGTH, G=GRADE, MS=MILD STEEL, HS=HIGH STRENGTH.
4. MIN 4.5' GROUND COVER REQUIRED.
5. BASED ON 150 PSI INTERNAL PRESSURE, FOR L AND PRESSURES LISTED ON SHEET 22 FOR D AND G.
6. MS = MILD STEEL ROD ASTM A-36. HS = HIGH STRENGTH ROD ASTM A-193 GRADE B7.
7. NUTS SHALL BE ASTM A-307 GRADE A OR B HEXAGON HEAVY SERIES.
8. SEE TIE ROD DETAIL DRAWING. ALSO, TIE ROD COUPLING DETAILS, CLAMP DETAILS AND SET CLAMP DETAILS.
9. LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE RESTRAINED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
10. LENGTH OF RESTRAINED PIPE CHART IS ALSO FOR THE LENGTH OF JOINT RESTRAINT FOR MEGALUGS.
11. CROSSES MUST BE RESTRAINED IN ALL APPLICABLE DIRECTIONS.
12. 12" AND SMALLER IN LINE VALVES AND TEES SHALL HAVE A MECHANICAL JOINT RESTRAINT DEVICE ON EACH SIDE OF THE FITTING OR VALVE. MECHANICAL JOINT RESTRAINT DEVICE SHALL BE PER WM-11.
13. A SECOND VALVE WILL BE REQUIRED TO BE CLOSED WHEN EXCAVATING NEXT TO A EXISTING VALVE.
14. ON PLUGS, TEES AND BENDS KICKBLOCKS SHALL BE USED IN ADDITION TO RESTRAINT.
15. WHEN REDUCERS ARE USED ON VALVE INSTALLATIONS THE LENGTH OF RESTRAINT SHALL BE BASED ON THE SIZE OF THE PIPE NOT THE SIZE OF THE VALVE.

REV. DATE

August 2012



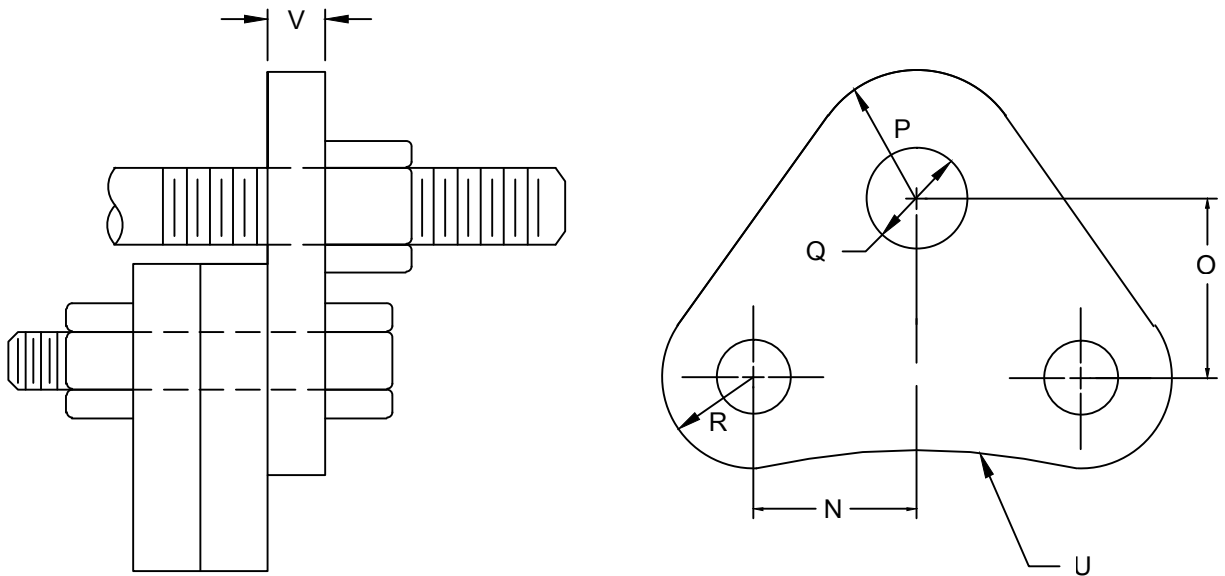
MERIDIAN METROPOLITAN DISTRICT

LENGTH OF RESTRAINED PIPE

WM-8

FLANGE LUG DETAIL

PIPE SIZE	N	O	H.S. RODS			M.S. RODS			R	S	U	V	PIPE SIZE
			P	Q	ROD Ø	P	Q	ROD Ø					
6"	1 $\frac{13}{16}$ "	2 $\frac{1}{4}$ "	1"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	1"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "	3 $\frac{3}{4}$ "	$\frac{3}{4}$ "	6"
8"	2 $\frac{1}{4}$ "	2 $\frac{3}{4}$ "	1"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	1"	$\frac{7}{8}$ "	$\frac{3}{4}$ "	1"	$\frac{7}{8}$ "	4 $\frac{7}{8}$ "	$\frac{3}{4}$ "	8"
12"	2 $\frac{3}{16}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{8}$ "	$\frac{3}{4}$ "	1 $\frac{1}{8}$ "	1"	7 $\frac{1}{4}$ "	$\frac{7}{8}$ "	12"
16"	2 $\frac{1}{16}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{8}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{3}{8}$ "	$\frac{3}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{8}$ "	9 $\frac{3}{8}$ "	1 $\frac{1}{8}$ "	16"
20"	1 $\frac{31}{32}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{8}$ "	1"	-	-	-	1 $\frac{7}{16}$ "	1 $\frac{1}{4}$ "	11 $\frac{1}{16}$ "	1 $\frac{1}{4}$ "	20"



REV. DATE

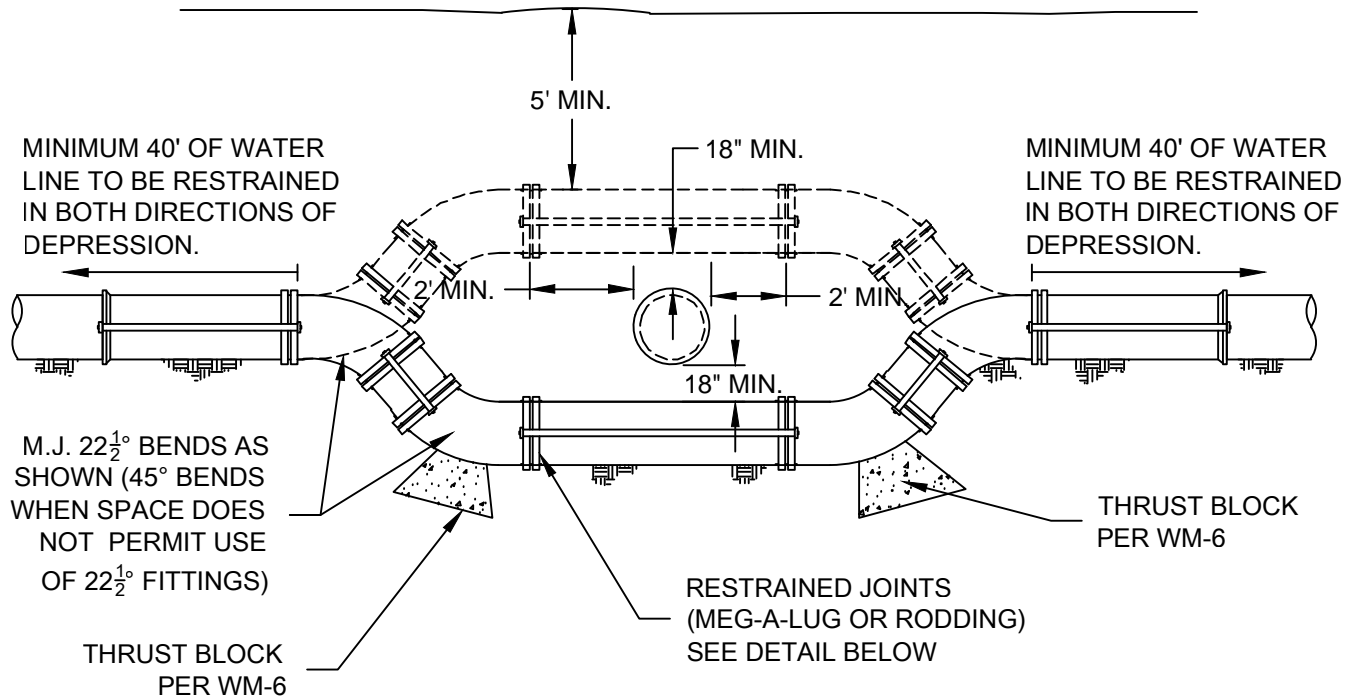
August 2012



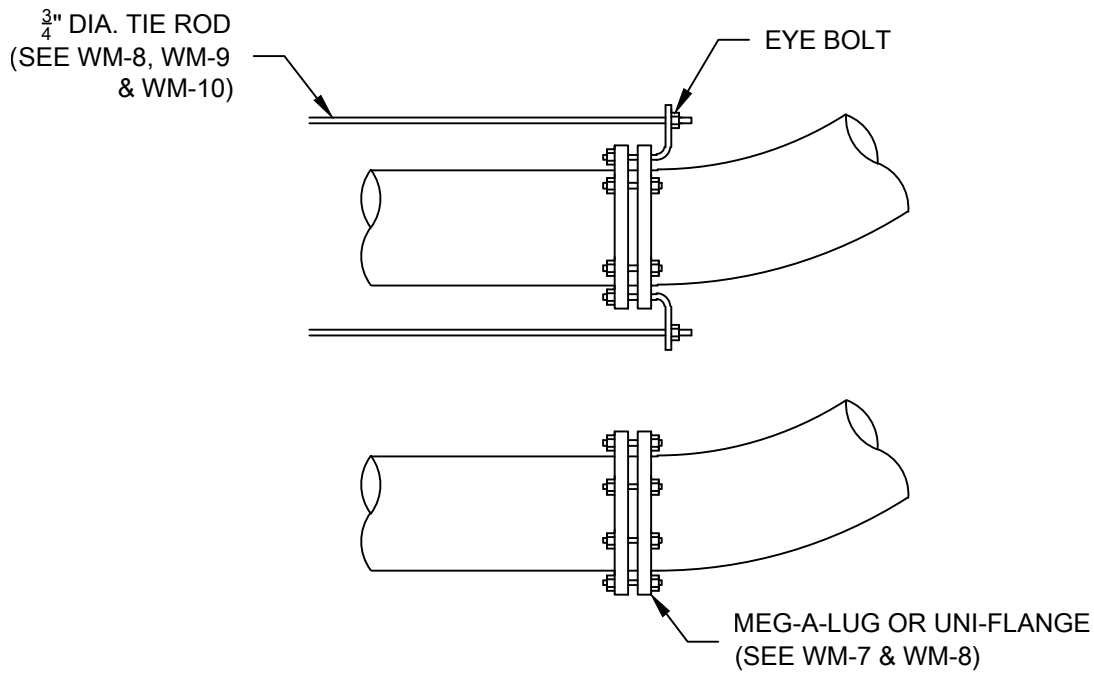
MERIDIAN METROPOLITAN DISTRICT

FLANGE LUG DETAIL

WM-9



TYPICAL DETAIL FOR WATER LINE DEPRESSION
 4", 6" 8", 10" & 12" DIAMETERS



TYPICAL RESTRAINED JOINTS
 MAY USE MEG-A-LUG OR RODDING

REV. DATE

August 2012

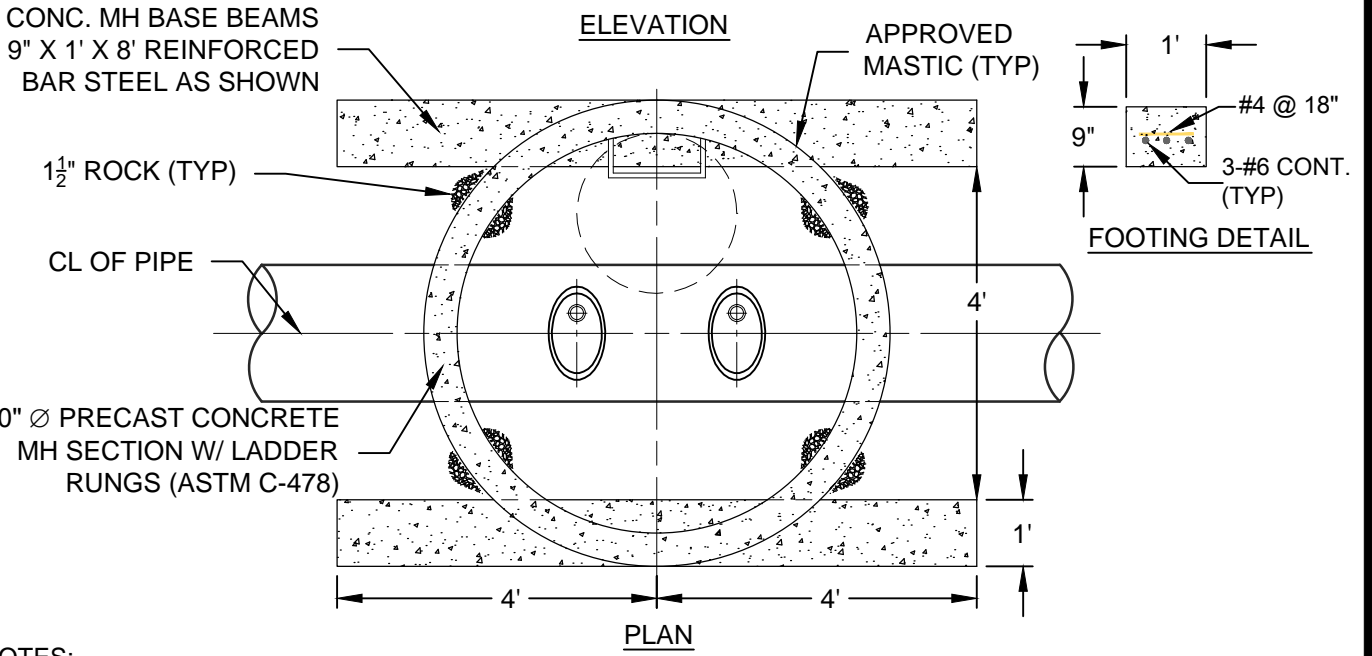
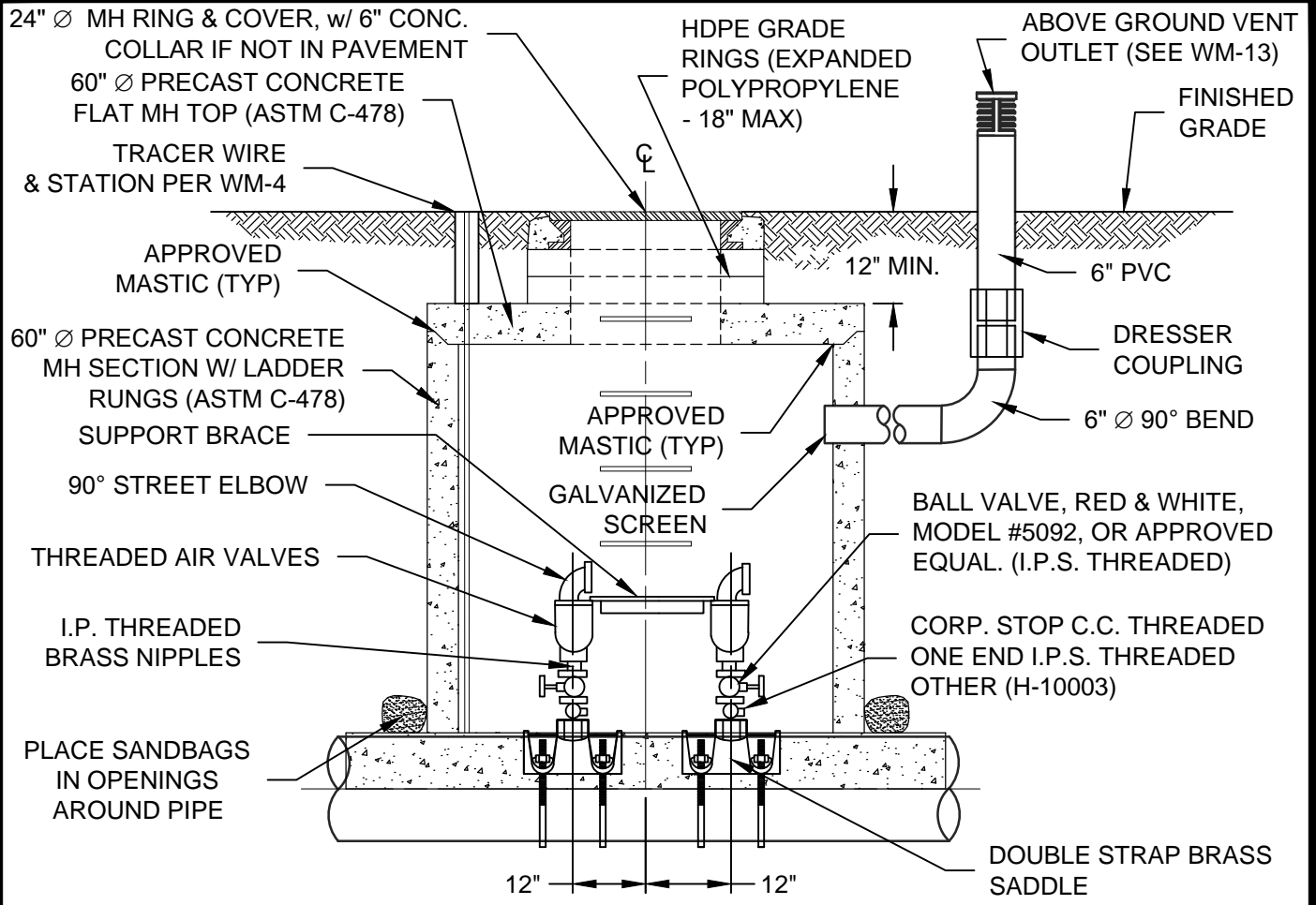


MERIDIAN METROPOLITAN DISTRICT

RESTRAINED JOINTS AT VERTICAL BENDS

WM-11

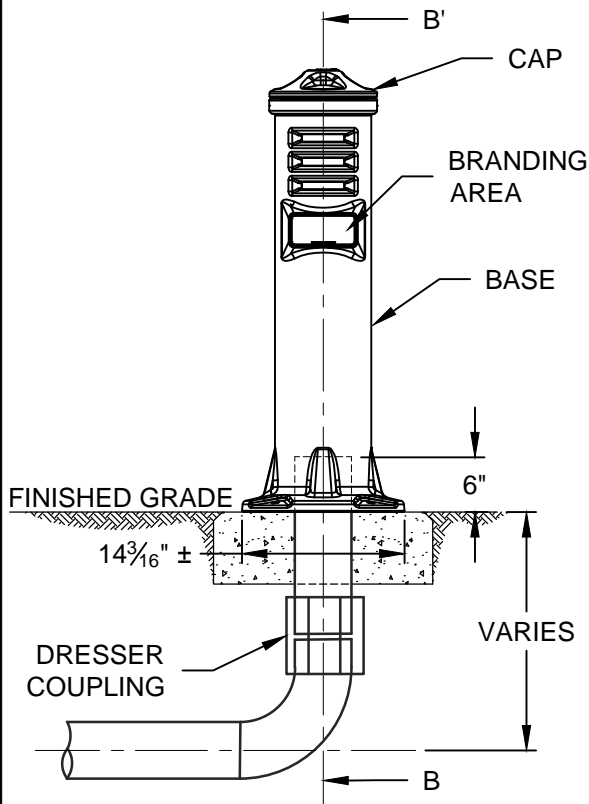
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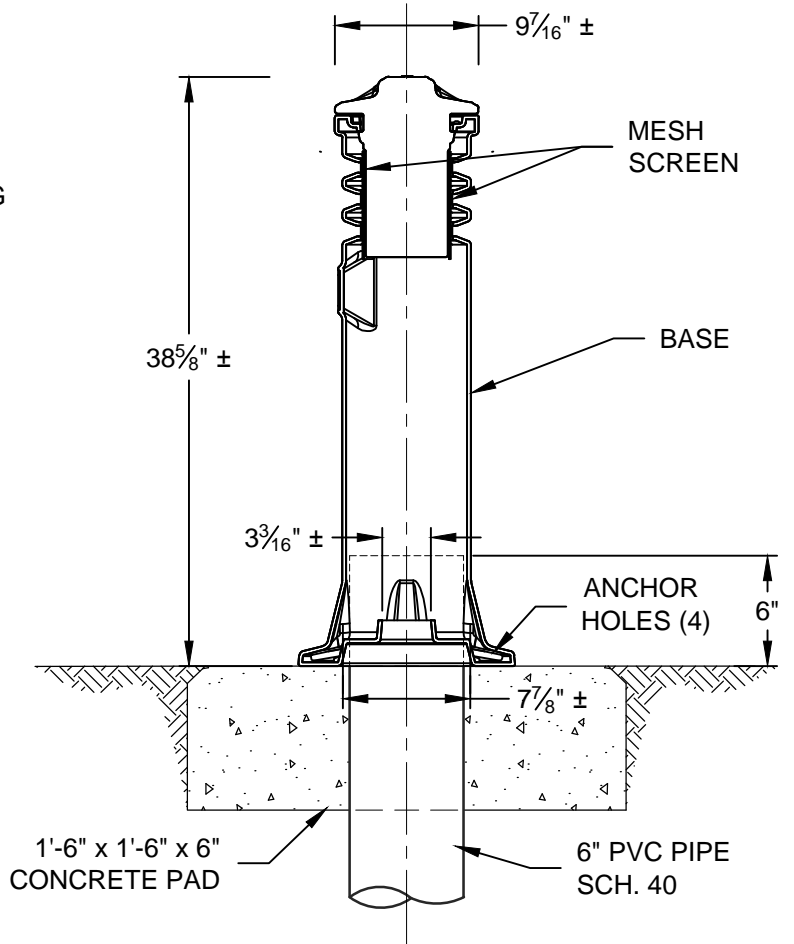
- NOTES:**
1. 1 1/2" ROCK SHALL BE PLACED IN BOTTOM OF MANHOLE TO CROWN OF PIPE ONLY.
 2. ALL PIPE AND FITTINGS SHALL BE BRASS.
 3. 6" THRU 10" LINES SHALL HAVE, 2 EA., 1" COMBINATION AIR VALVE.
 4. 12" LINES AND LARGER SHALL HAVE, 2 EA., 2" COMBINATION AIR VALVE.
 5. SUPPORT BRACE SHALL BE CONSTRUCTED OF 1/4" STEEL STRAPPING DRILLED TO MATCH AIR PORT HOLES.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WM-12
JULY 2015			
AIR VALVE ASSEMBLY			

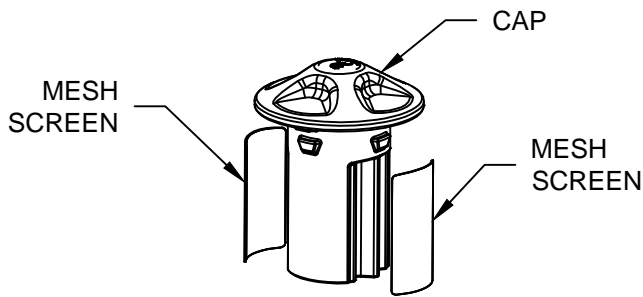
\\TECHCENTER\projects\2006\06-24\wg\BLOCKS\Utility Details\WM-12 Air Valve Assembly.dwg, 9/4/2015 8:11:46 AM, mchved



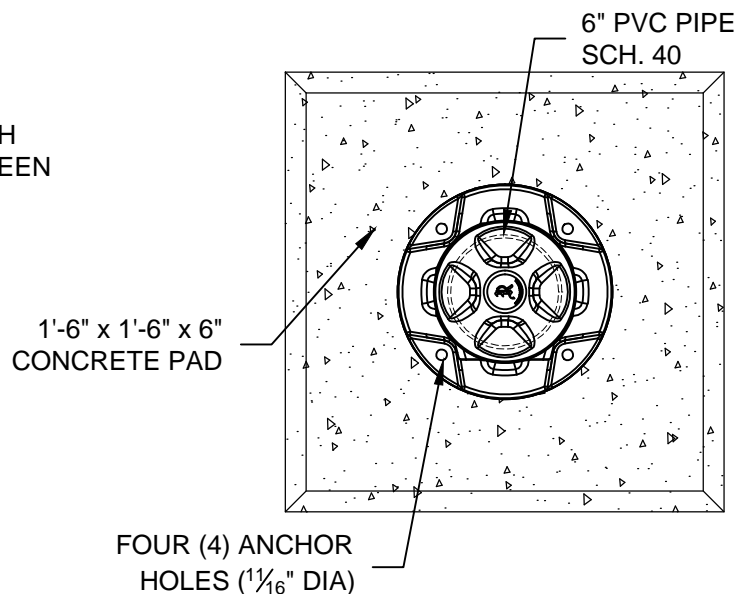
VENT SCREEN DETAIL



VENT SCREEN DETAIL SECTION B - B'



SCREEN DETAIL



BASE DETAIL

NOTES:

1. HUSKY RESIDENTIAL STREET VENT ASSEMBLY. COLOR SHALL BE BLACK.
2. 24 MESH STAINLESS STEEL SCREEN; THICKNESS = 0.028"; PATTERN (PWS) = 0.027"; OPEN AREA = 44%.

REV. DATE

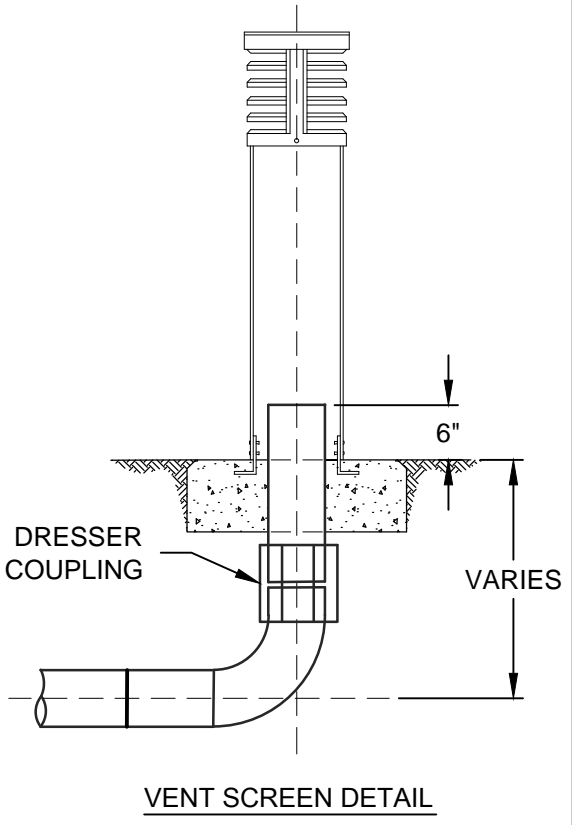
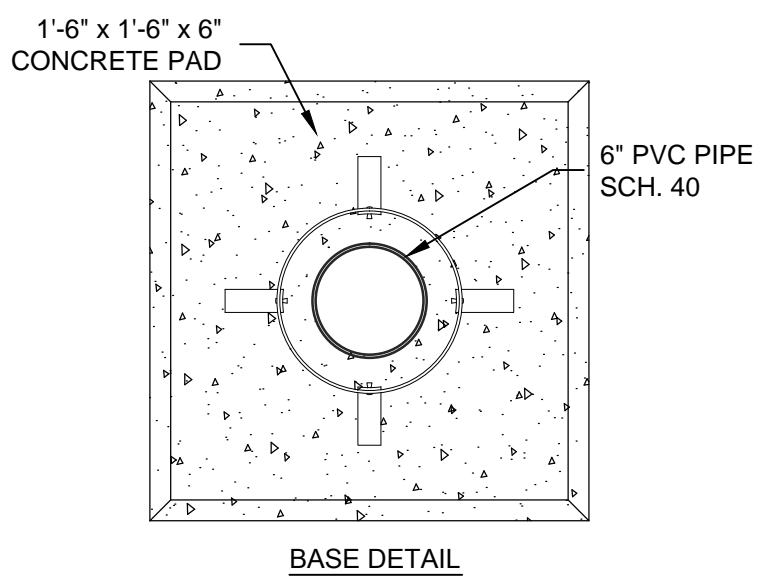
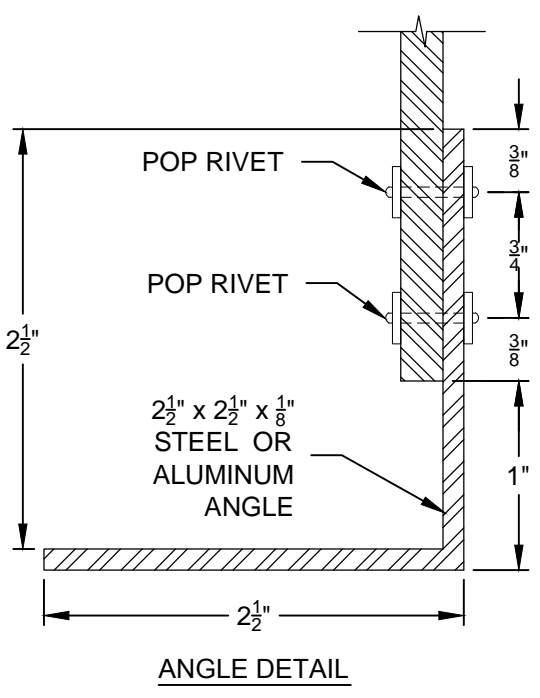
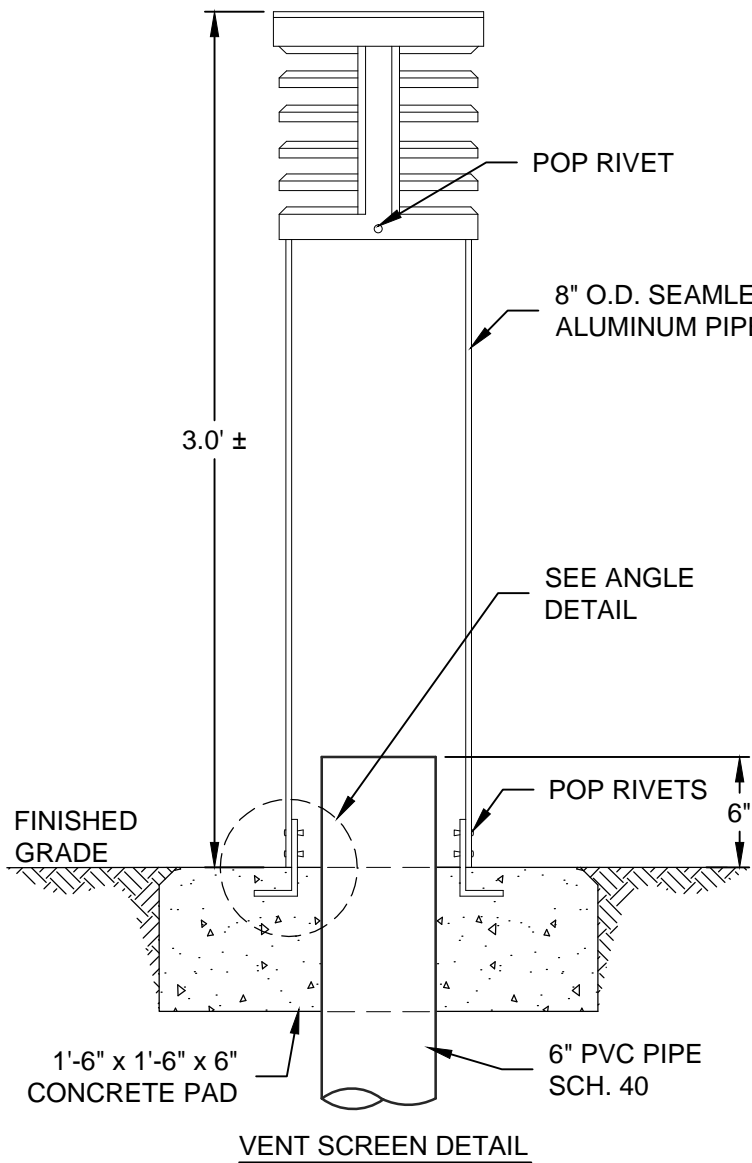
July 2015



MERIDIAN METROPOLITAN DISTRICT

AIR VENT DETAIL

WM-13

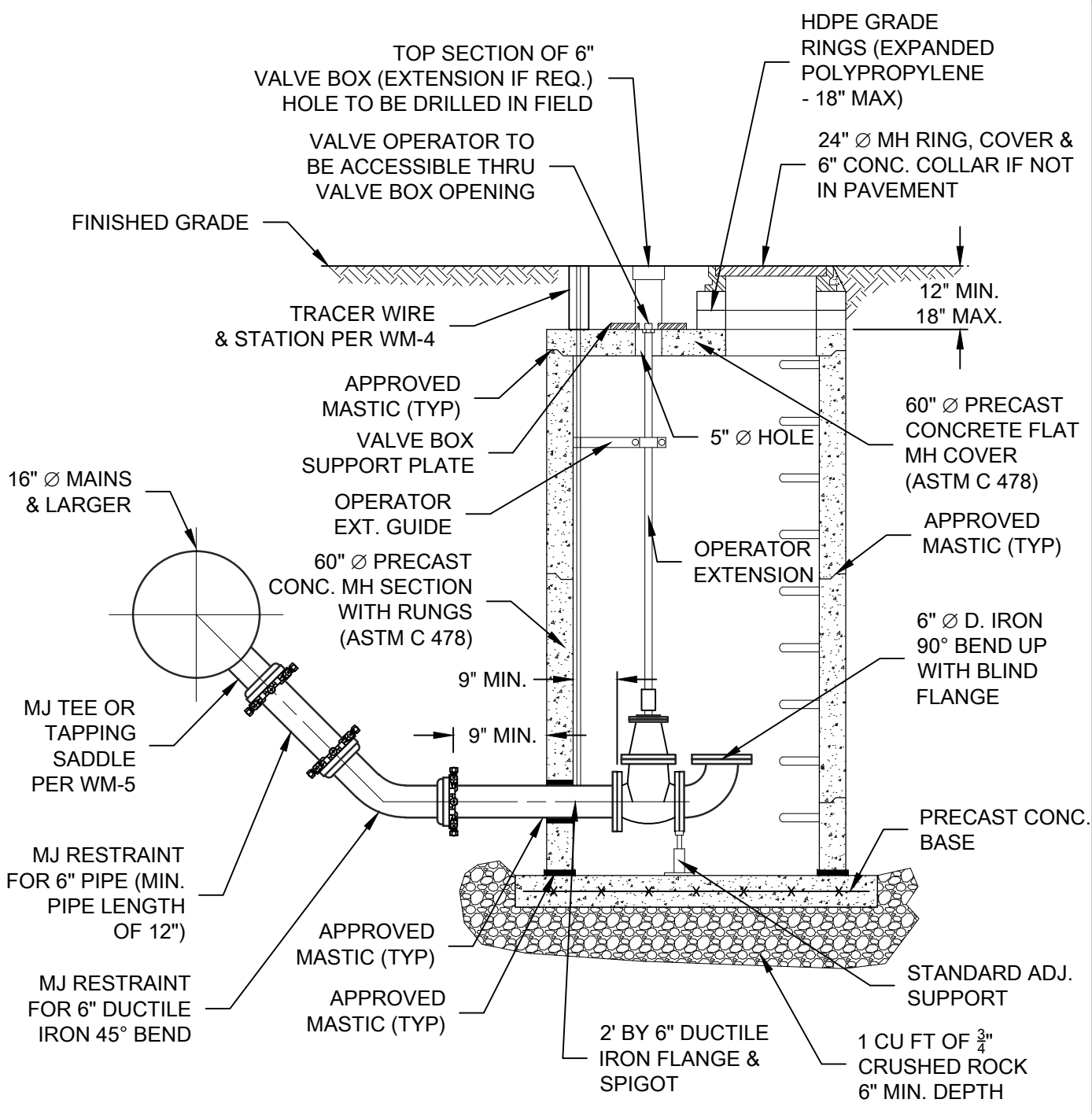


NOTE:

1. COLOR SHALL BE GUIRYS COLOR TAN #8791 - SEE WM-3.
2. THIS DETAIL REQUIRES DISTRICT APPROVAL PRIOR TO PLAN APPROVAL AND INSTALLATION.

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WM-13A Vent Assembly Detail.dwg, 9/4/2015 8:24:07 AM, mchved

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WM-13A
July 2015			
		AIR VENT DETAIL (ALTERNATE)	



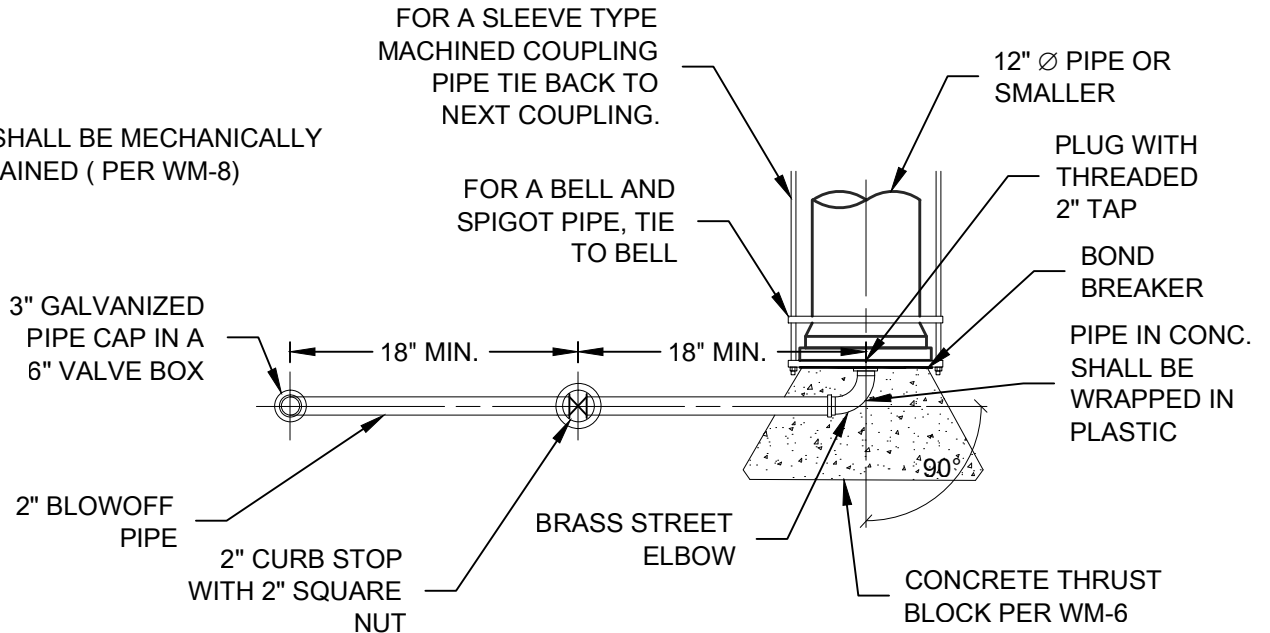
ELEVATION

NOTE:
 THIS INSTALLATION MAY BE REPLACED BY A FIRE HYDRANT WHERE PRE-APPROVED BY THE MERIDIAN METROPOLITAN DISTRICT.

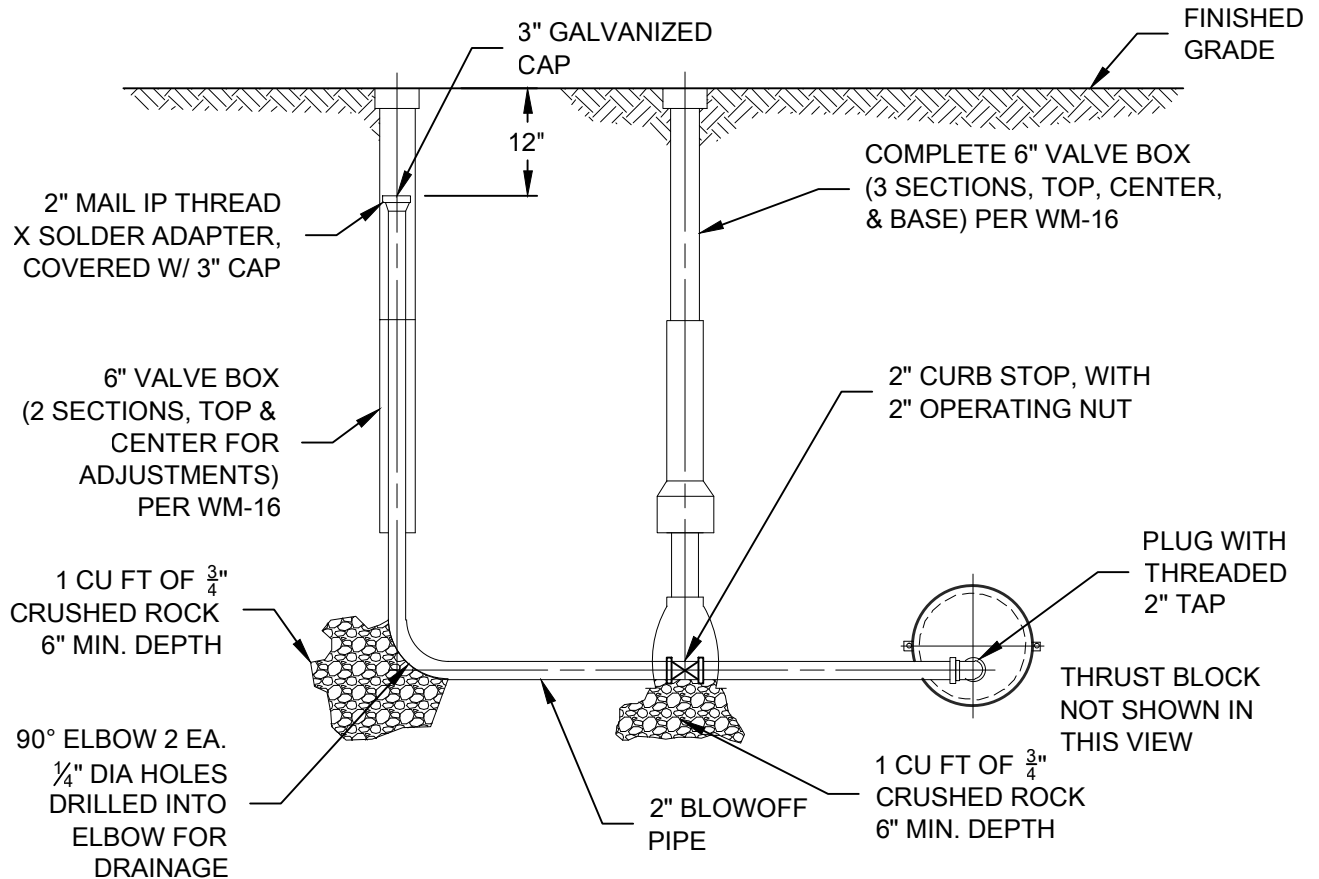
\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WM-14 Transmission Main Blowoff.dwg, 9/4/2015 8:26:31 AM, mcs/led

REV. DATE JULY 2015		MERIDIAN METROPOLITAN DISTRICT	WM-14

NOTE:
PLUG SHALL BE MECHANICALLY RESTRAINED (PER WM-8)



PLAN



ELEVATION

NOTE:
BLOWOFF PIPE TO BE TYPE K SOFT COPPER OR BRASS.

REV. DATE

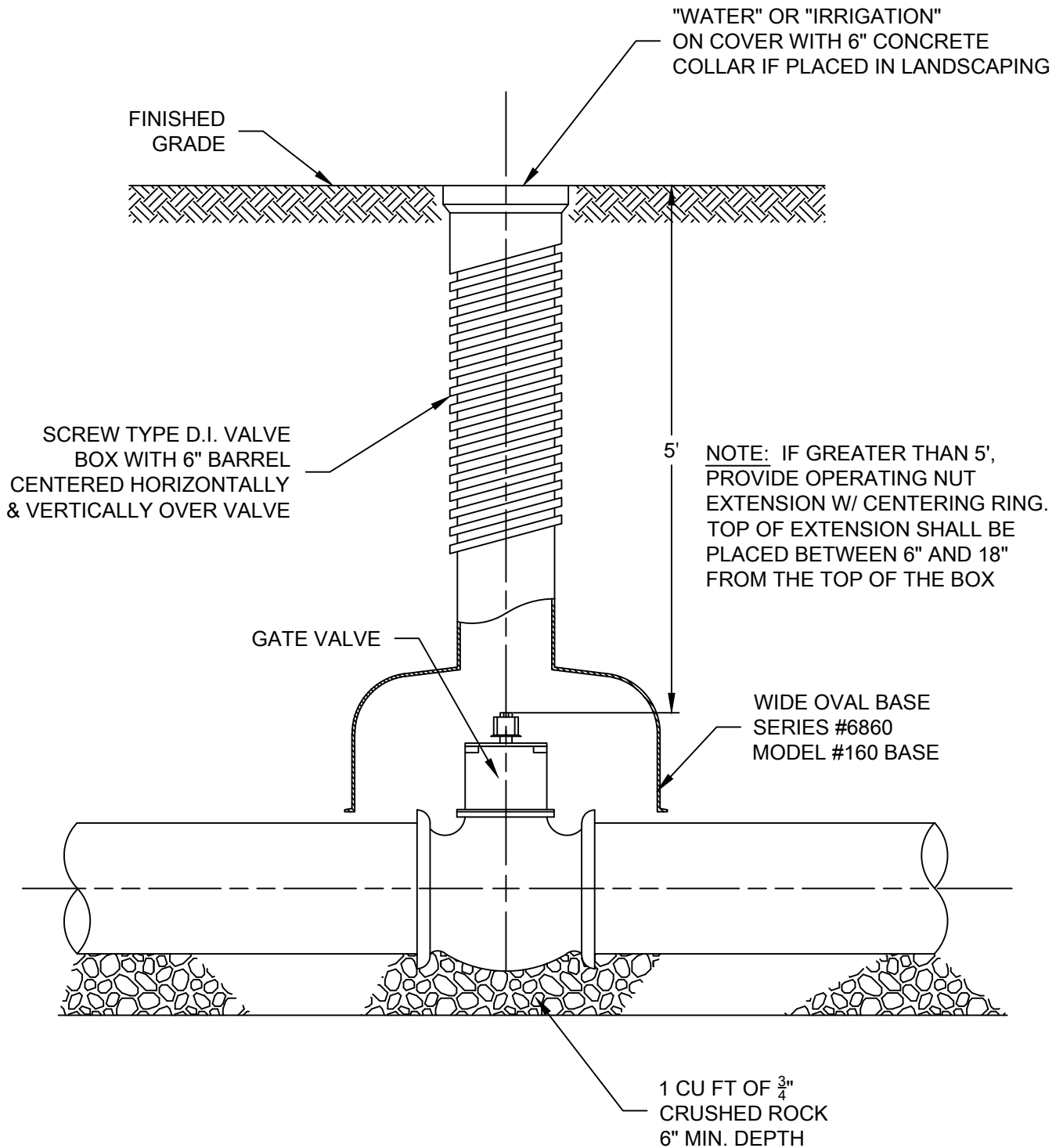
August 2012



MERIDIAN METROPOLITAN DISTRICT

BLOWOFF FOR 12" AND SMALLER PIPE

WM-15



NOTE:

1. FITTINGS SHALL BE WRAPPED WITH 8 MIL THICKNESS POLYETHYLENE.
2. USE THIS DETAIL FOR WATER MAIN/SERVICES GREATER THAN 1" IN SIZE.
3. MANUFACTURER: TYLER UNION 6860 SERIES

REV. DATE

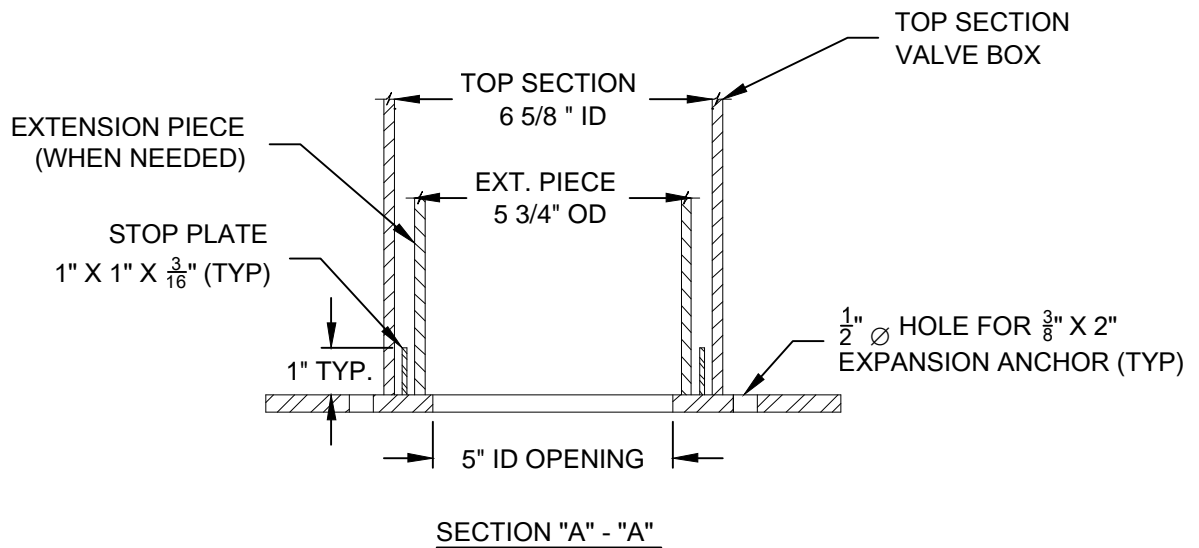
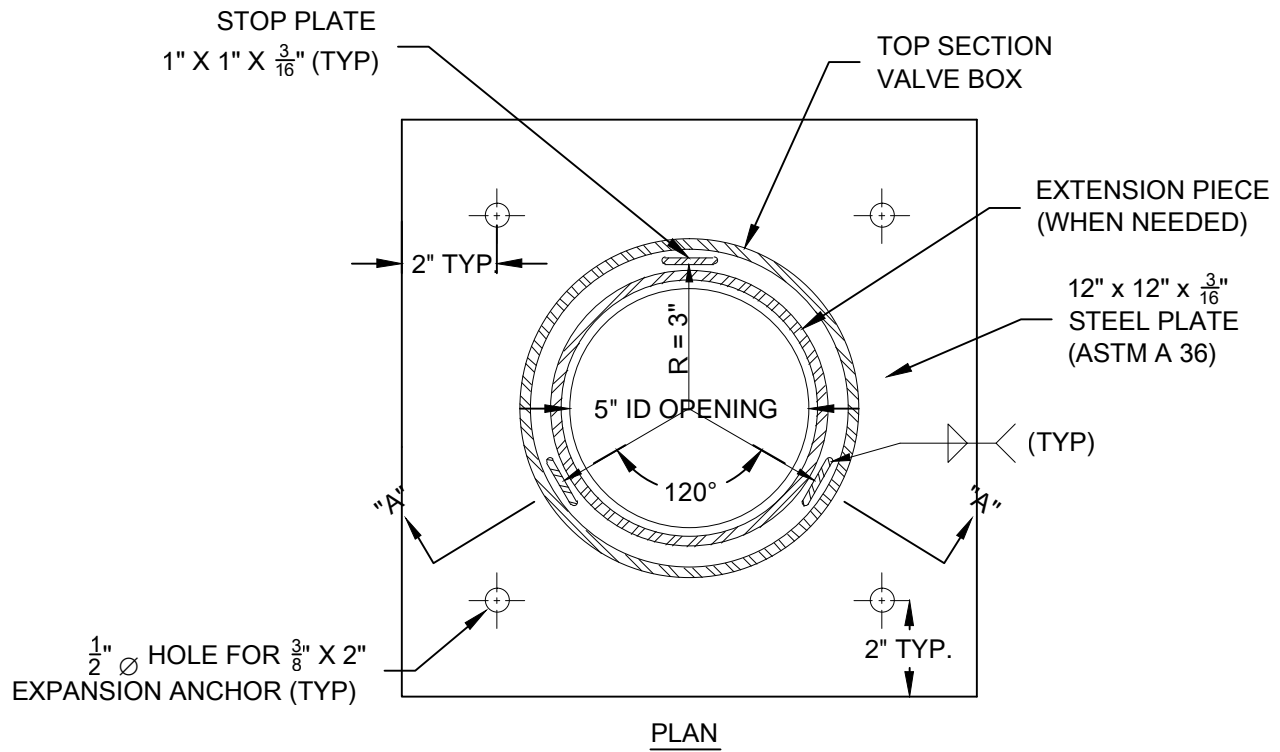
07/15



MERIDIAN METROPOLITAN DISTRICT

VALVE BOX DETAIL

WM-16



NOTE:

1. PLATE SHALL BE COATED WITH LIQUID EPOXY, 16 MIL DRY FILM THICKNESS IN ACCORDANCE WITH AWWA C210.

REV. DATE

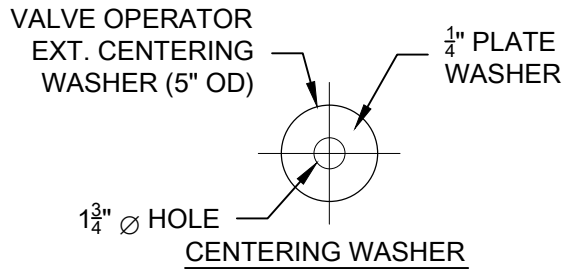
August 2012



MERIDIAN METROPOLITAN DISTRICT

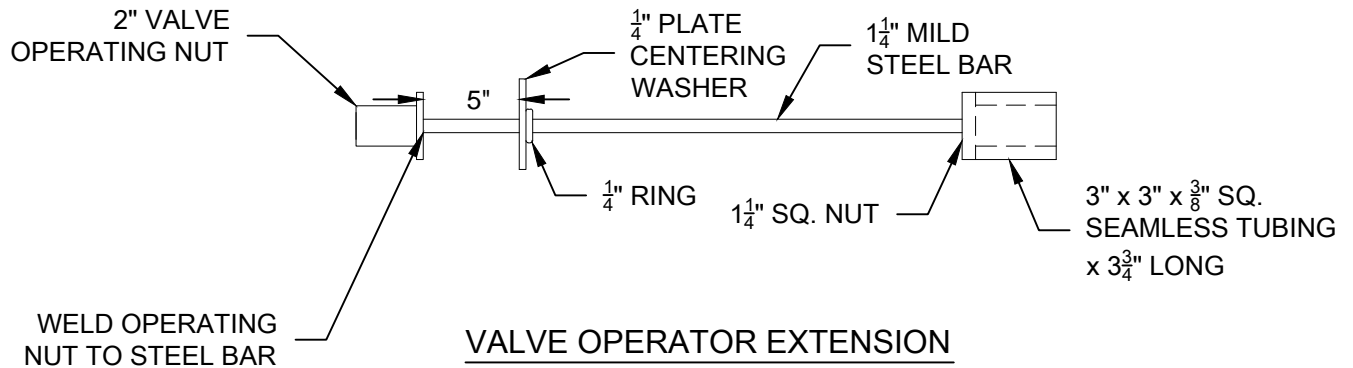
VALVE BOX SUPPORT PLATE

WM-17

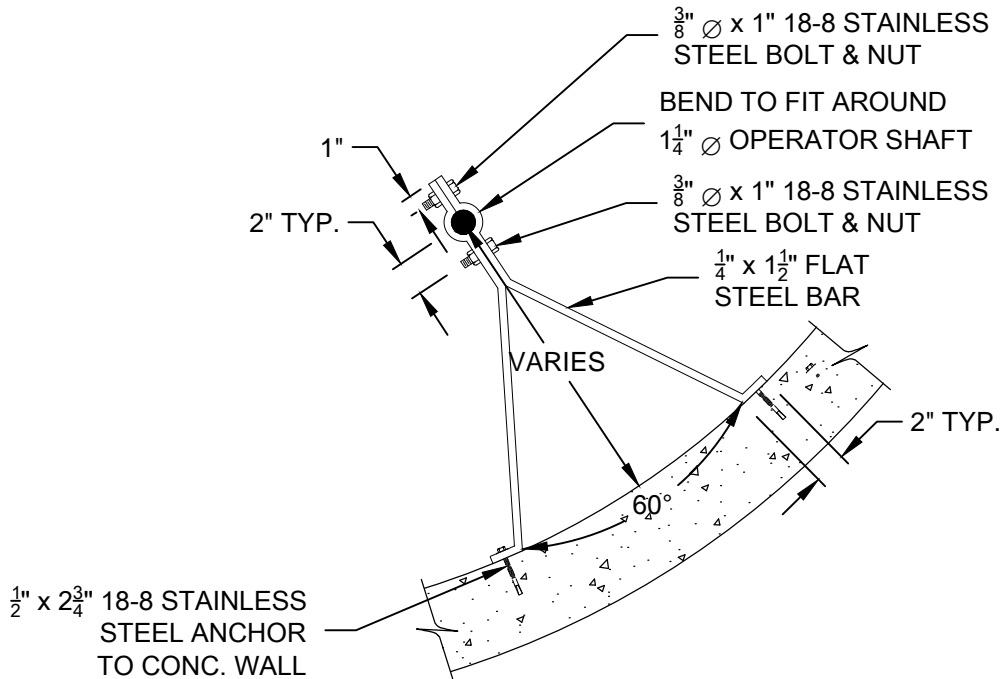


NOTE:

1. 2" VALVE OPERATING NUT IS WELDED DIRECTLY TO 1 1/4" MILD STEEL BAR.



VALVE OPERATOR EXTENSION



VALVE EXTENSION GUIDE

NOTE:

1. ENTIRE ASSEMBLY SHALL BE COATED WITH LIQUID EPOXY (NSF 61), 16 MIL MINIMUM DRY FILM THICKNESS IN ACCORDANCE WITH AWWA C210-97. BAR SHALL BE ASTM A 36.
2. CONTRACTOR SHALL SUBMIT FOR DISTRICT APPROVAL A SHOP DRAWING IF EXTENSION IS > 6' IN LENGTH.
3. GUIDES INSTALLED 6' TO 8' MAX OR MIDWAY ON EACH MANHOLE RISER SECTION.

REV. DATE

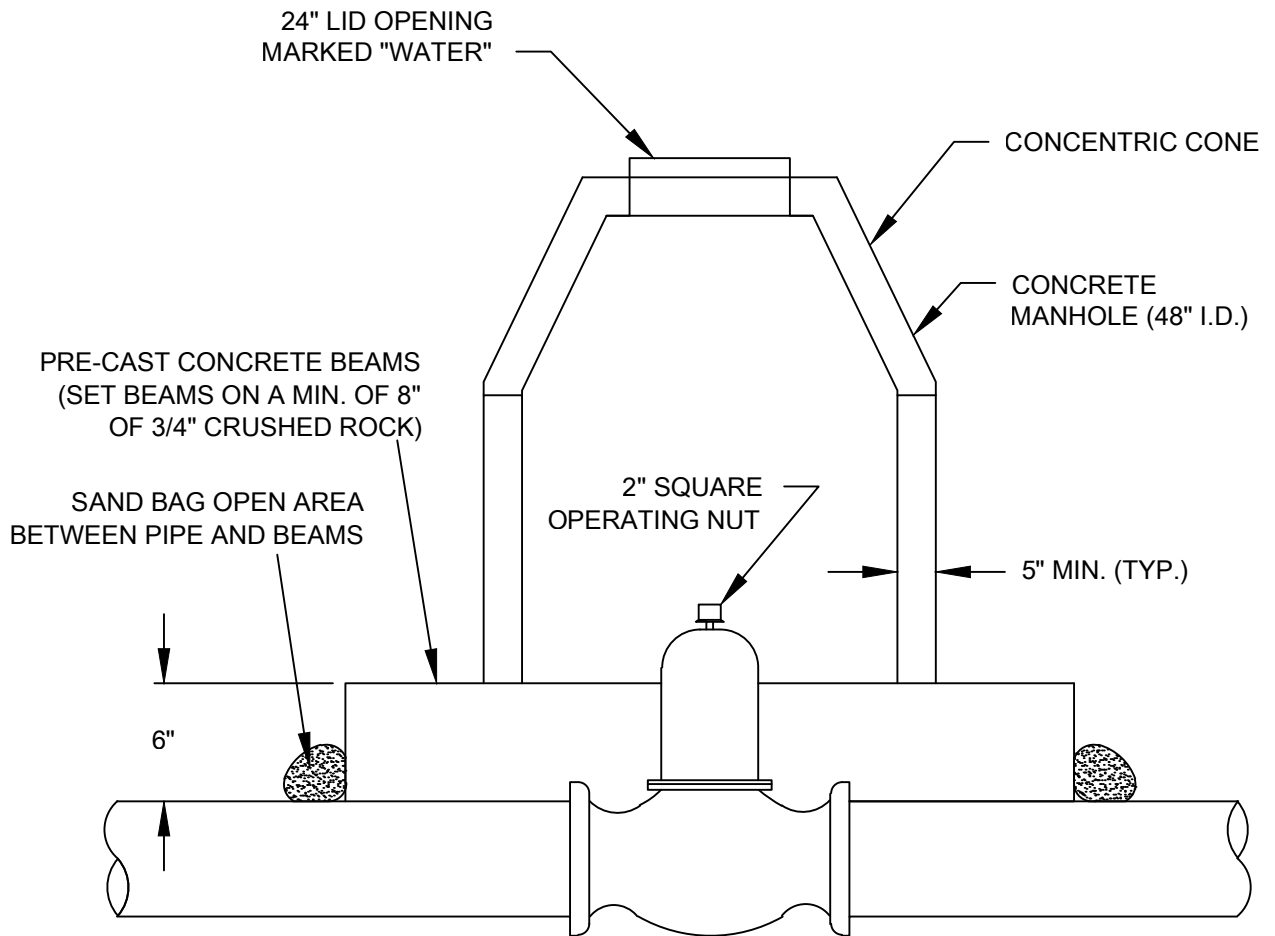
SEPTEMBER 2015



MERIDIAN METROPOLITAN DISTRICT

VALVE OPERATOR GUIDE & EXTENTION

WM-18



REV. DATE

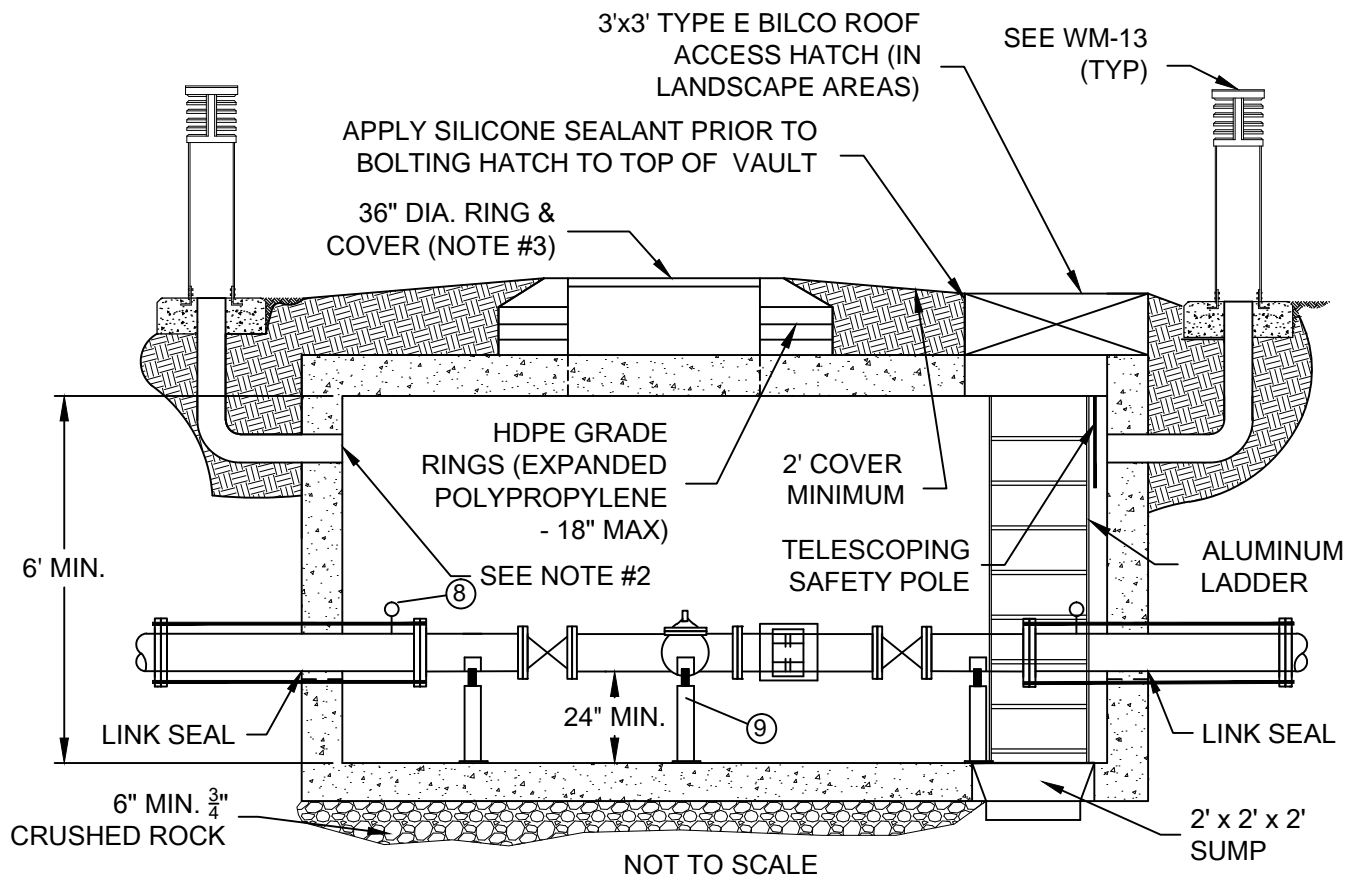
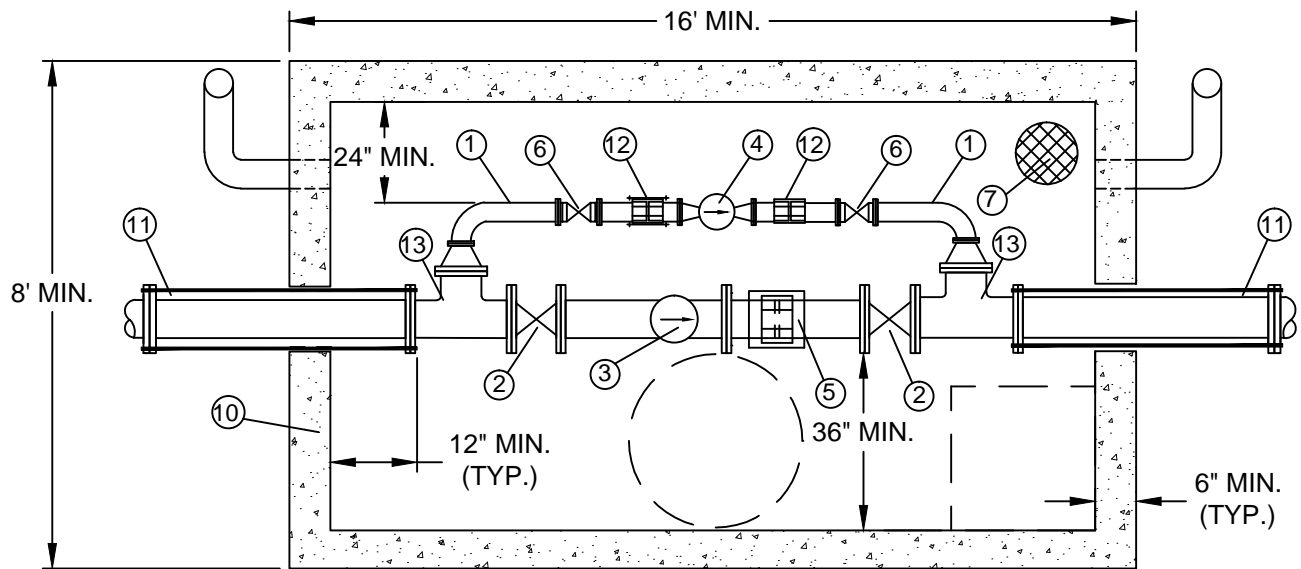
August 2012



MERIDIAN METROPOLITAN DISTRICT

ZONE VALVE MANHOLE

WM-19



NOTES:

1. EXTERIOR CONCRETE SHALL BE DAMP-PROOFED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. CONNECT GALVANIZED SCREEN TO VENT PIPE WITH HOSE CLAMP AROUND PIPE - TYPICAL.
3. ALL FITTINGS AND PIPING WILL BE PAINTED "PRECAUTION BLUE" ENAMEL.
4. IF PRV IS LOCATED IN A PAVED AREA, THE ACCESS WILL BE A 36" DIA. RING & COVER. VAULT LID SHALL HAVE A REMOVABLE SECTION (MIN. 6' WIDE) WITH LIFTING RING. VENTS TO BE LOCATED IN THE NEAREST LANDSCAPE AREA WITH DISTRICT APPROVAL.
5. SEE WM-20A FOR ADDITIONAL DETAILS.

REV. DATE

JULY 2015



MERIDIAN METROPOLITAN DISTRICT

PRESSURE REDUCING VAULT

WM-20


\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WM-20 Pressure Reducing Vault.dwg, 9/4/2015 8:41:05 AM, mchved

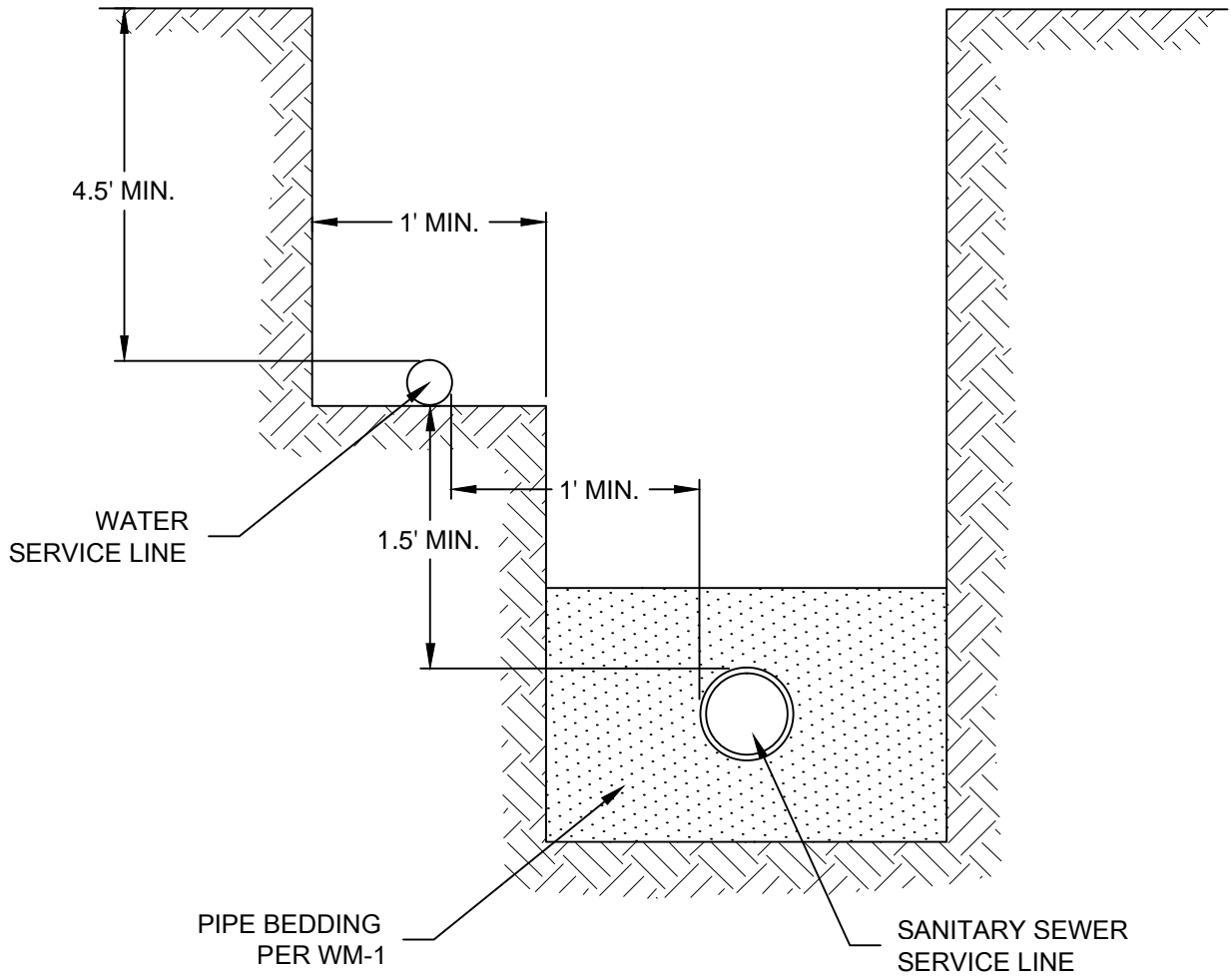
LABEL DESCRIPTIONS FOR WM-20:

- ① 4" DIP CLASS 50.
- ② "d" GATE VALVE (MATCH THE SIZE OF THE MAIN).
- ③ "d" PRESSURE REDUCING/SUSTAINING VALVE (CLA-VAL SERIES 92G-01); GPM TO 3900.
- ④ 4" PRESSURE REDUCING/SUSTAING VALVE (CLA-VAL SERIES 92G-01); GPM TO 580.
- ⑤ DRESSER STYLE PIPE COUPLING.
- ⑥ 4" GATE VALVE.
- ⑦ SUMP AND COVER.
- ⑧ ¾" CORP. WITH IRON PIPE THREAD OUTLET & PRESSURE GAUGE WITH 4" FACE & 5 PSI INCREMENTS (0-200 PSI RANGE) - TYPICAL.
- ⑨ PIPE SUPPORTS - SEE D-4 AND D-5.
- ⑩ RECTANGULAR PRECAST VAULT, TOP, BOTTOM & SIDES.
- ⑪ MEGA LUG PIPE RESTRAINTS.
- ⑫ 4" DRESSER STYLE COUPLING.
- ⑬ "d" x 8" TEE.

NOTES FOR WM-20

- 1. "d" = DIAMETER OF MAIN LINE PIPE.
- 2. ALL BACKFILL SHALL BE COMPACTED TO 90% ASTM 1557.
- 3. ACTUAL LENGTHS OF PIPE TO BE FIELD VERIFIED BY CONTRACTOR.
- 4. PIPE NOT SHOWN IN TRUE GEOGRAPHICAL POSITION FOR CLARITY.

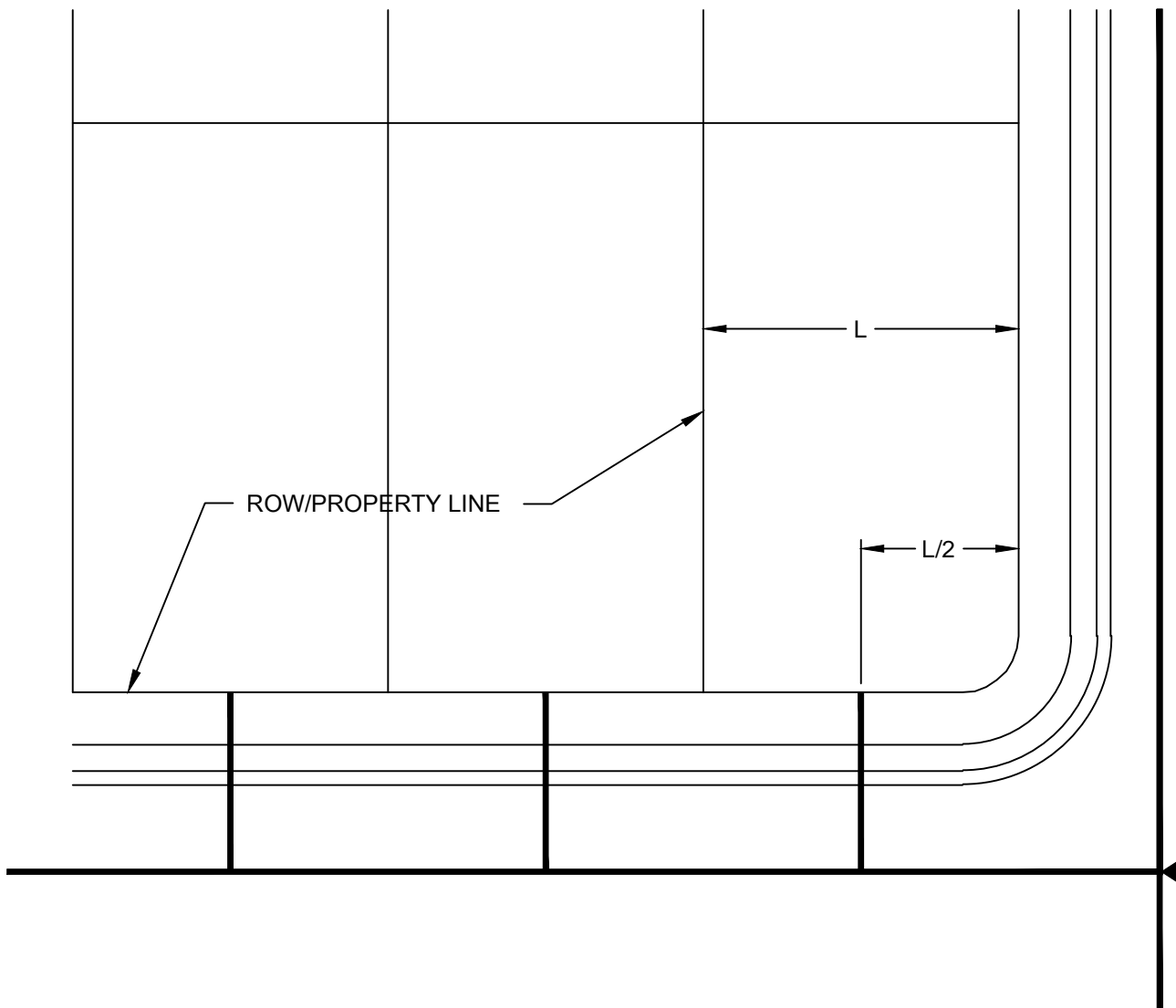
REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WM-20A
06/12		PRESSURE REDUCING VAULT NOTES	



NOTES:

1. FOR LOTS WITH JOINT TRENCH ALONG FRONT OF LOT, WATER SERVICE LINE SHALL BE PLACED WITH 4.5' MINIMUM COVER.
2. ALL WATER SERVICES SHALL BE PLACED AT THE CENTER OF THE LOT.
3. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX.
4. THIS DETAIL IS FOR CENTER OF FRONT LOT ONLY.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WS-1
06/12		WATER AND SEWER JOINT TRENCH	



NOTES:

1. WATER SERVICE LINES SHALL ONLY BE PERMITTED IN THE FRONT OF LOTS. CURB STOP VALVE LOCATIONS SHALL COMPLY WITH DETAIL WS-5, WS-6 AND WS-7.
2. A 3 INCH "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX.
3. WATER MAIN SERVICE CONNECTION SHALL FOLLOW DETAIL WS-3

REV. DATE

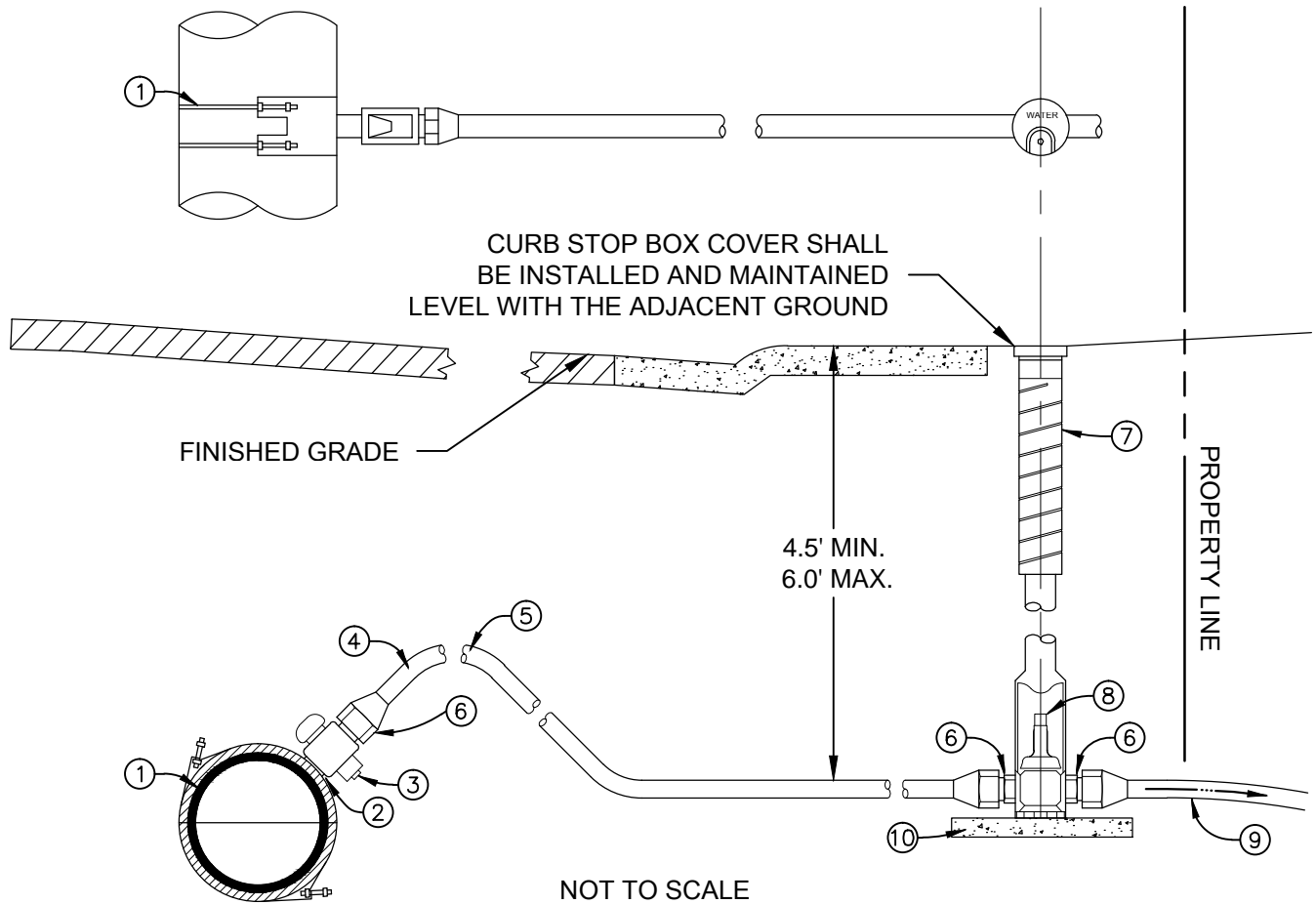
06/12



MERIDIAN METROPOLITAN DISTRICT

RESIDENTIAL WATER SERVICE LOCATION

WS-2



- ① WATER MAIN WITH TAPPING SADDLE
- ② INLET SIDE - AWWA TAPER THREAD (CC STYLE)
- ③ CORPORATION STOP, FORD #FB1000, MUELLER #H15008 & #H15013, MCDONALD & 4701BQ & 4701BT OR APPROVED EQUAL
- ④ TYPE K COPPER PIPE
- ⑤ PROVIDE AMPLE BEND
- ⑥ OUTLET SIDE - GRIP TITE JOINT COMPRESSION
- ⑦ TYLER 6500 SERIES, 95E, 4 $\frac{7}{8}$ " DROP LID VARIABLE EXTENSION SHAFT WITH 5'0" TO 7'0" RANGE FOR $\frac{3}{4}$ " & 1" SERVICE. SEE WM-16 VALVE BOX FOR SERVICE GREATER THAN 1".
- ⑧ CURB STOP WITH GRIP TITE COMPRESSION OUTLETS (FORD B44G, MUELLER B25209 MCDONALD #6100-Q OR APPROVED EQUAL) 2" SQUARE NUT FOR 1.5" AND 2" BALL VALVES
- ⑨ TYPE K COPPER PIPE
- ⑩ 12" x 12" x 2" CONCRETE PAD PLACED UNDER CURB STOP VALVE & BOX

NOTES:

1. PLACE STOP BOX WITHIN 5 FT OF PROPERTY LINE. PLACEMENT INSIDE PROPERTY LINE IS PREFERRED.
2. PROPERTY OWNER IS RESPONSIBLE FOR THE ENTIRE SERVICE LINE (REPLACEMENT & REPAIRS) AND LEAKS FROM THE CURB STOP TO THE METER. MMD WILL REPAIR SERVICE LINE LEAKS BETWEEN THE WATER MAIN AND THE OUTLET SIDE OF THE CURB STOP ONLY (SEE WS-7).
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVES EXCEPT AS SHOWN.
4. MMD IS NOT RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR DUE TO A LEAK ANYWHERE ON THE SERVICE LINE. ALL DAMAGE IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
5. A 3 INCH "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX.

REV. DATE

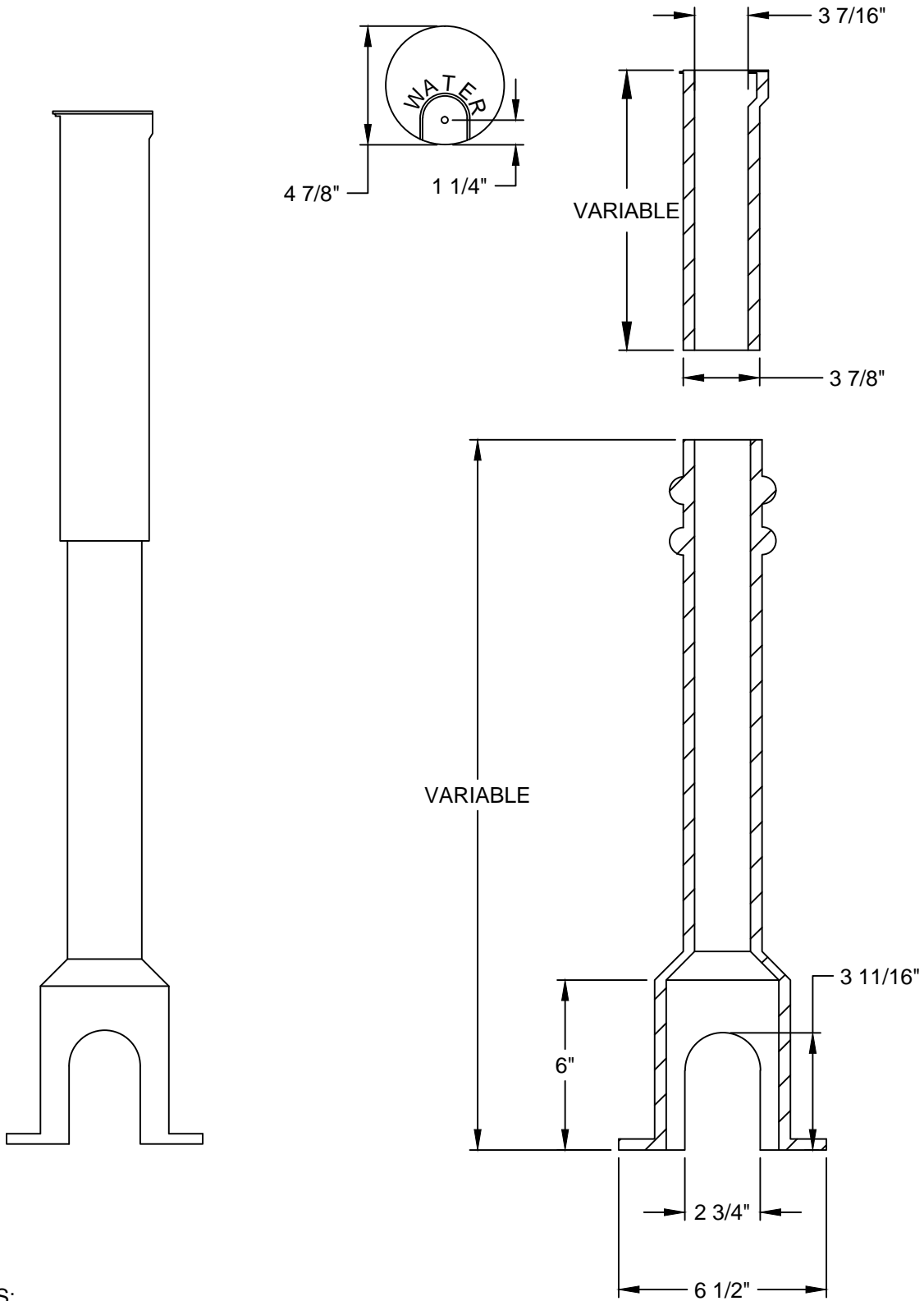
05/14



MERIDIAN METROPOLITAN DISTRICT

WATER MAIN SERVICE CONNECTION

WS-3



NOTES:

1. CURB STOP BOX SHALL BE TYLER UNION MODEL 6500 SERIES, SIZE 95E OR APPROVED EQUAL
2. ALL SECTIONS OF THE BOX SHALL BE WRAPPED IN 8 MIL POLYETHYLENE PLASTIC.
3. A 12" x 12" x 2" CONCRETE PAD SHALL BE PLACED UNDER THE CURB STOP VALVE AND BOX.
4. SEE WM-16 VALVE BOX DETAIL FOR WATER MAINS/SERVICES GREATER THAN 1".

REV. DATE

JULY 2015

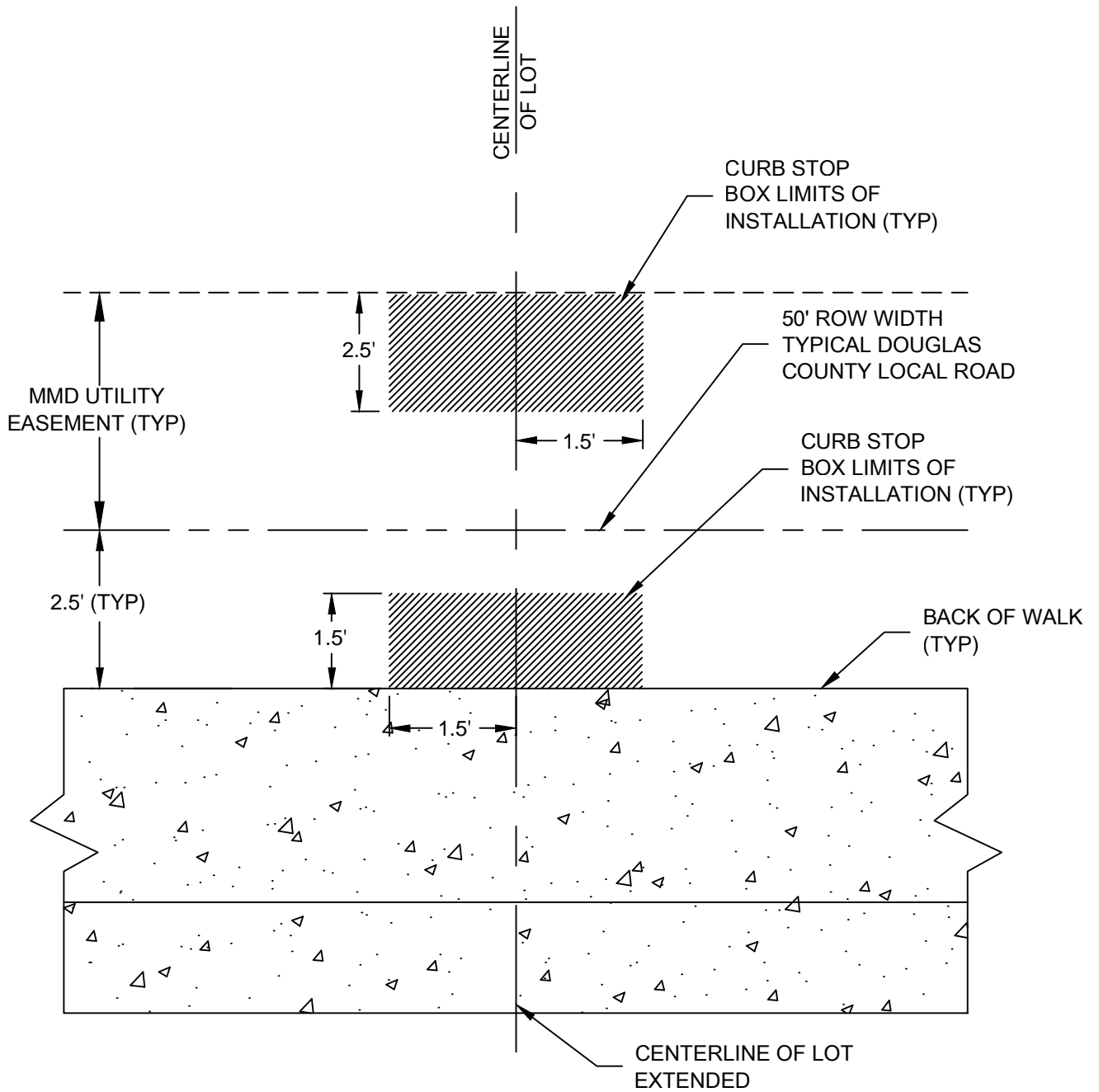


MERIDIAN METROPOLITAN DISTRICT

CURB STOP BOX FOR 3/4" AND 1" LINES

WS-4

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WS-4\Curb Stop.dwg, 9/4/2015 8:45:38 AM, mchved



NOTES:

1. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX. THE "V" SHALL BE A MINIMUM OF 3 INCHES IN HEIGHT AND $\frac{1}{8}$ " DEEP.
2. ALL WATER SERVICE LINES SHALL BE PLACED AT THE CENTER OF THE LOT.

REV. DATE

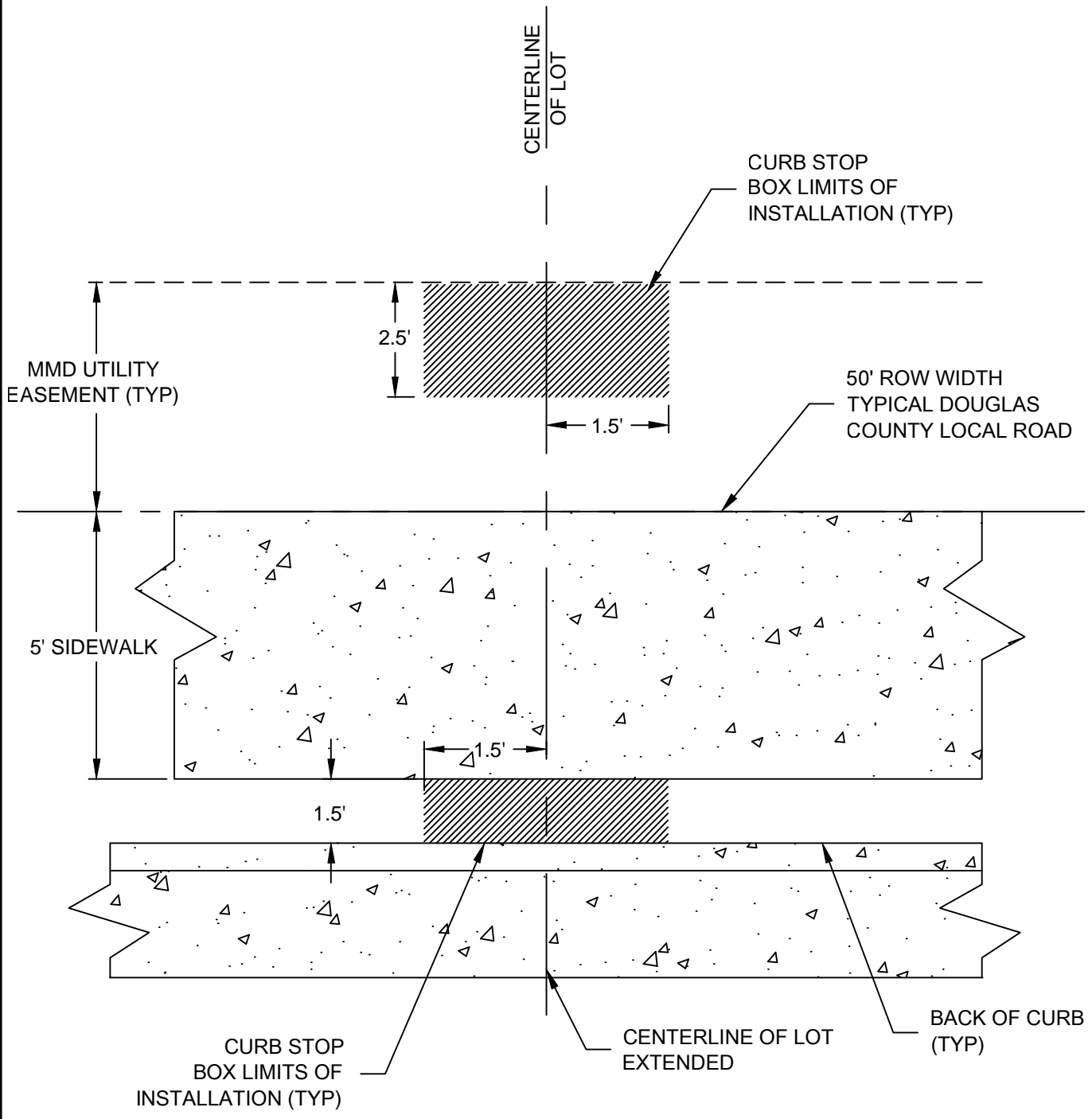
06/12



MERIDIAN METROPOLITAN DISTRICT

CURB STOP BOX LOCATION

WS-5

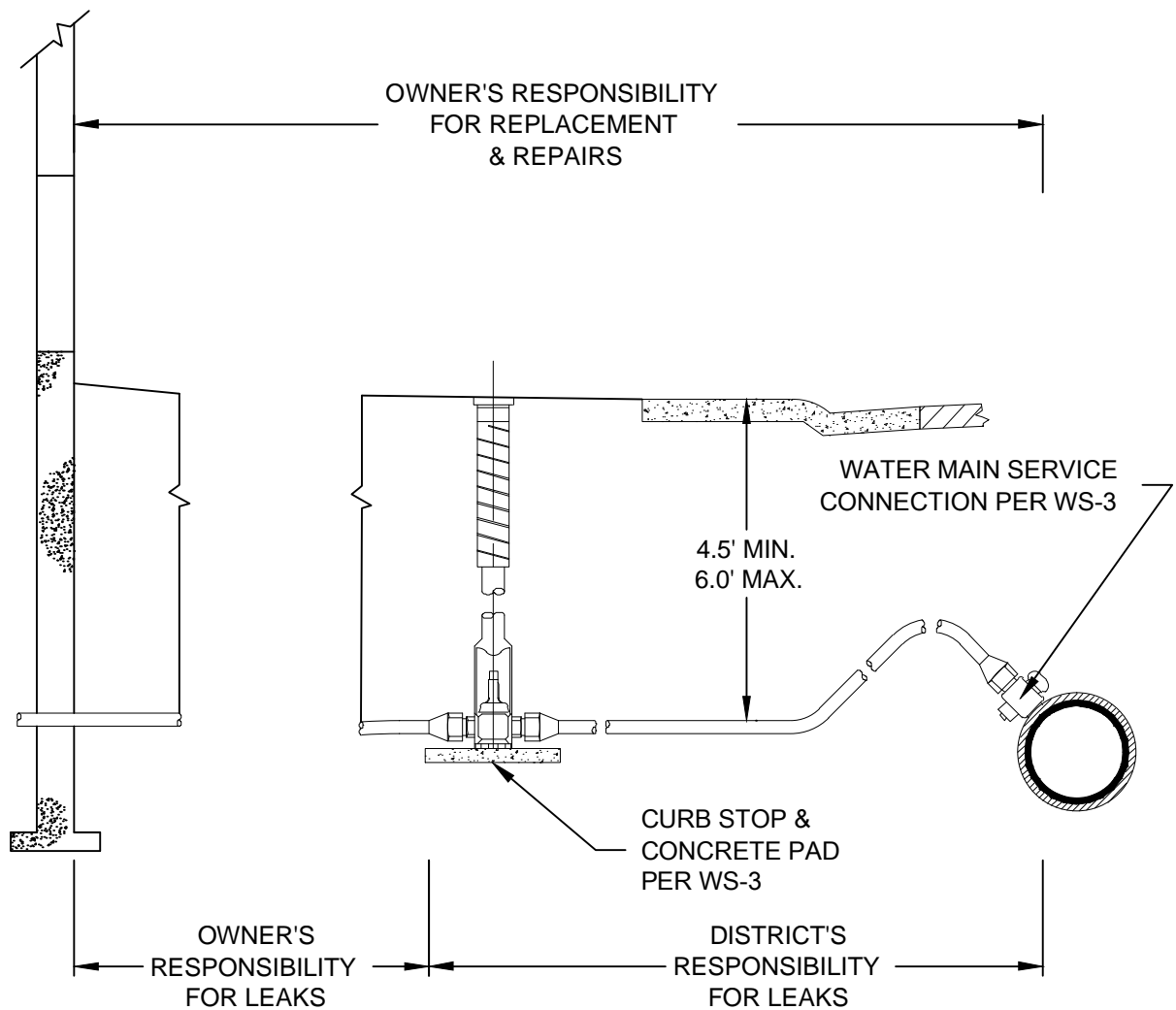


NOTES:

1. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX. THE "V" SHALL BE A MINIMUM OF 3 INCHES IN HEIGHT AND $\frac{1}{8}$ " DEEP.
2. ALL WATER SERVICE LINES SHALL BE PLACED AT THE CENTER OF THE LOT.
3. DISTANCE BETWEEN BACK OF CURB AND WALK MAY INCREASE DEPENDING ON ROW WIDTH.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WS-6
06/12		CURB STOP BOX LOCATION FOR DETACHED WALK	

I:\TECHCENTER\projects\2008\06-24\Map\BLOCK\Utility\Drawings\WS-6-Curb Stop Location Detached Walk.dwg, 11/13/2012 12:17:52 PM, mringaz, 1'



NOTES:

1. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX. THE "V" SHALL BE A MINIMUM OF 3 INCHES IN HEIGHT AND $\frac{1}{8}$ " DEEP.
2. ALL WATER SERVICE LINES SHALL BE PLACED AT THE CENTER OF THE LOT.
3. DISTANCE BETWEEN BACK OF CURB AND WALK MAY INCREASE DEPENDING ON ROW WIDTH.
4. SEE WS-8, WS-9 AND WS-10 FOR CURB STOP LOCATION FOR COMMERCIAL TAP AND SERVICE LINE DETAIL. SEE WS-5 AND WS-6 FOR THE CURB STOP LOCATION FOR A RESIDENTIAL SERVICE.
5. SHOULD ANY SITUATION ARISE OTHER THAN SHOWN CONCERNING THE DEPTH OR OBSTRUCTION OF SERVICE LINE THE DISTRICT MUST BE CONTACTED.

REV. DATE

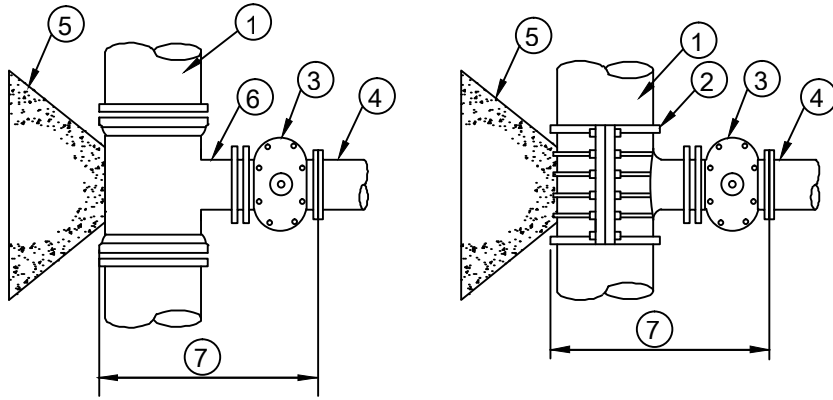
06/12



MERIDIAN METROPOLITAN DISTRICT

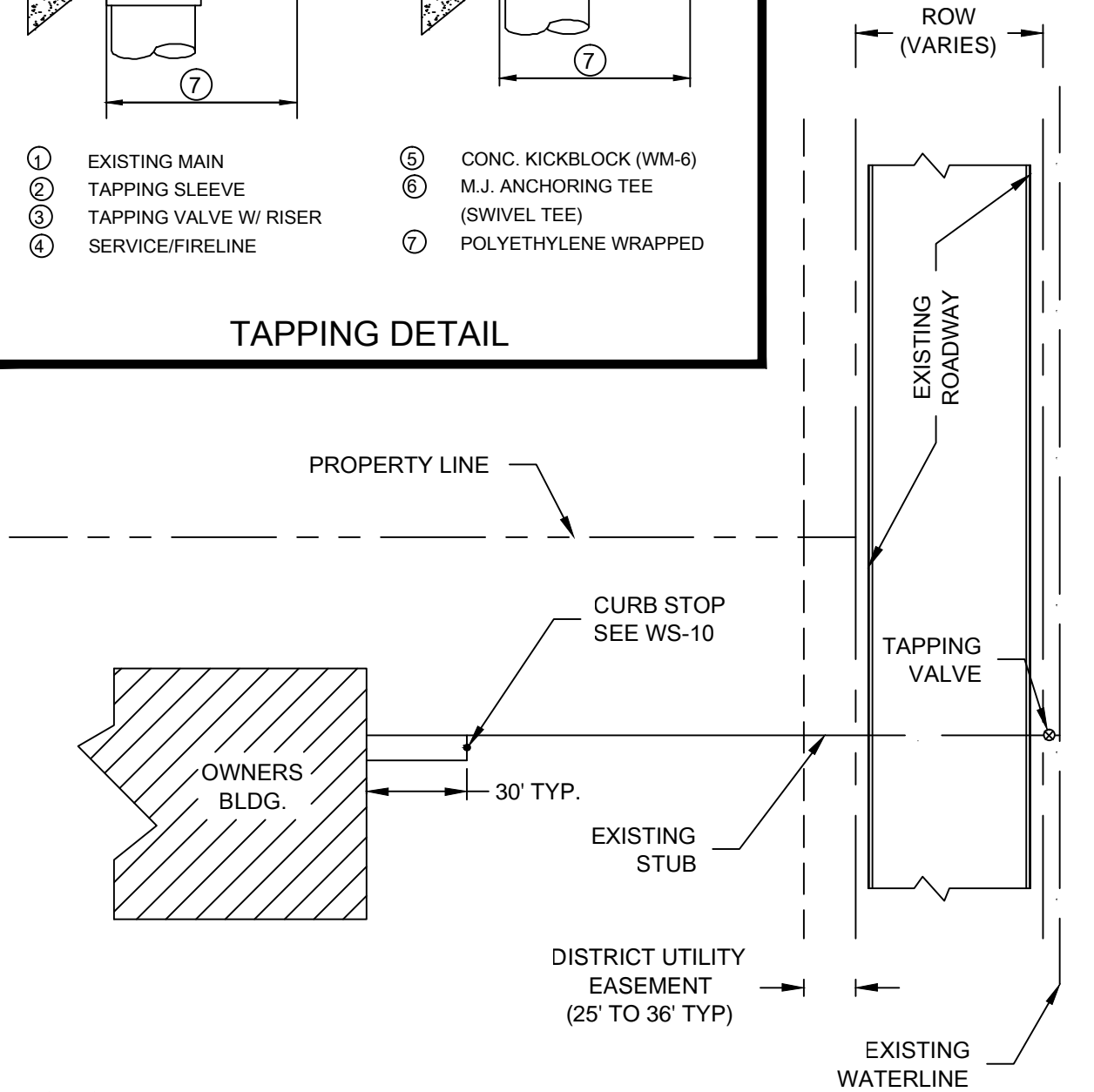
STANDARD WATER SERVICE LINE INSTALLATION

WS-7



- | | | | |
|---|------------------------|---|---------------------------------|
| ① | EXISTING MAIN | ⑤ | CONC. KICKBLOCK (WM-6) |
| ② | TAPPING SLEEVE | ⑥ | M.J. ANCHORING TEE (SWIVEL TEE) |
| ③ | TAPPING VALVE W/ RISER | ⑦ | POLYETHYLENE WRAPPED |
| ④ | SERVICE/FIRELINE | | |

TAPPING DETAIL



NOTES:

1. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX. THE "V" SHALL BE A MINIMUM OF 3 INCHES IN HEIGHT AND 1/8" DEEP.
2. SEE WS-8, WS-9 AND WS-10 FOR CURB STOP LOCATION FOR COMMERCIAL TAP AND SERVICE LINE DETAIL. SEE WS-10 FOR FIRE MAIN AND DOMESTIC WATER SERVICE INSTALLATION.
3. THE TAP REQUIREMENTS FOR THE IRRIGATION CONNECTION ARE THE SAME AS THE FIRE MAIN AND DOMESTIC WATER SERVICE INSTALLATION.

REV. DATE

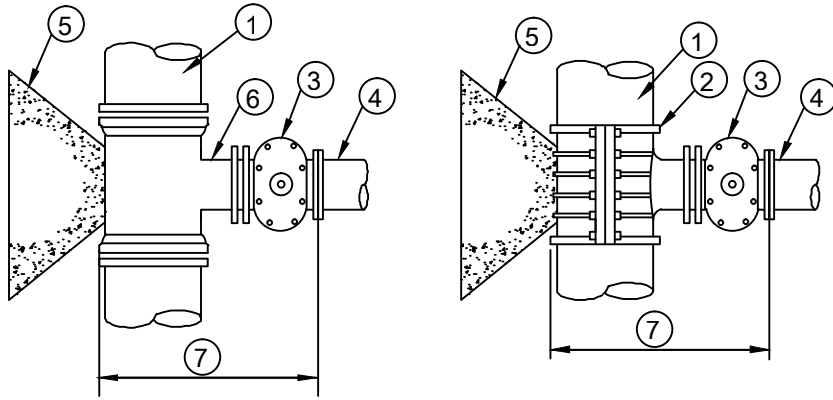
06/12



MERIDIAN METROPOLITAN DISTRICT

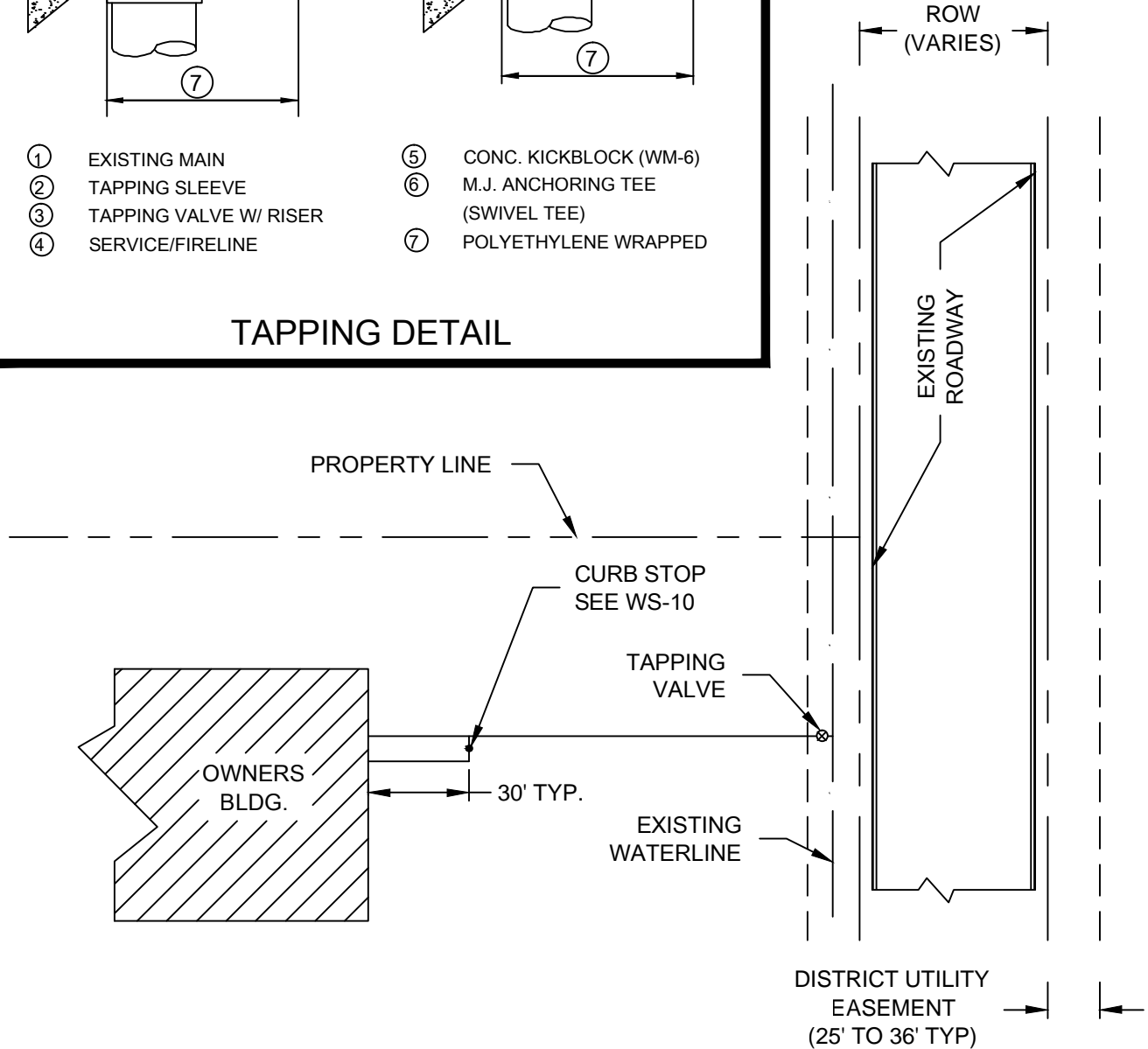
SERVICE CONNECTION TO EXISTING STUB UNDER STREET

WS-8



- ① EXISTING MAIN
- ② TAPPING SLEEVE
- ③ TAPPING VALVE W/ RISER
- ④ SERVICE/FIRELINE
- ⑤ CONC. KICKBLOCK (WM-6)
- ⑥ M.J. ANCHORING TEE (SWIVEL TEE)
- ⑦ POLYETHYLENE WRAPPED

TAPPING DETAIL



NOTES:

1. A "V" SHALL BE CUT IN THE FACE OF THE CURB AND GUTTER BY THE BUILDER TO PERMANENTLY MARK THE LOCATION OF THE CURB STOP BOX. THE "V" SHALL BE A MINIMUM OF 3 INCHES IN HEIGHT AND 1/8" DEEP.
2. SEE WS-8, WS-9 AND WS-10 FOR CURB STOP LOCATION FOR COMMERCIAL TAP AND SERVICE LINE DETAIL. SEE WS-10 FOR FIRE MAIN AND DOMESTIC WATER SERVICE INSTALLATION.
3. THE TAP REQUIREMENTS FOR THE IRRIGATION CONNECTION ARE THE SAME AS THE FIRE MAIN AND DOMESTIC WATER SERVICE INSTALLATION.

REV. DATE

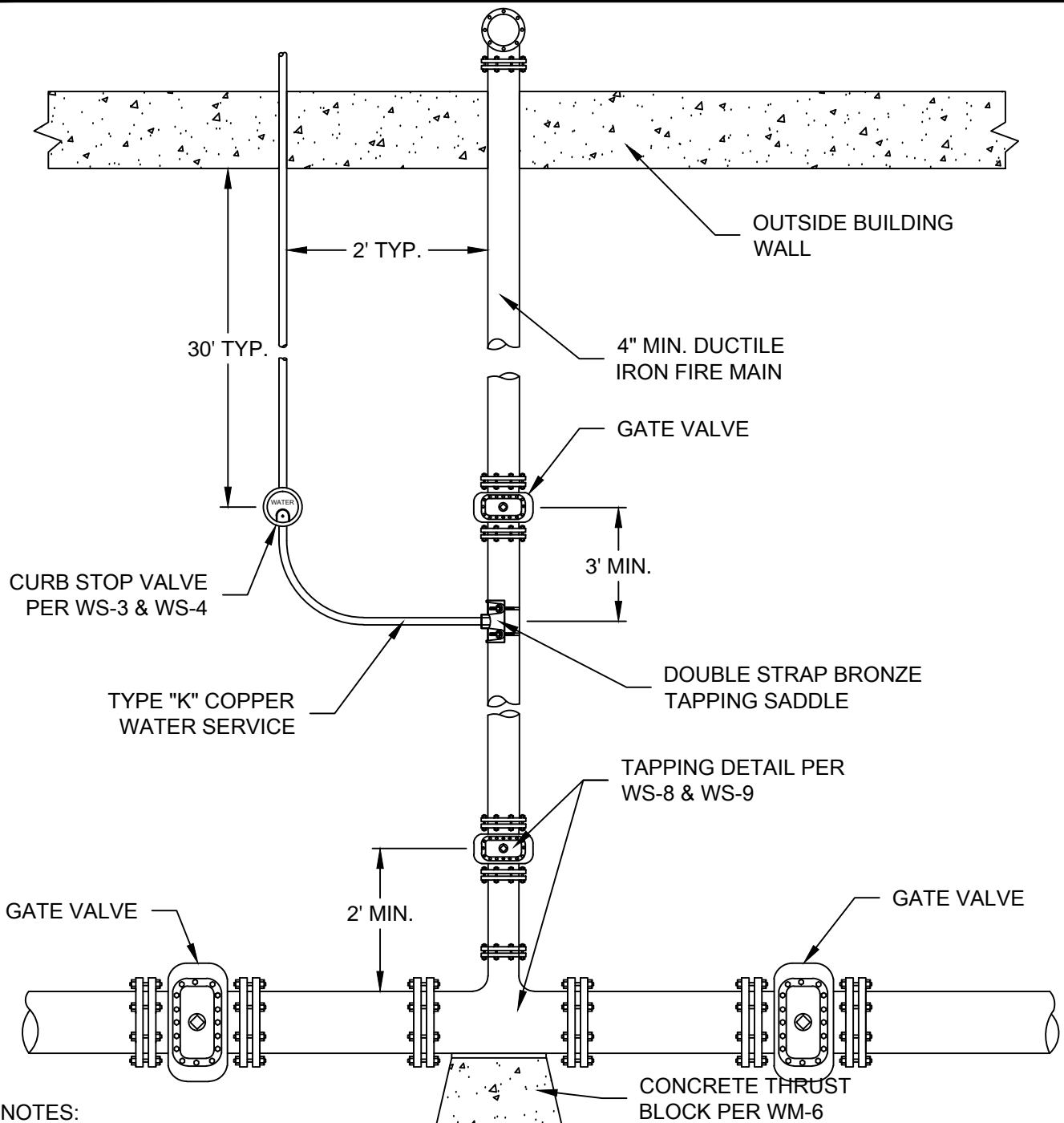
06/12



MERIDIAN METROPOLITAN DISTRICT

SERVICE/FIRE OR IRRIGATION CONNECTION TO MAIN

WS-9

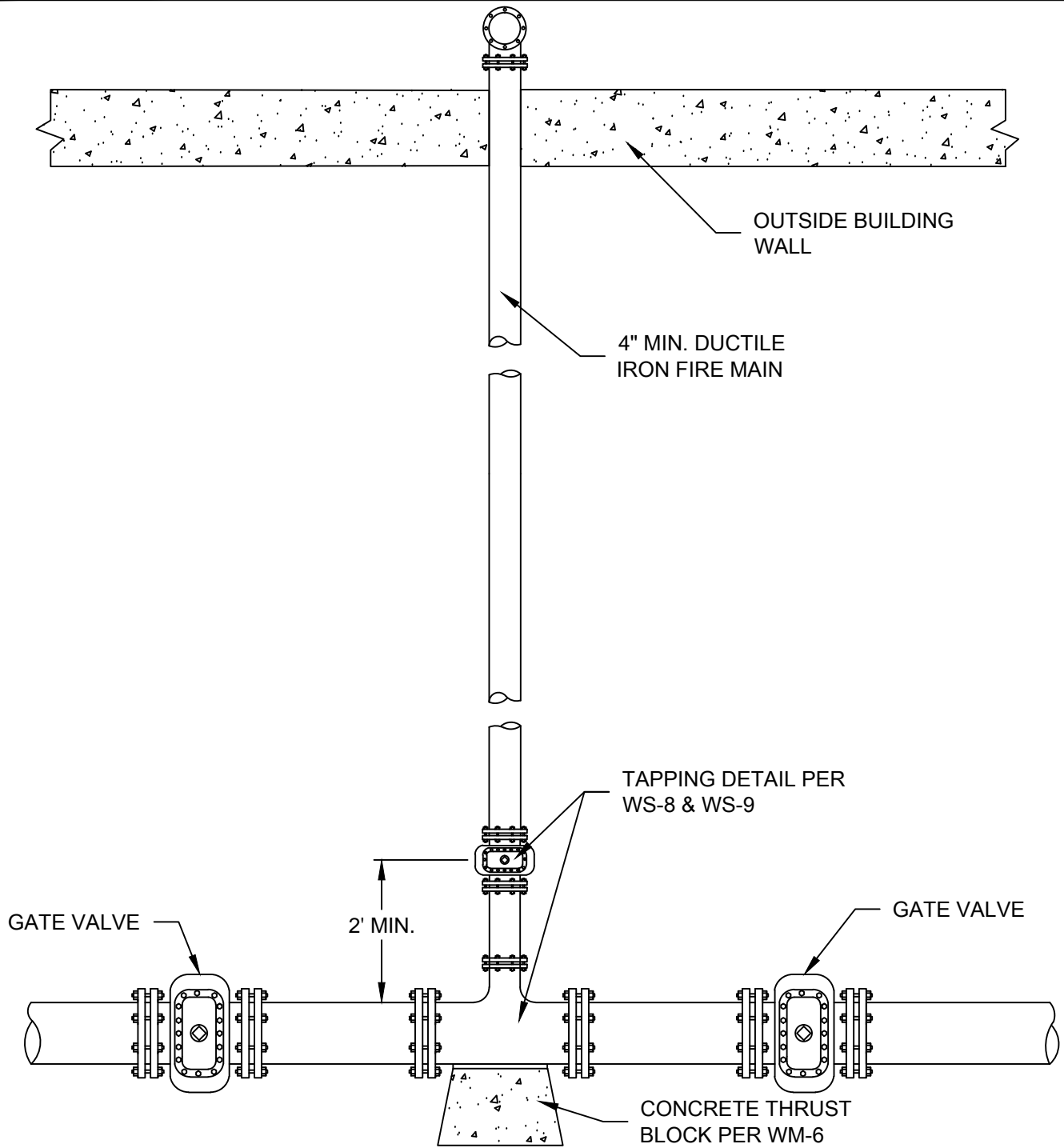


NOTES:

1. ALL FIRE MAINS WILL HAVE A REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY AND SHALL BE INSPECTED BY MMD.
2. INSPECTION OF THE REMAINDER OF THE LINE SHALL BE INSPECTED BY THE FIRE DEPARTMENT.
3. FIRELINE MUST MEET FIRE DISTRICT REQUIREMENTS.
4. ALL DOMESTIC TAPS 2" AND SMALLER ON FIRE LINES 6" D.I.P. AND LARGER REQUIRE A DOUBLE STRAP BRONZE TAPPING SADDLE.
5. ON 4" FIRE MAINS FOR 2" TAP USE 4" M.J. X 2" THREADED TEE.
6. FOR 1 1/2" TAP USE 4" M.J. X 2" THREADED TEE WITH 1 1/2" BRASS BUSHING.
7. FOR 3/4" AND 1" SERVICE LINES REQUIRE A DOUBLE STRAP BRONZE TAPPING SADDLE.
8. RESTRAIN MAIN AND FIRE MAIN PER WM-8.
9. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WS-10 Fire Main and Domestic Water Service.dwg, 9/4/2015 9:09:45 AM, mcedved

REV. DATE		<h2 style="margin: 0;">MERIDIAN METROPOLITAN DISTRICT</h2>	<h1 style="margin: 0;">WS-10</h1>
JULY 2015		<h3 style="margin: 0;">FIRE MAIN AND DOMESTIC WATER SERVICE INSTALLATION</h3>	



NOTES:

1. ALL FIRE MAINS WILL HAVE A REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY AND SHALL BE INSPECTED BY MMD.
2. INSPECTION OF THE REMAINDER OF THE LINE SHALL BE INSPECTED BY THE FIRE DEPARTMENT.
3. FIRELINE MUST MEET FIRE DISTRICT REQUIREMENTS.
4. RESTRAIN MAIN AND FIRE MAIN PER WM-8.

REV. DATE

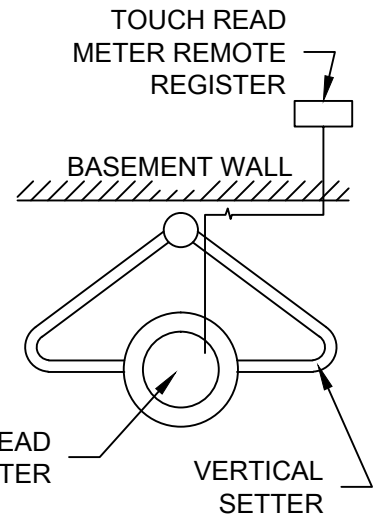
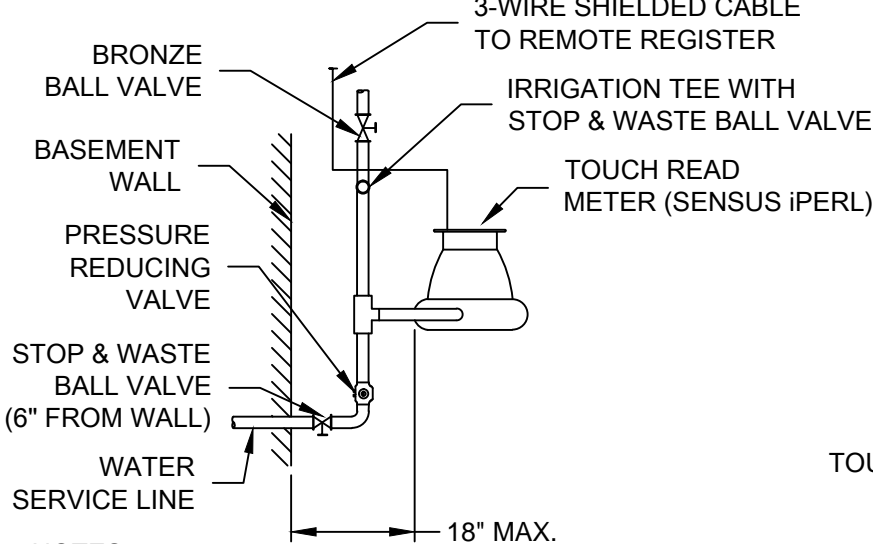
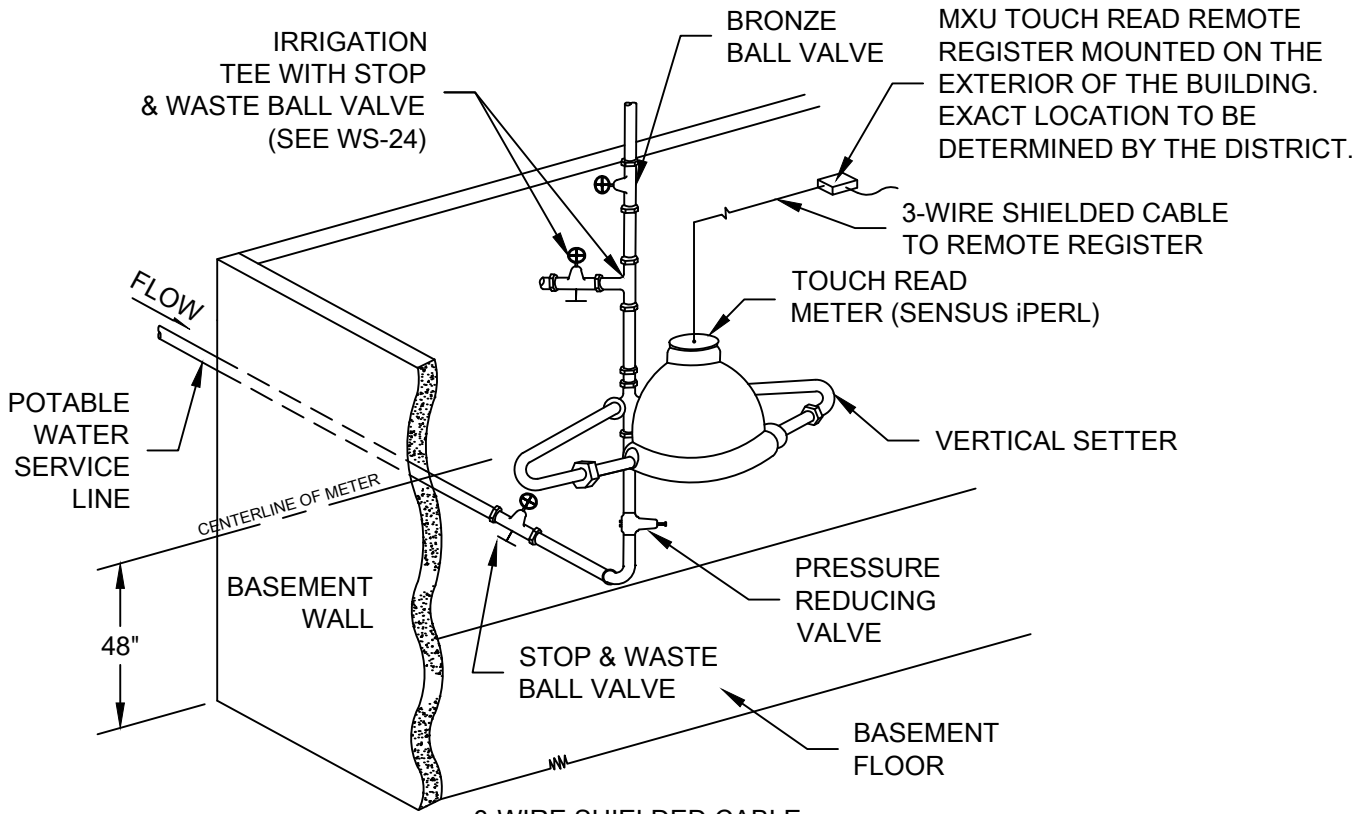
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

FIRE MAIN INSTALLATION

WS-10A



NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. THE METER SHALL BE ANCHORED TO THE WALL ABOVE AND BELOW THE METER ASSEMBLY.
3. ALL METER LOCATIONS TO BE IN BASEMENTS AND NOT IN CRAWL SPACES.
4. WATER SERVICE LINE SHALL BE TYPE K COPPER.
5. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
6. IF THE METER IS BOXED IN OR PLACED BEHIND A WALL, PROVIDE AN ACCESS OPENING 36" WIDE FROM ABOVE THE OUTLET VALVE TO THE FLOOR. VALVES MUST BE ACCESSIBLE FROM THE OPENING. METER TO BE CENTERED IN OPENING.
7. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

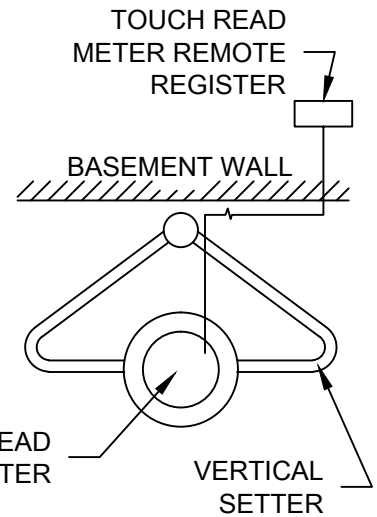
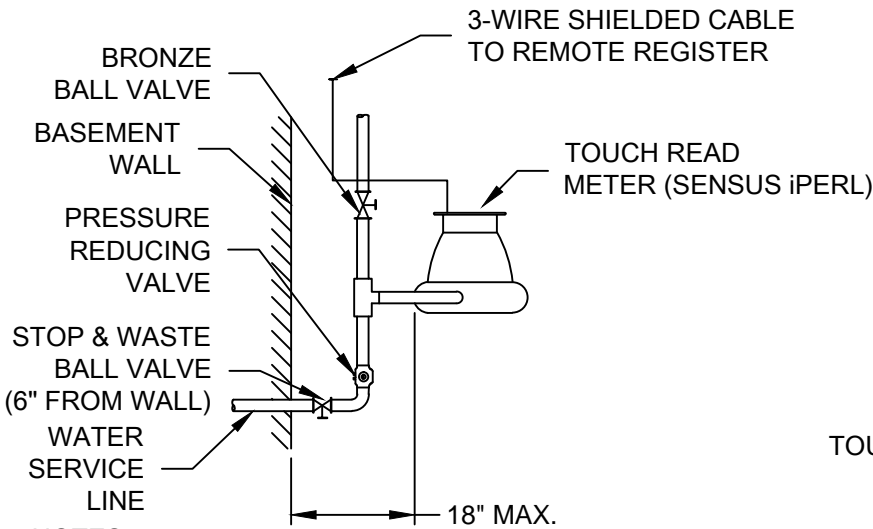
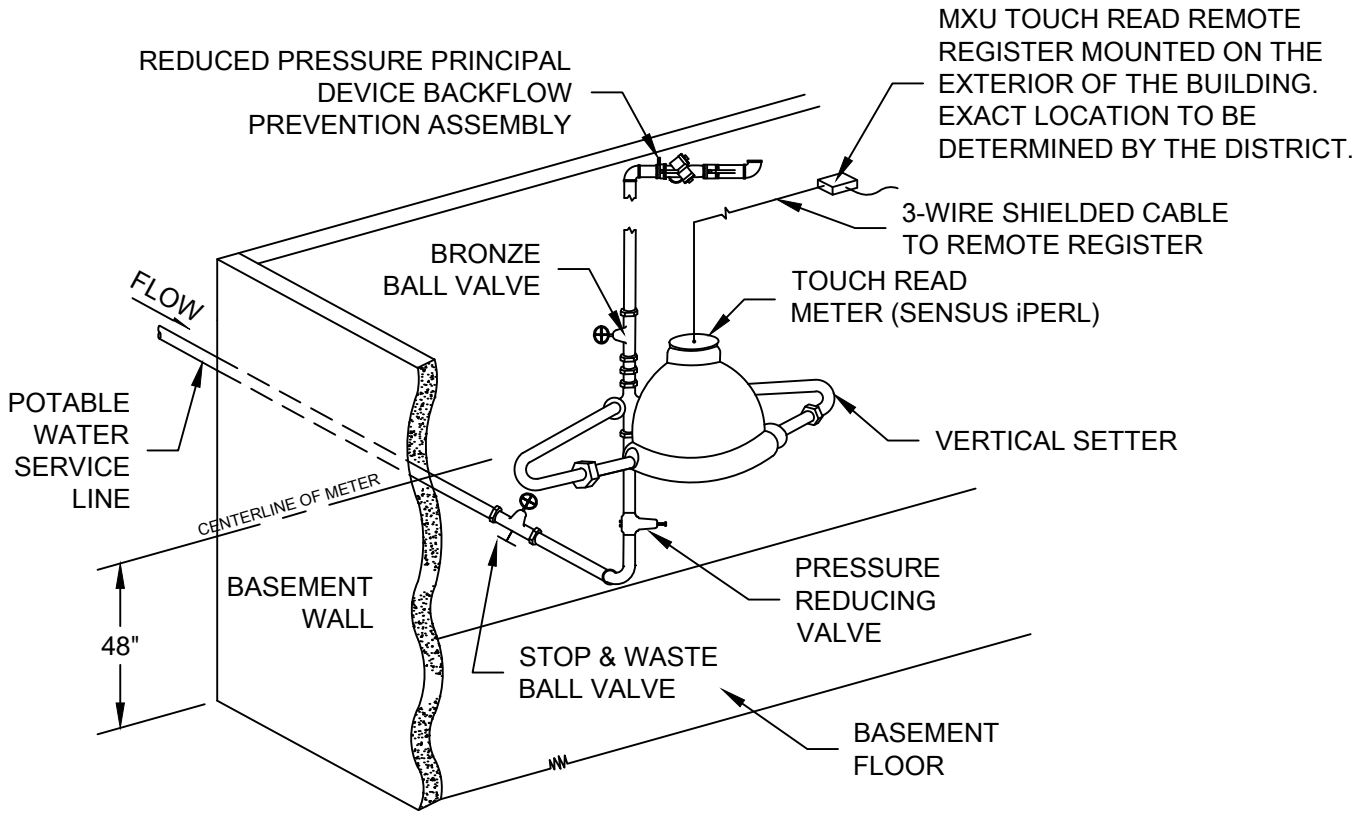
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

REMOTE READING $\frac{3}{4}$ " & 1" METER TYPICAL INSIDE SETTING
(RESIDENTIAL)

WS-11



NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. THE METER SHALL BE ANCHORED TO THE WALL ABOVE AND BELOW THE METER ASSEMBLY.
3. ALL METER LOCATIONS TO BE IN BASEMENTS AND NOT IN CRAWL SPACES.
4. WATER SERVICE LINE SHALL BE TYPE K COPPER.
5. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
6. IF THE METER IS BOXED IN OR PLACED BEHIND A WALL, PROVIDE AN ACCESS OPENING 36" WIDE FROM ABOVE THE OUTLET VALVE TO THE FLOOR. VALVES MUST BE ACCESSIBLE FROM THE OPENING. METER TO BE CENTERED IN OPENING.
7. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

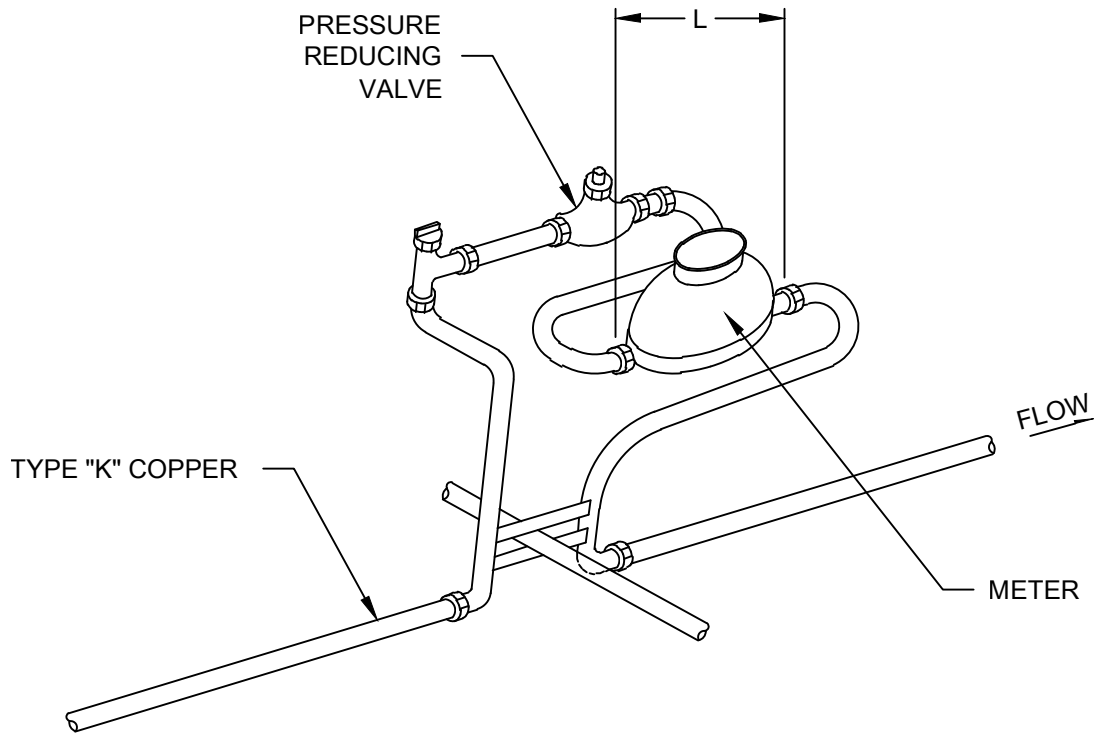
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

REMOTE READING $\frac{3}{4}$ " & 1" METER TYPICAL INSIDE SETTING
(COMMERCIAL)

WS-11A



NOTES:

1. ALL METER PITS LOCATED IN CONCRETE, WHEN PERMITTED, SHALL HAVE A CAST IRON DOME & COVER.
2. METER SETTER SHALL BE FORD 70 SERIES TANDEM COPPER SETTER, MODEL TV 73-36W. FOR $\frac{3}{4}$ " SERVICE WITH PADLOCK WINGS ON INLET VALVE & COMPRESSION END CONNECTIONS.
3. ALL METER PITS SHALL HAVE A 2" HOLE IN THE CENTER OF THE LID FOR THE PURPOSE OF INSTALLING A REMOTE SENSING UNIT.
4. THERE SHALL NOT BE LESS THAN 4.5' OF COVER OVER THE PIPE.
5. METER SETTER FOR 1" SERVICE SHALL BE FOR 70 SERIES TANDEM COPPER SETTER, MODEL TV 74-36W, WITH PADLOCK WINGS ON INLET VALVE & COMPRESSION END CONNECTIONS.
6. WHEN USED FOR AN IRRIGATION SYSTEM, AN APPROVED BACK FLOW PROTECTION DEVICE MUST BE INCLUDED, ALONG WITH A STOP AND WASTE VALVE ON THE CUSTOMERS SIDE OF THE PIT.
7. FOR $\frac{3}{4}$ " METER SIZE L= 7 $\frac{1}{2}$ "; FOR 1" METER SIZE L=10 $\frac{3}{4}$ ".
8. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

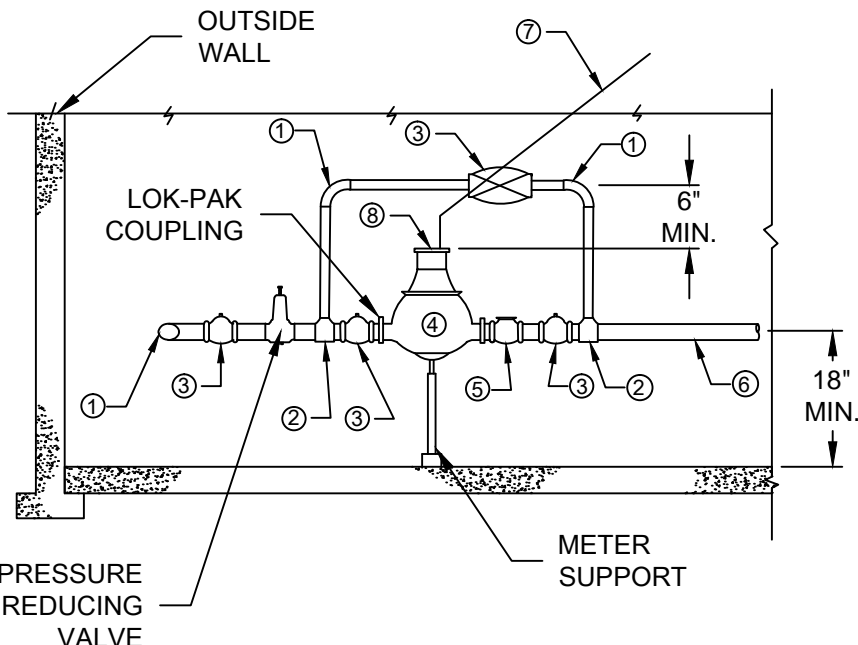
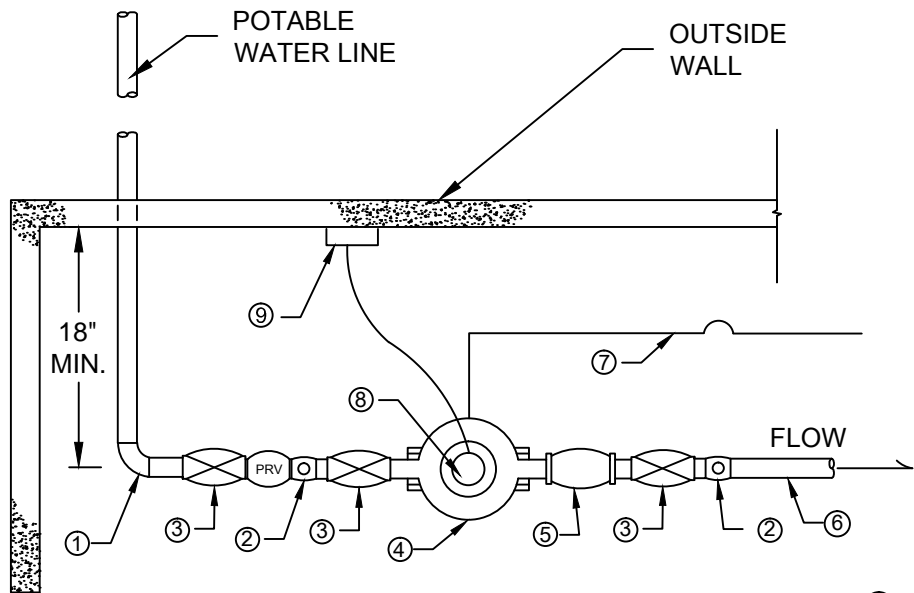
06/12



MERIDIAN METROPOLITAN DISTRICT

METER PIT FOR $\frac{3}{4}$ " & 1" METER TANDEM SETTER

WS-11B



- ① 90° ELBOW
- ② TEE
- ③ LOCKABLE VALVE
- ④ METER UNIT (SENSUS C-2)
- ⑤ CHECK VALVE
- ⑥ TYPE K COPPER
- ⑦ WIRE SHIELDED CABLE TO TOUCH READ REGISTER
- ⑧ TOUCH READ METER
- ⑨ INSIDE MXLL RADIO READ UNIT

NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. WATER SERVICE LINE SHALL BE TYPE K COPPER.
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
4. PIPE JOINTS SHALL BE THREADED, FLANGED OR SOLDERED W/95-5 TIN-ANTIMONY SOLDER.
5. COMPANION FLANGES SHALL BE BRASS.
6. A FLOOR DRAIN SHALL BE PLACED NEAR THE METER INSTALLATION.
7. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.
8. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.

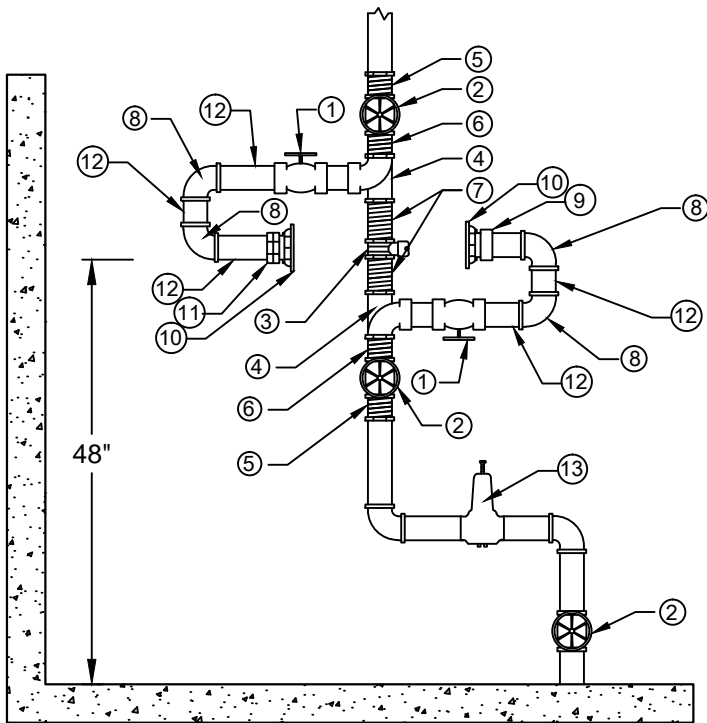
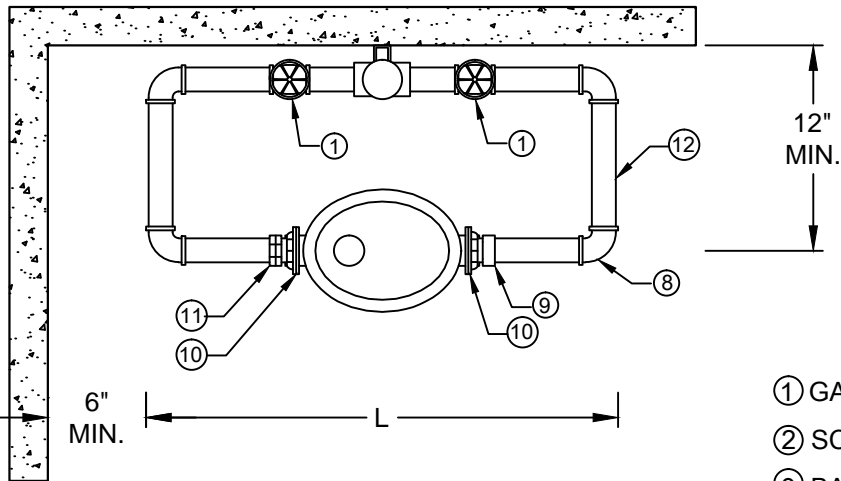
REV. DATE
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

INSIDE SETTING FOR 1½" AND LARGER
WATER METER WITH BYPASS

WS-12



- ① GATE VALVE
- ② SCREW GATE VALVE
- ③ BALL VALVE WITH LOCKING WING
- ④ FORD CUSTOM SETTER TEE
- ⑤ COMP. COPPER X MIPT ADAPTER
- ⑥ CLOSE BRASS NIPPLE
- ⑦ CLOSE BRASS NIPPLE
- ⑧ 90° BEND
- ⑨ MIPT X SWEAT ADAPTER
- ⑩ BRASS METER FLANGE
- ⑪ LOC-PAC COUPLING
- ⑫ CUT TYPE K - COPPER PIPE
- ⑬ PRESSURE REDUCING VALVE

NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. WATER SERVICE LINE SHALL BE TYPE K COPPER.
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
4. PIPE JOINTS SHALL BE THREADED, FLANGED OR SOLDERED W/95-5 TIN-ANTIMONY SOLDER.
5. METER YOKE LENGTH (L): 13" FOR 1½" METER; 17" FOR 2" METER.
6. THE ASSEMBLY SHALL BE INSTALLED AT AN ELEVATION OF 48" ABOVE THE FINISHED FLOOR. THE ASSEMBLY SHALL BE PLACED 12" AWAY FROM THE ADJACENT WALL TO THE CENTER OF THE ASSEMBLY WITH A MINIMUM OF 24" CLEAR SPACE IN FRONT OF THE ASSEMBLY FROM FLOOR TO CEILING. IF THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY ARE TO BE INSTALLED IN SERIES, THERE SHALL BE A MINIMUM OF 24" CLEARANCE BETWEEN THE ASSEMBLIES.
7. PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.
8. APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.

REV. DATE

JULY 2015

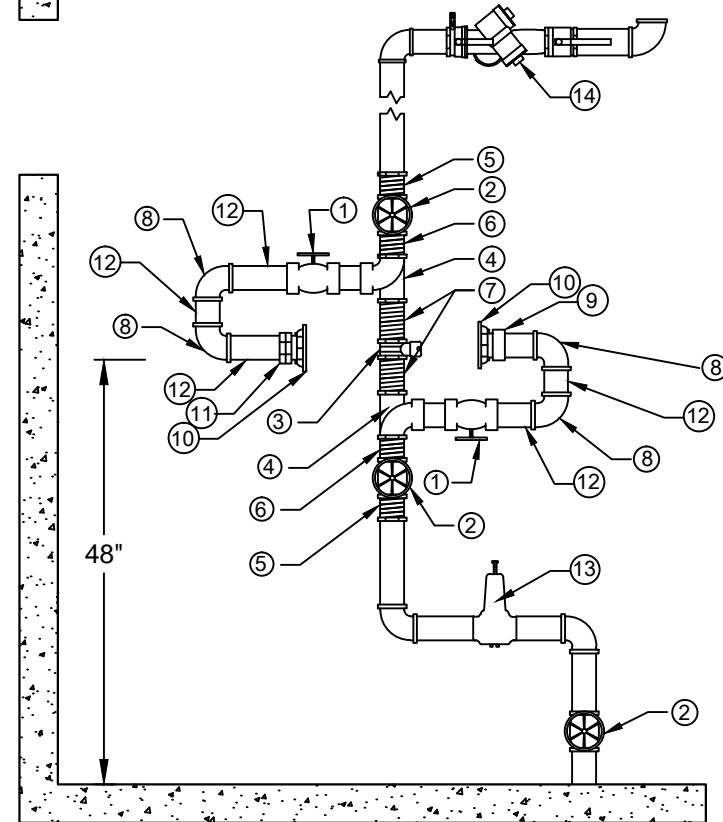
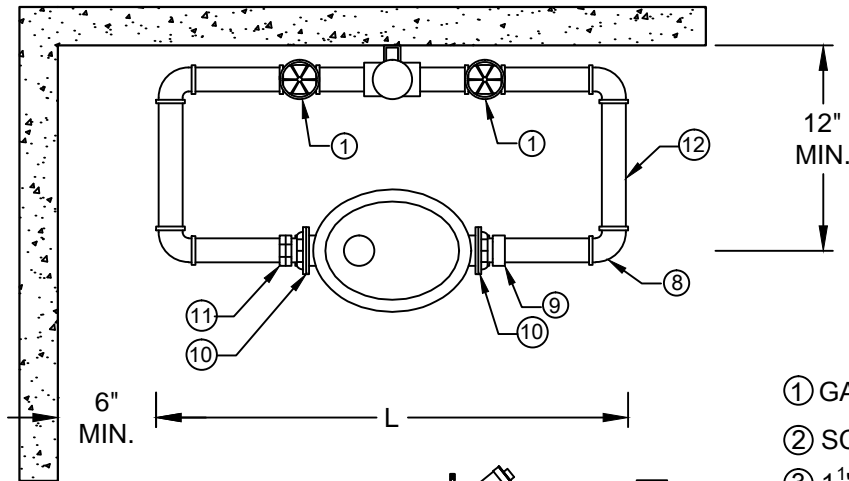


MERIDIAN METROPOLITAN DISTRICT

CUSTOM INSIDE SETTER

WATER METER ASSEMBLY FOR 1½" AND 2" METERS

WS-13



- ① GATE VALVE
- ② SCREW GATE VALVE
- ③ 1/4" BALL VALVE WITH LOCKING WING
- ④ FORD CUSTOM SETTER TEE
- ⑤ COMP. COPPER X MIPT ADAPTER
- ⑥ CLOSE BRASS NIPPLE
- ⑦ 1/4" X CLOSE BRASS NIPPLE
- ⑧ 90° BEND
- ⑨ MIPT X SWEAT ADAPTER
- ⑩ BRASS METER FLANGE
- ⑪ LOC-PAC COUPLING
- ⑫ CUT TYPE K - COPPER PIPE
- ⑬ PRESSURE REDUCING VALVE
- ⑭ REDUCED PRESSURE PRINCIPAL ASSEMBLY BACKFLOW PREVENTOR

NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. WATER SERVICE LINE SHALL BE TYPE K COPPER.
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
4. PIPE JOINTS SHALL BE THREADED, FLANGED OR SOLDERED W/95-5 TIN-ANTIMONY SOLDER.
5. METER YOKE LENGTH (L): 13" FOR 1 1/2" METER; 17" FOR 2" METER.
6. THE ASSEMBLY SHALL BE INSTALLED AT AN ELEVATION OF 48" ABOVE THE FINISHED FLOOR. THE ASSEMBLY SHALL BE PLACED 12" AWAY FROM THE ADJACENT WALL TO THE CENTER OF THE ASSEMBLY WITH A MINIMUM OF 24" CLEAR SPACE IN FRONT OF THE ASSEMBLY FROM FLOOR TO CEILING. IF THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY ARE TO BE INSTALLED IN SERIES, THERE SHALL BE A MINIMUM OF 24" CLEARANCE BETWEEN THE ASSEMBLIES.
7. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

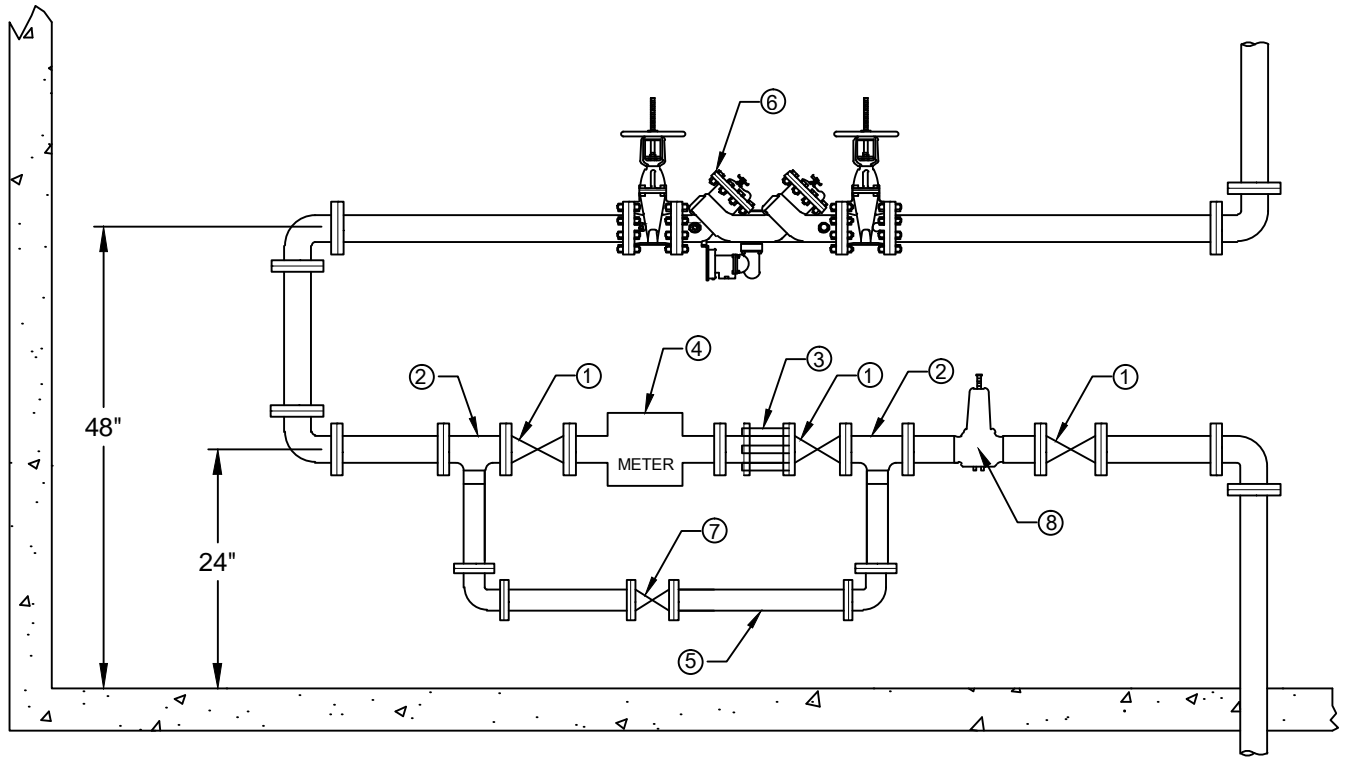
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

TYPICAL WATER METER AND BACKFLOW PREVENTOR ASSEMBLY

WS-14



- | | |
|--------------------|--|
| ① GATE VALVE | ⑤ BYPASS (MIN. OF 2" DIAMETER LINE) |
| ② TEE | ⑥ REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTOR ASSEMBLY |
| ③ DRESSER COUPLING | ⑦ LOCKABLE VALVE |
| ④ METER | ⑧ FLANGED PRESSURE REDUCING VALVE |

NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. WATER SERVICE LINE SHALL BE TYPE K COPPER.
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
4. PIPE JOINTS SHALL BE THREADED, FLANGED OR SOLDERED W/95-5 TIN-ANTIMONY SOLDER.
5. THE ASSEMBLY SHALL BE INSTALLED AT AN ELEVATION OF 48" ABOVE THE FINISHED FLOOR. THE ASSEMBLY SHALL BE PLACED 12" AWAY FROM THE ADJACENT WALL TO THE CENTER OF THE ASSEMBLY WITH A MINIMUM OF 24" CLEAR SPACE IN FRONT OF THE ASSEMBLY FROM FLOOR TO CEILING. IF THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY ARE TO BE INSTALLED IN SERIES, THERE SHALL BE A MINIMUM OF 24" CLEARANCE BETWEEN THE ASSEMBLIES.
6. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

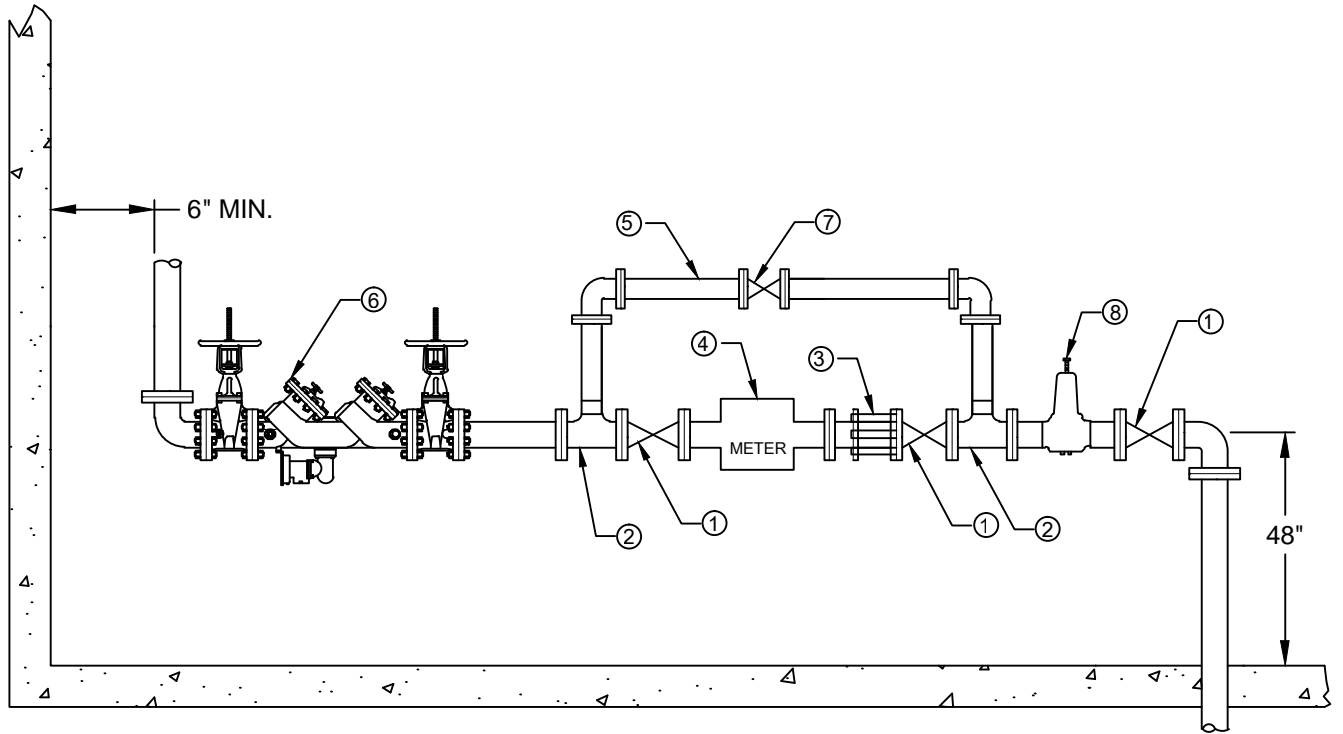
06/12



MERIDIAN METROPOLITAN DISTRICT

DOMESTIC STANDARD 3" & 4" METER AND BACKFLOW
ASSEMBLY DRAWING

WS-15



- | | |
|--------------------|--|
| ① GATE VALVE | ⑤ BYPASS (MIN. OF 2" DIAMETER LINE) |
| ② TEE | ⑥ REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTOR ASSEMBLY |
| ③ DRESSER COUPLING | ⑦ LOCKABLE VALVE |
| ④ METER | ⑧ FLANGED PRESSURE REDUCING VALVE |

NOTES:

1. THE METER SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
2. WATER SERVICE LINE SHALL BE TYPE K COPPER.
3. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN THE PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET VALVE EXCEPT AS SHOWN.
4. PIPE JOINTS SHALL BE THREADED, FLANGED OR SOLDERED W/95-5 TIN-ANTIMONY SOLDER.
5. THE ASSEMBLY SHALL BE INSTALLED AT AN ELEVATION OF 48" ABOVE THE FINISHED FLOOR. THE ASSEMBLY SHALL BE PLACED 12" AWAY FROM THE ADJACENT WALL TO THE CENTER OF THE ASSEMBLY WITH A MINIMUM OF 24" CLEAR SPACE IN FRONT OF THE ASSEMBLY FROM FLOOR TO CEILING. IF THE WATER METER AND BACKFLOW PREVENTION ASSEMBLY ARE TO BE INSTALLED IN SERIES, THERE SHALL BE A MINIMUM OF 24" CLEARANCE BETWEEN THE ASSEMBLIES.
6. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

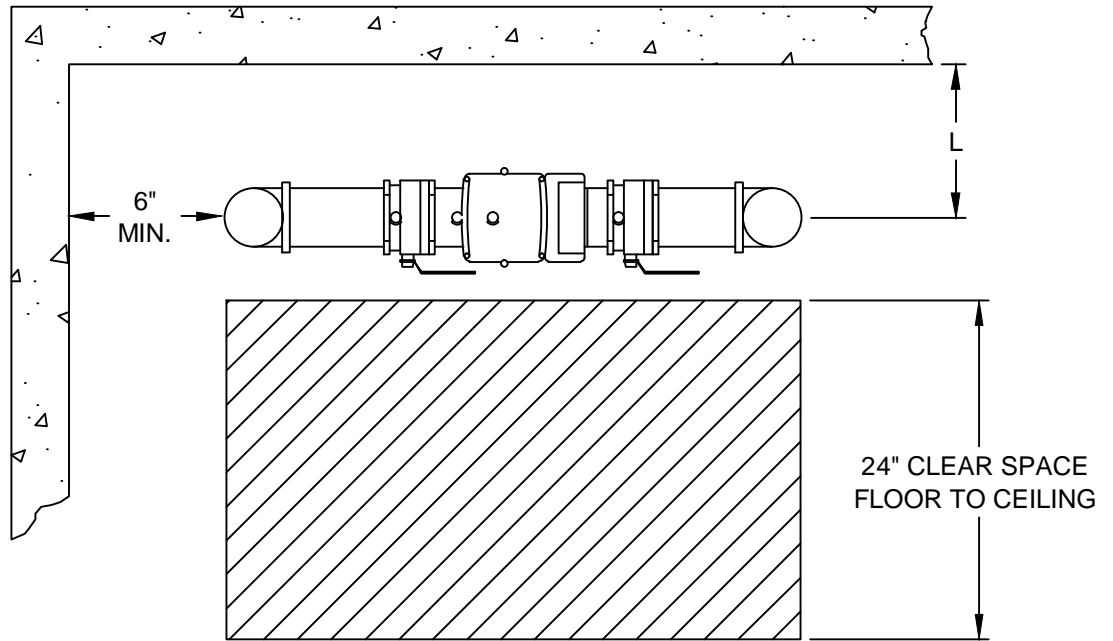
06/12



MERIDIAN METROPOLITAN DISTRICT

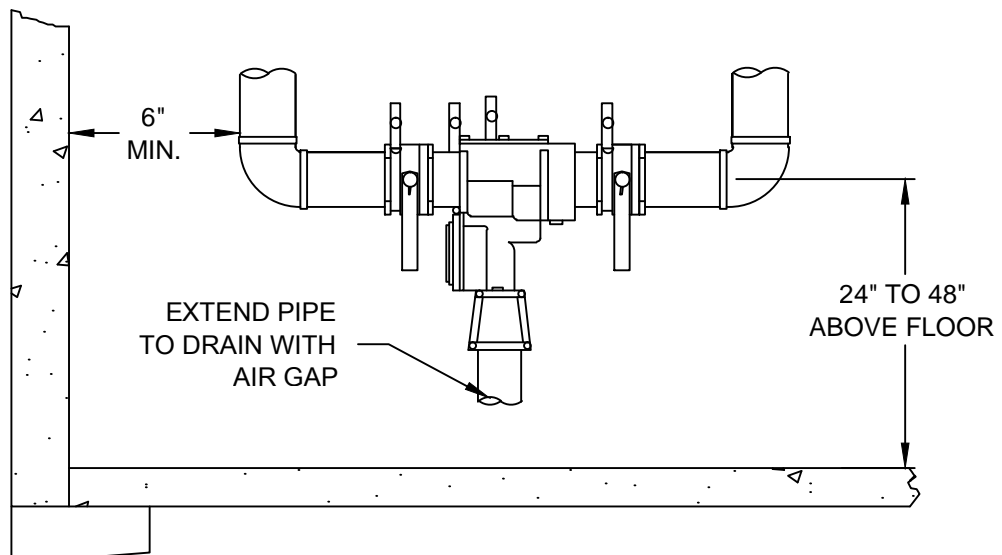
DOMESTIC STANDARD 3" & 4" METER AND BACKFLOW
ASSEMBLY DRAWING

WS-16



NOTES:

1. "L" = DISTANCE FROM THE WALL TO THE CENTER OF THE ASSEMBLY.
2. ASSEMBLY SIZES: FOR $\frac{1}{4}$ " THRU $\frac{3}{4}$ ", L=3 INCHES; FOR 1" THRU 2", L=6 INCHES; AND 2 $\frac{1}{2}$ " AND LARGER, L=12 INCHES.
3. THE OFFSET FROM THE WALL TO THE CENTER OF THE ASSEMBLY ONLY APPLIES WHEN THE TEST COCKS ARE POINTED UP OR AWAY FROM THE ADJACENT WALL. OTHERWISE THE ASSEMBLY SHALL BE PLACED 12 INCHES AWAY FROM THE ADJACENT WALL.



NOTES:

1. THE BACKFLOW PREVENTER IS REQUIRED TO BE DOWNSTREAM OF THE WATER METER ASSEMBLY.
2. THE DRAIN FROM THE BACKFLOW PREVENTER SHALL NOT EXTEND OUTSIDE THE STRUCTURE TO DAYLIGHT.

REV. DATE

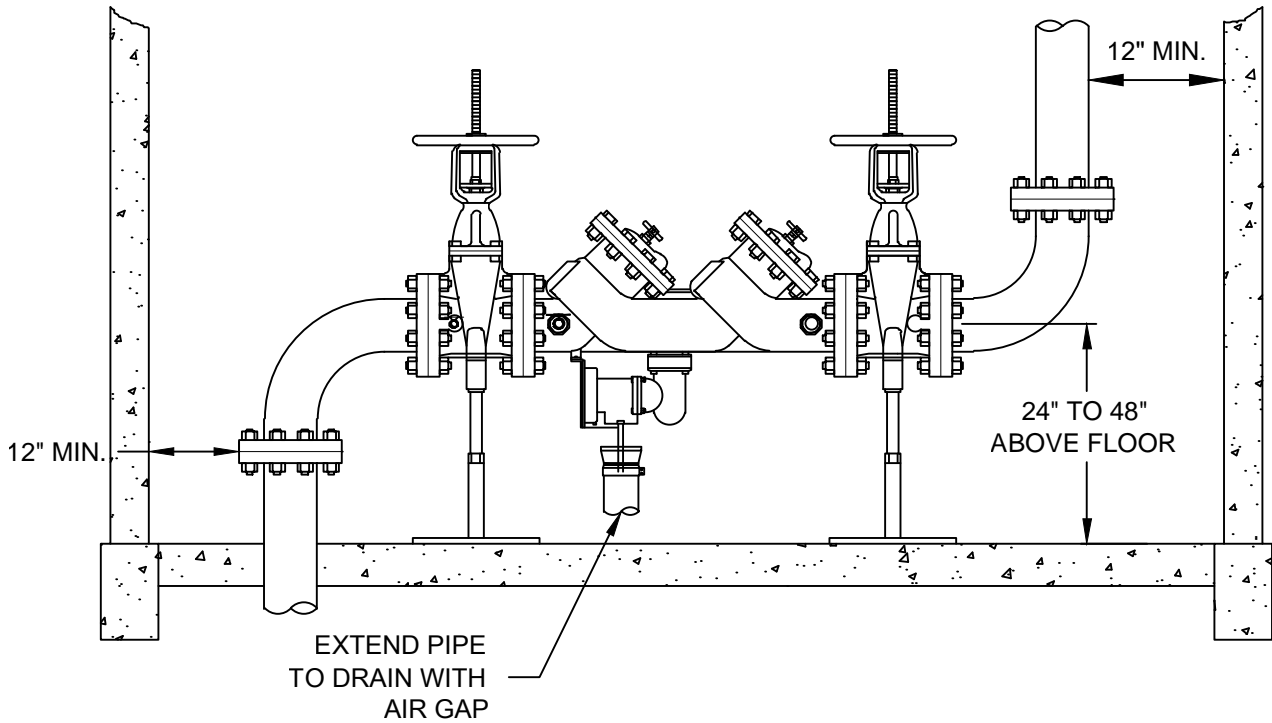
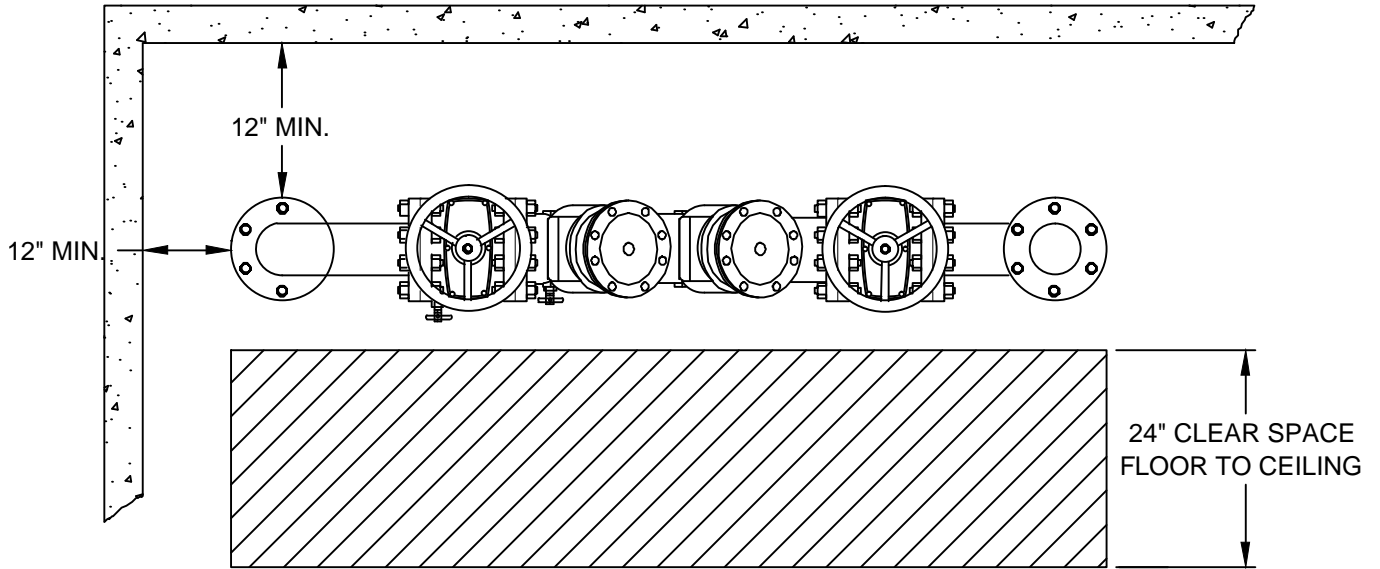
06/12



MERIDIAN METROPOLITAN DISTRICT

TYPICAL LOCATION FOR REDUCED PRESSURE
PRINCIPAL BACKFLOW PREVENTERS ASSEMBLY

WS-17



NOTES:

1. THE BACKFLOW PREVENTER IS REQUIRED TO BE DOWNSTREAM OF THE WATER METER ASSEMBLY.
2. THE DRAIN FROM THE BACKFLOW PREVENTER SHALL NOT EXTEND OUTSIDE THE STRUCTURE TO DAYLIGHT.

REV. DATE

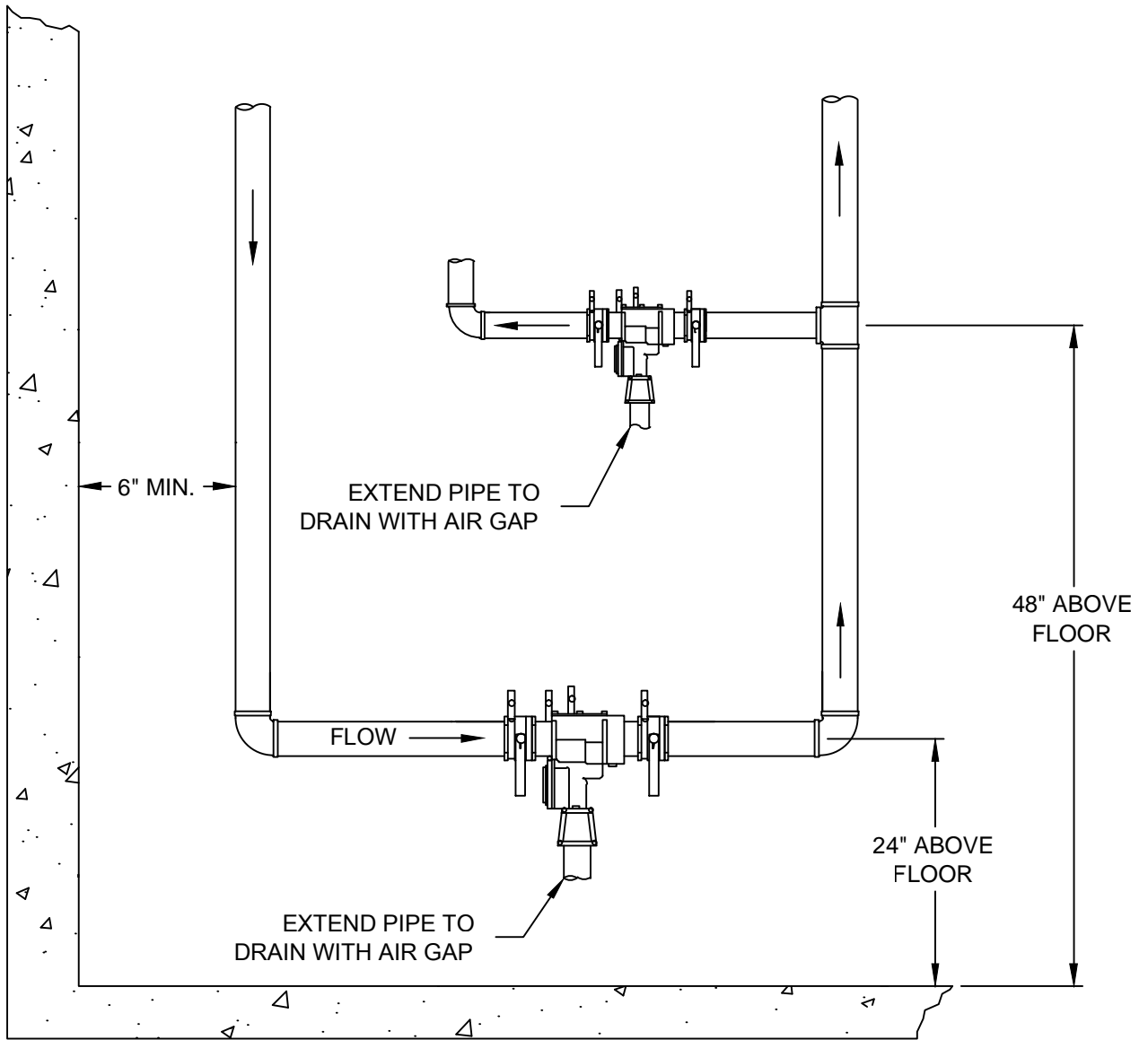
06/12



MERIDIAN METROPOLITAN DISTRICT

TYPICAL LOCATION FOR REDUCED PRESSURE PRINCIPAL
BACKFLOW PREVENTER ASSEMBLY (2 1/2" & LARGER)

WS-18



NOTES:

1. THE BACKFLOW PREVENTER IS REQUIRED TO BE DOWNSTREAM OF THE WATER METER ASSEMBLY.
2. THE DRAIN FROM THE BACKFLOW PREVENTER SHALL NOT EXTEND OUTSIDE THE STRUCTURE TO DAYLIGHT.

REV. DATE

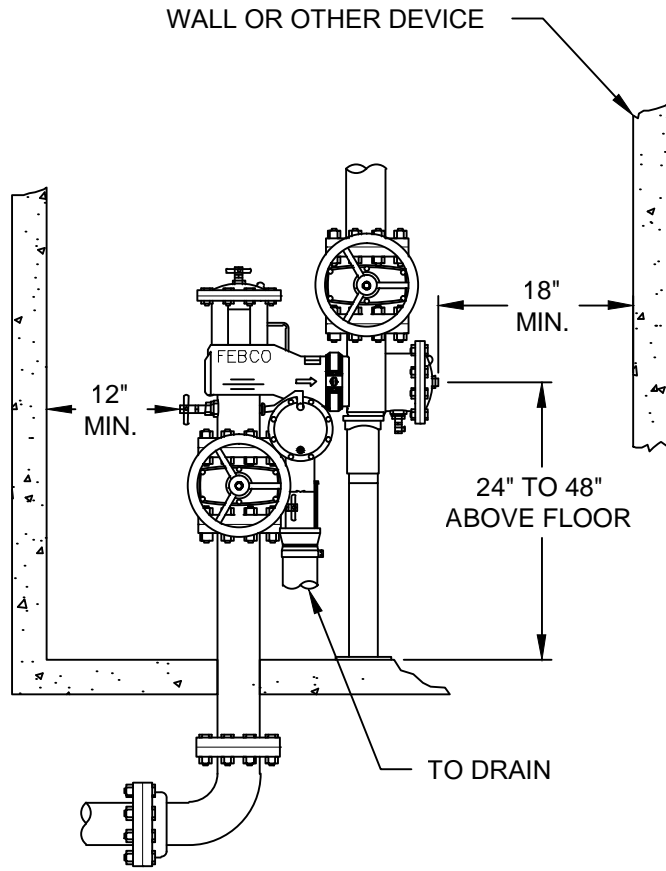
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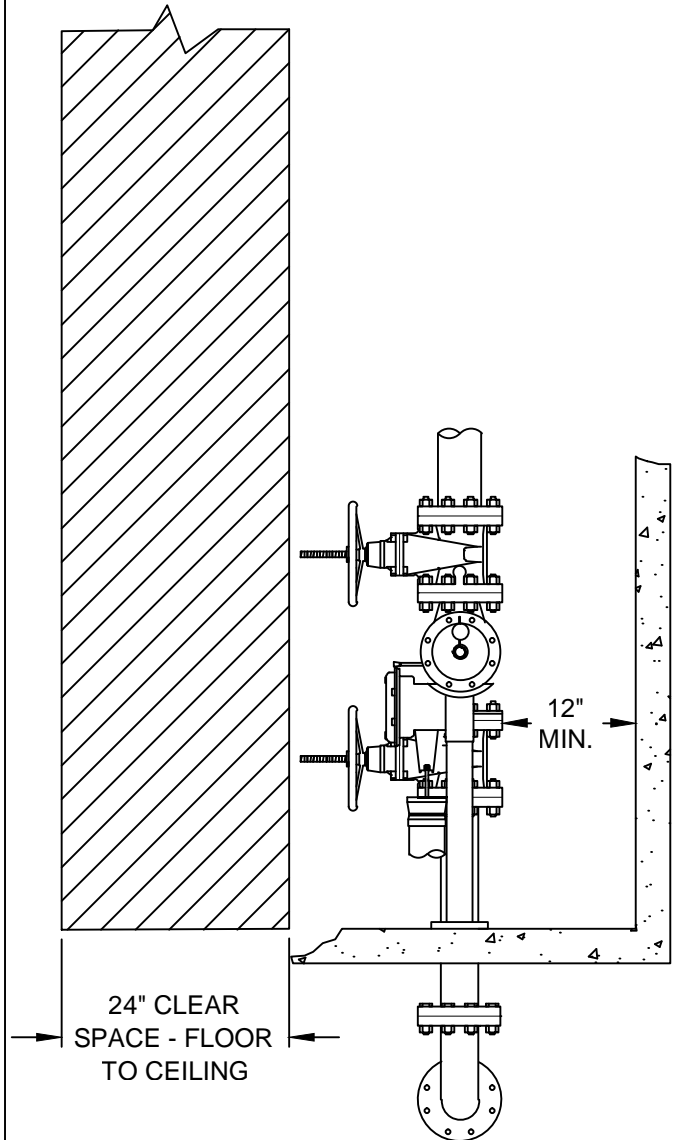
MERIDIAN METROPOLITAN DISTRICT

TYPICAL INSTALLATION FOR REDUCED PRESSURE
PRINCIPAL BACKFLOW PREVENTORS ASSEMBLY IN SERIES

WS-19



FRONT VIEW



SIDE VIEW

NOTES:

1. THE BACKFLOW PREVENTER IS REQUIRED TO BE DOWNSTREAM OF THE WATER METER ASSEMBLY.
2. THE DRAIN FROM THE BACKFLOW PREVENTER SHALL NOT EXTEND OUTSIDE THE STRUCTURE TO DAYLIGHT.

REV. DATE

06/12



MERIDIAN METROPOLITAN DISTRICT

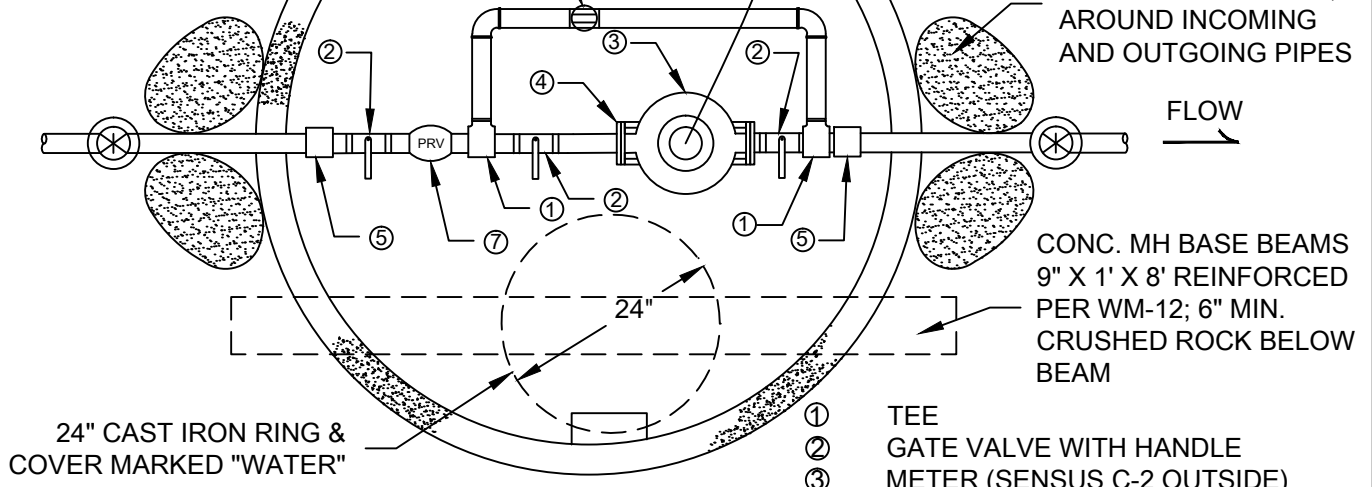
TYPICAL VERTICAL BACKFLOW PREVENTER INSTALLATION

WS-20

CONCRETE METER VAULT 60" I.D. MINIMUM

3 WIRE SHIELDED CABLE TO TOUCH READ PAD SECURED TO MANHOLE WALL

PLACE SAND BAGS ON EXTERIOR OF VAULT, AROUND INCOMING AND OUTGOING PIPES

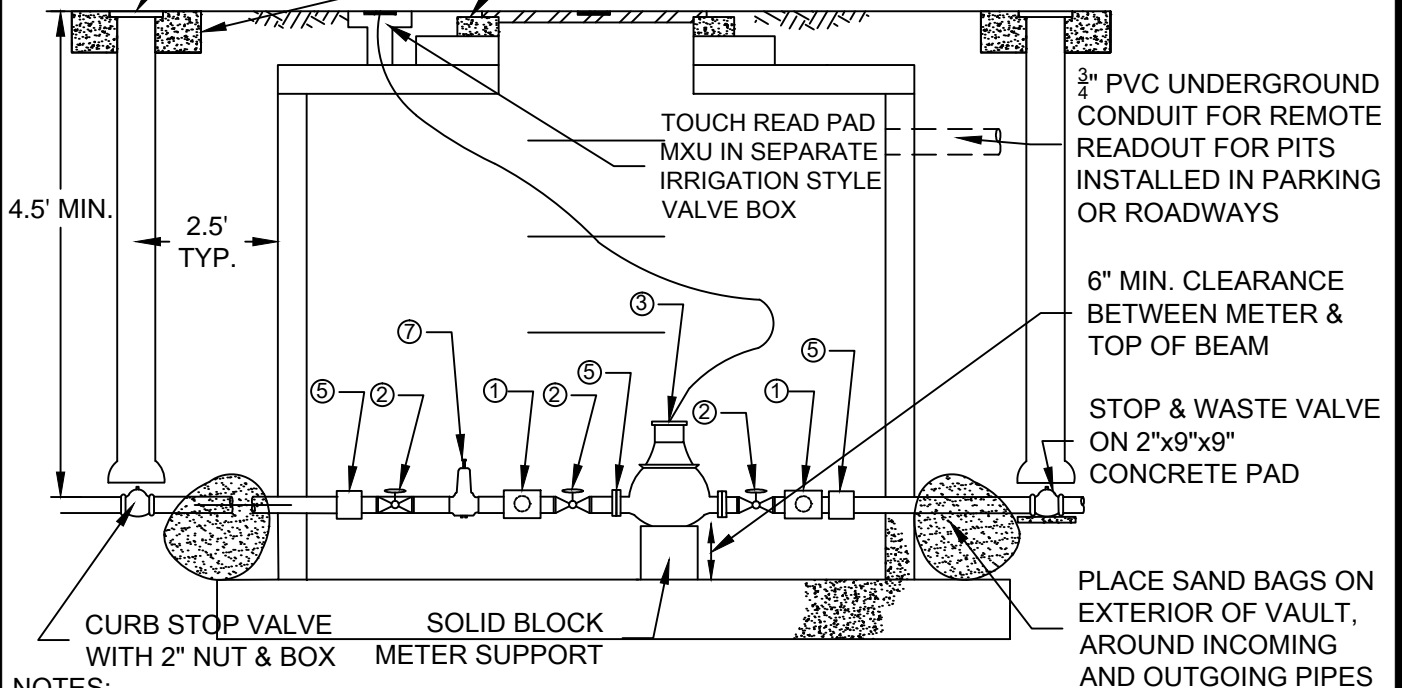


CONC. MH BASE BEAMS 9" X 1' X 8" REINFORCED PER WM-12; 6" MIN. CRUSHED ROCK BELOW BEAM

- ① TEE
- ② GATE VALVE WITH HANDLE
- ③ METER (SENSUS C-2 OUTSIDE)
- ④ LOCK-PAK COUPLING
- ⑤ COMPRESSION OR FLARED FITTING
- ⑥ LOCKING WING BALL VALVE
- ⑦ PRESSURE REDUCING VALVE

TYLER SERIES #6860 VALVE BOX WITH #160 WIDE OVAL BASE PER WM-16

CONCRETE COLLAR



NOTES:

1. APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM.
2. THE DISTANCE BETWEEN THE PRV AND METER SHALL BE AT LEAST 3 PIPE DIAMETERS SEPARATION.
3. WHEN METER VAULT AND/OR CURB STOP BOX IS LOCATED IN LANDSCAPED AREAS A 6" CONCRETE COLLAR IS REQUIRED AROUND THE MANHOLE AND STOP BOX.
4. PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

JULY 2015

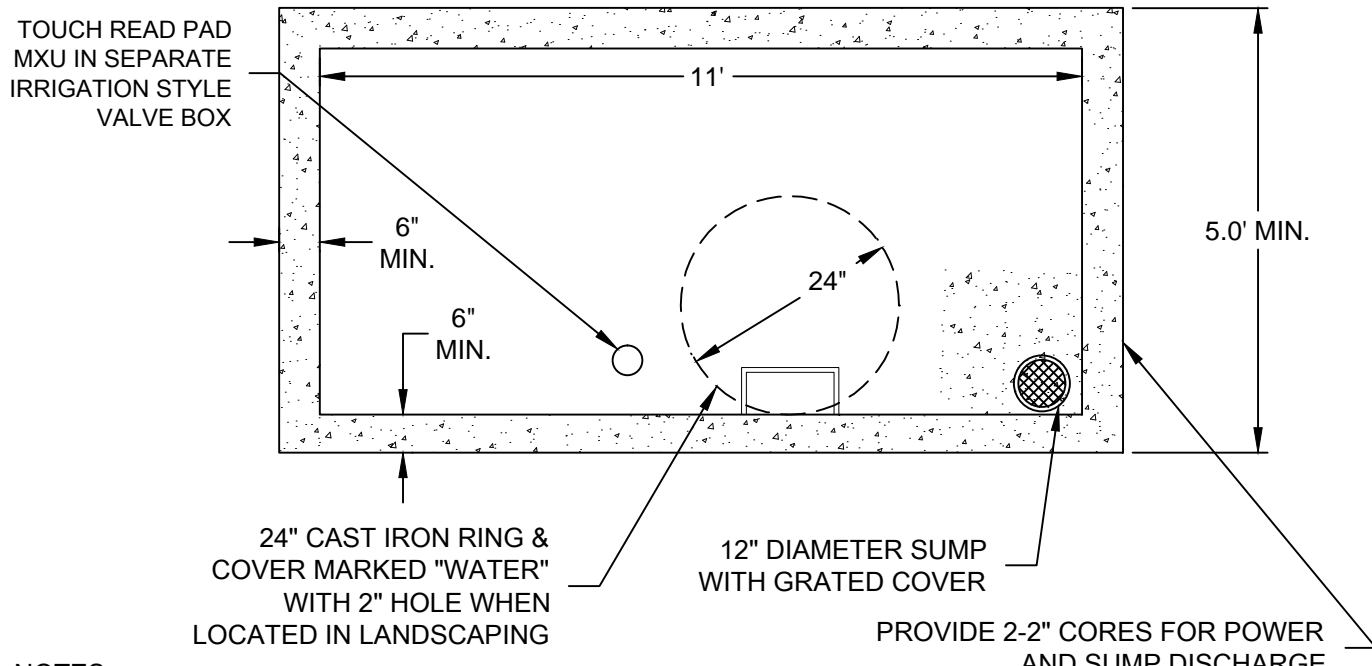
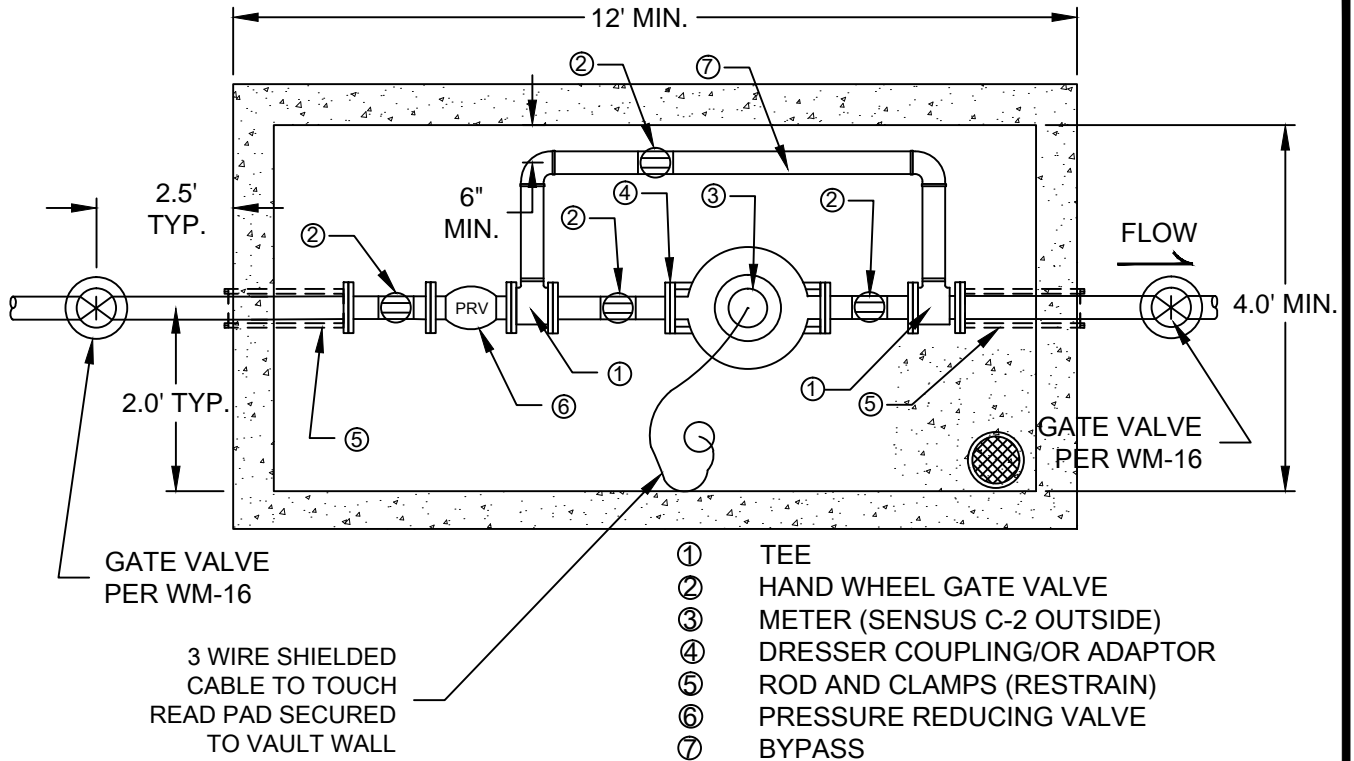


MERIDIAN METROPOLITAN DISTRICT

STANDARD SETTING FOR 1 1/2" & 2" DOMESTIC METER VAULT

WS-21

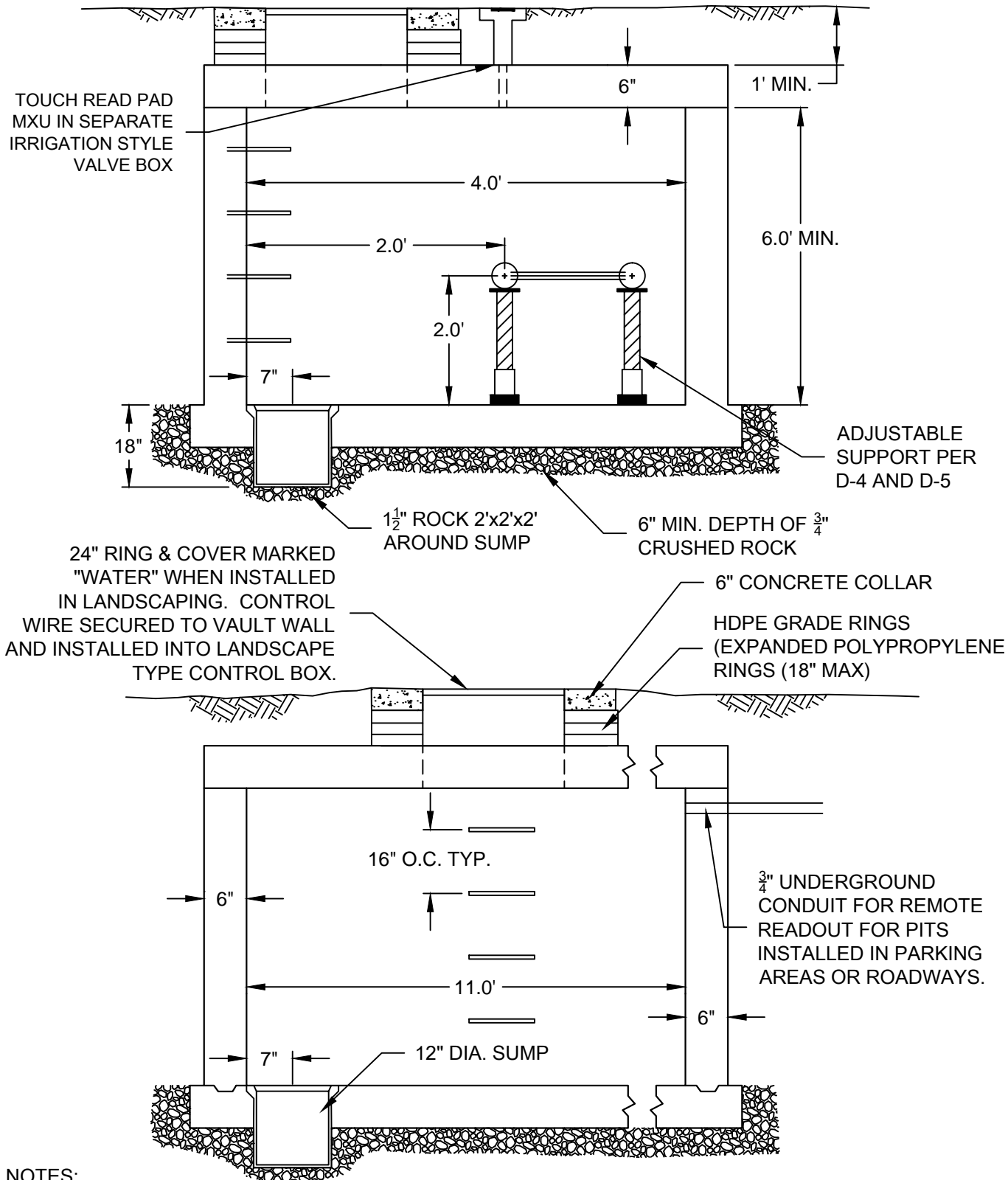
\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WS-21 Setting for 1.5 and 2 inch domestic meter vault.dwg, 9/4/2015 9:22:48 AM, mchved



- NOTES:**
1. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.
 2. A MINIMUM OF 6" OF $\frac{3}{4}$ " CRUSHED ROCK SHALL BE PLACED UNDER THE ENTIRE VAULT (SEE WS-23).
 3. WHEN METER VAULT AND/OR CURB STOP BOX IS LOCATED IN LANDSCAPED AREAS A 6" CONCRETE COLLAR IS REQUIRED AROUND THE MANHOLE AND THE GATE VALVE.
 4. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

\\TECHCENTER\projects\2006\06-24\wg\BLOCKS\Utility Details\WS-22 Setting for 3 and 4 inch domestic meter vault.dwg, 9/4/2015 9:25:56 AM, mcedved

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WS-22
JULY 2015			

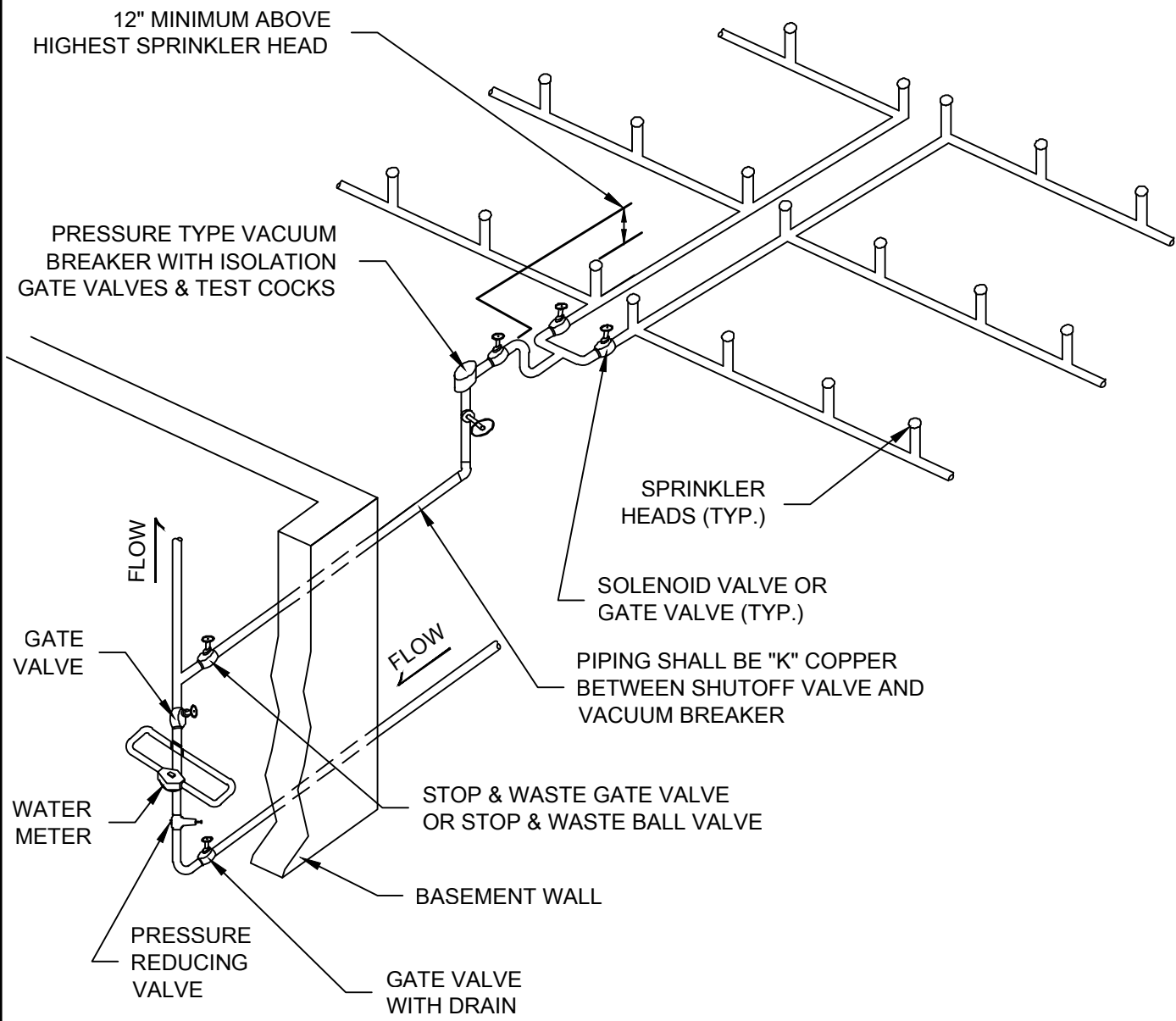


NOTES:

1. A MINIMUM OF 6" OF $\frac{3}{4}$ " CRUSHED ROCK SHALL BE PLACED UNDER THE ENTIRE VAULT.
2. WHEN METER VAULT AND/OR CURB STOP BOX IS LOCATED IN LANDSCAPED AREAS A 6" CONCRETE COLLAR IS REQUIRED AROUND THE MANHOLE AND THE GATE VALVE (SEE WS-22 FOR ADDITIONAL DETAILS).
3. RAMNEK ALL EXTERIOR JOINTS.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	WS-23
JULY 2015		STANDARD FOR 3" & 4" DOMESTIC METER VAULT	

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\WS-23 Standard 3 and 4 inch domestic meter vault.dwg, 9/4/2015 9:28:04 AM, t.mehed



NOTES:

1. RESIDENTIAL METER SETTING PER WS-11.

REV. DATE
06/12

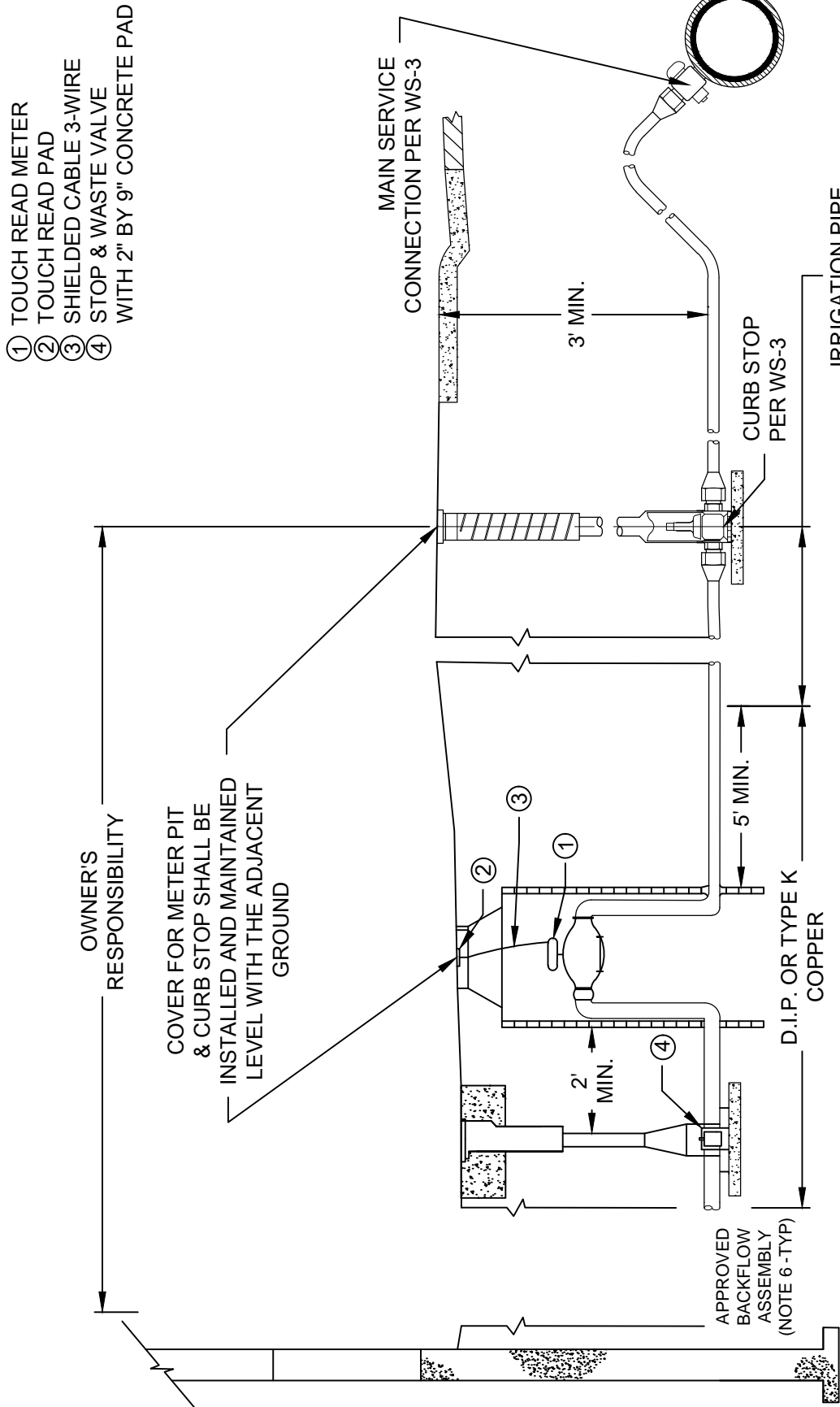


MERIDIAN METROPOLITAN DISTRICT

RESIDENTIAL IRRIGATION SYSTEM
PRESSURE VACUUM BREAKER

WS-24

I:\TECHCENTER\projects\2008\06-24\MSJ\BLOCCK\DWG\Drawings\WS-24 Residential Irrigation System - Pressure Vacuum Breaker.dwg, 11/03/2012 12:36:19 PM, mjangaz, 1:1



- ① TOUCH READ METER
- ② TOUCH READ PAD
- ③ SHIELDED CABLE 3-WIRE STOP & WASTE VALVE
- ④ STOP & WASTE VALVE WITH 2" BY 9" CONCRETE PAD

OWNER'S RESPONSIBILITY

COVER FOR METER PIT & CURB STOP SHALL BE INSTALLED AND MAINTAINED LEVEL WITH THE ADJACENT GROUND

MAIN SERVICE CONNECTION PER WS-3

3' MIN.

CURB STOP PER WS-3

IRRIGATION PIPE AS PER MATERIAL SPECIFICATION

5' MIN.

D.I.P. OR TYPE K COPPER

2' MIN.

APPROVED BACKFLOW ASSEMBLY (NOTE 6 - TYP)

NOTES:

1. OWNER'S RESPONSIBILITY SHALL BE UP TO THE IRRIGATION SLEEVE OR TEE OR STUB.
2. THE DISTRICT'S RESPONSIBILITY SHALL BE THE IRRIGATION MAIN AND WHERE NEEDED THE SLEEVE OR TEE FOR TAPPING THE IRRIGATION MAIN.
3. IRRIGATION MAIN SHOWN ON PROPERTY OWNER'S SIDE OF STREET.
4. SHOULD ANY SITUATION ARISE OTHER THAN SHOWN, CONTACT THE DISTRICT REPRESENTATIVES.
5. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI
6. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.

REV. DATE

JULY 2015

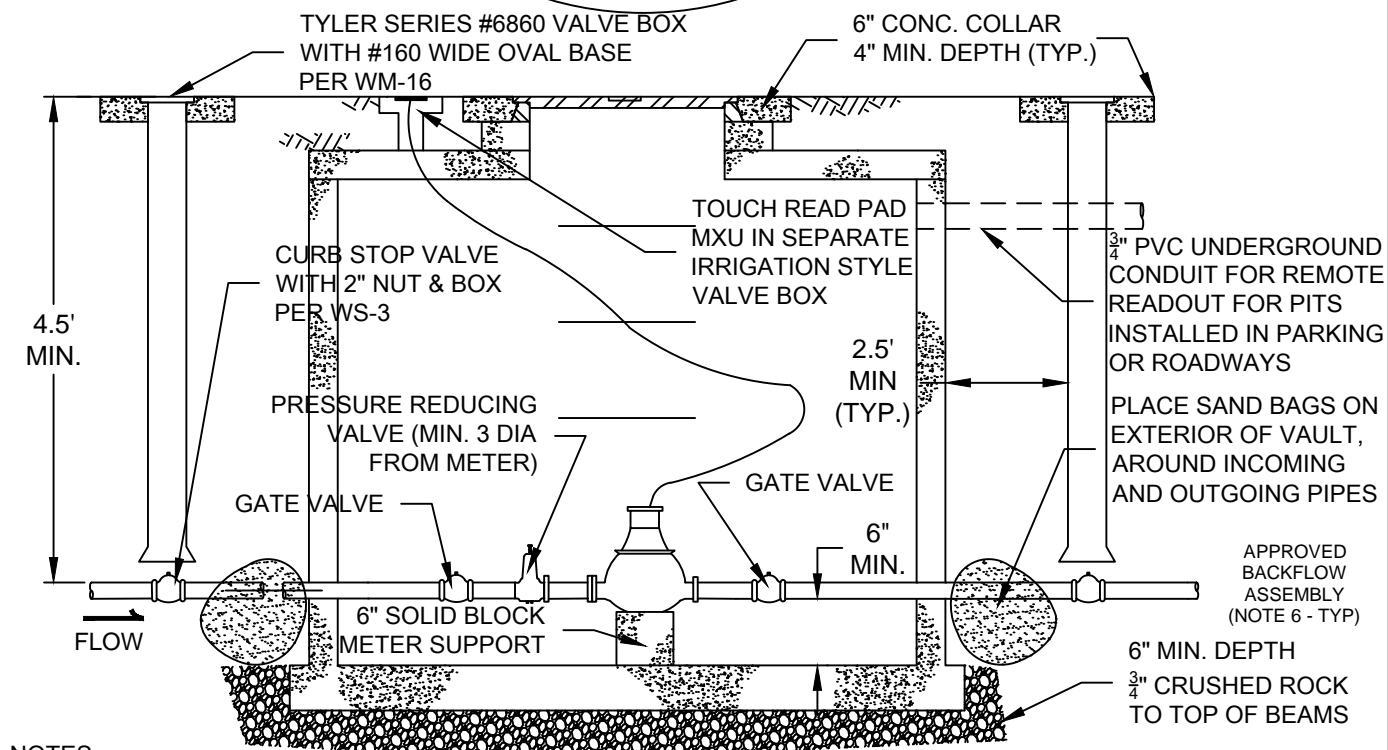
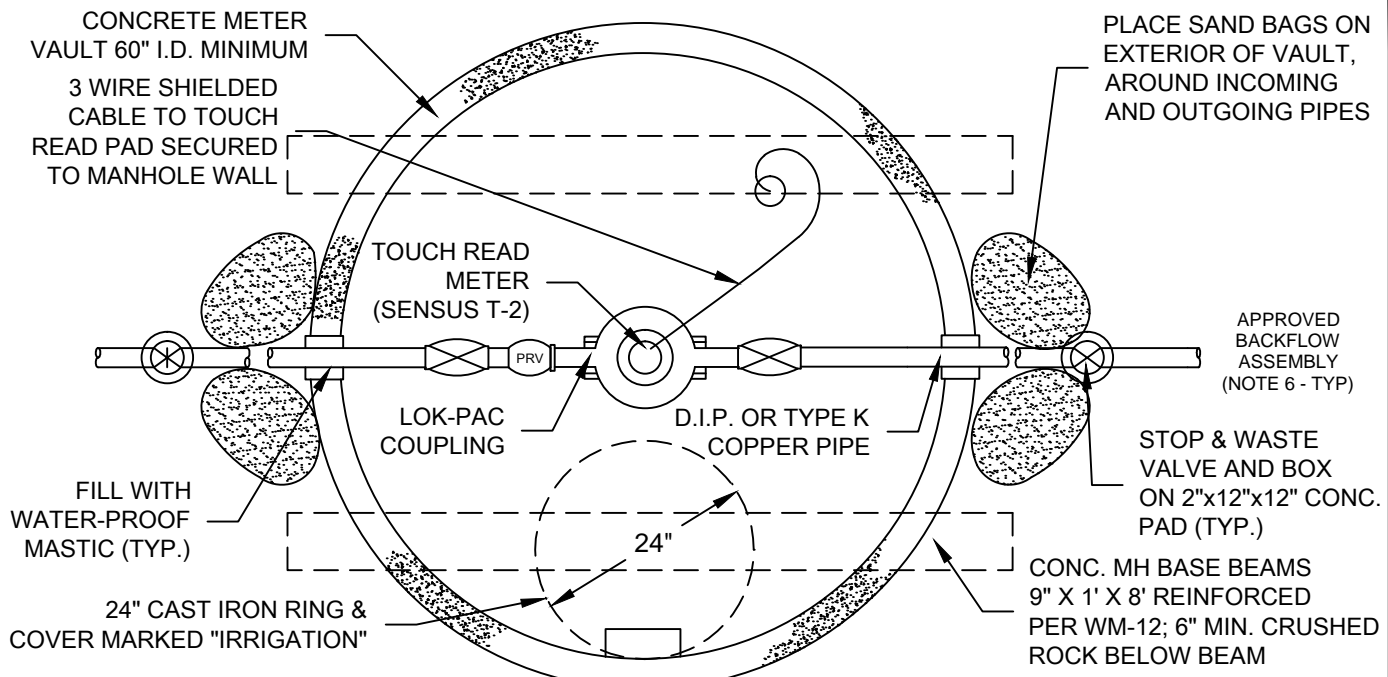


MERIDIAN METROPOLITAN DISTRICT

IRRIGATION LINE, STOP BOX AND OUTSIDE METER

INSTALLATION FOR 3/4" AND 1" SETS

WS-25

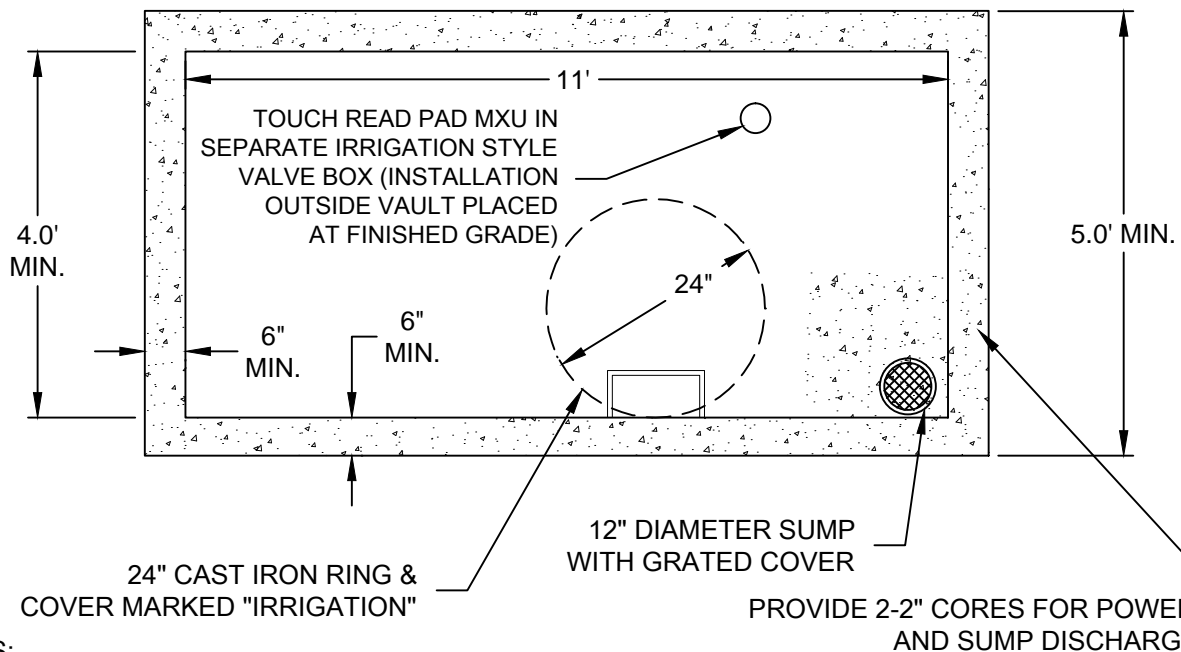
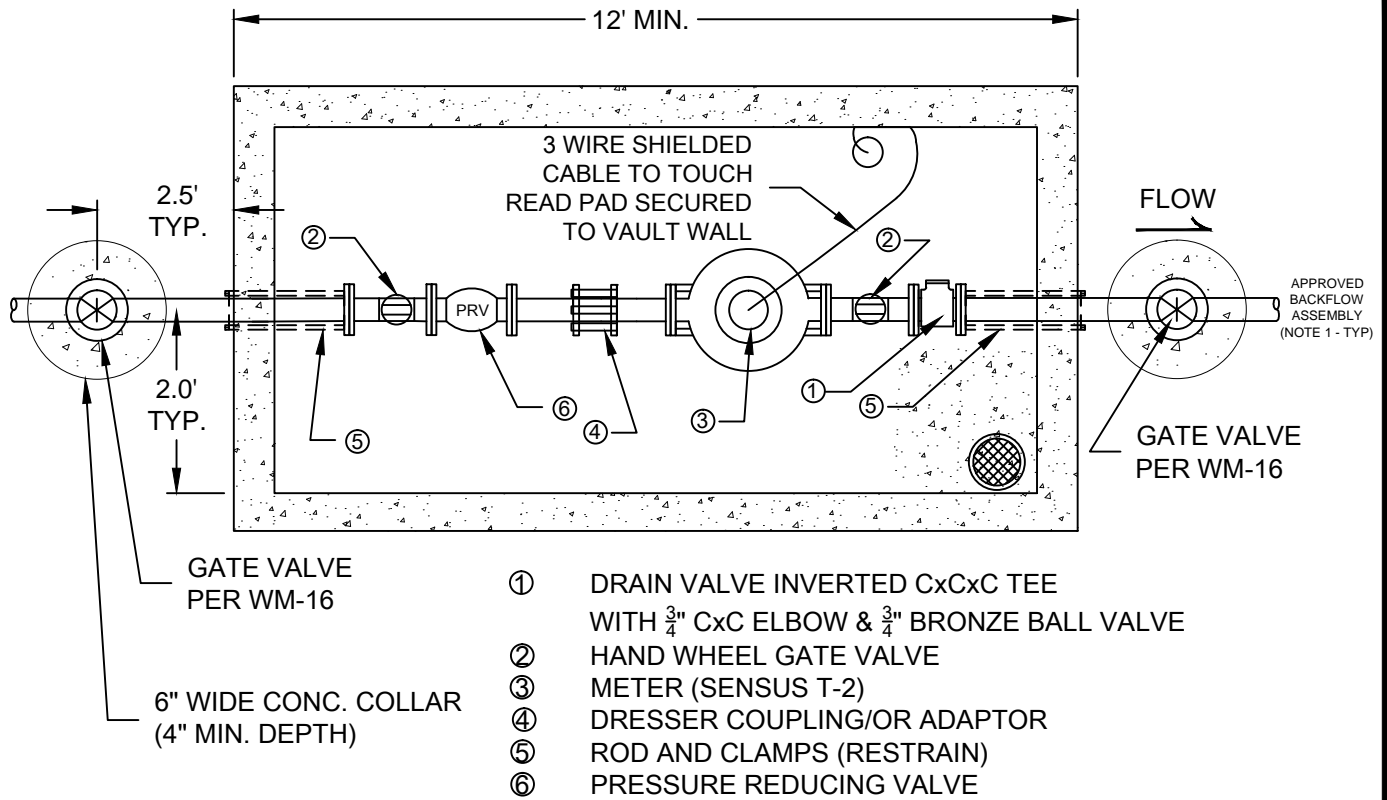


NOTES:

1. ALL METER PITS LOCATED IN CONCRETE, WHEN ALLOWED BY THE DISTRICT, SHALL HAVE A CAST IRON DOME & COVER.
2. METERS INSTALLED IN PITS THAT ARE IN PARKING OR ROADWAYS, WILL REQUIRE THE INSTALLATION OF A REMOTE WIRE AND CONDUIT. METER PITS INSTALLED IN LANDSCAPED AREAS WILL REQUIRE TO BE CONSTRUCTED AS SHOWN AT THE OWNERS EXPENSE FOR THE INSTALLATION OF A REMOTE SENSING UNIT.
3. JOINTS INSIDE METER VAULT AND CONNECTIONS TO VALVES SHALL BE THREADED OR FLANGED. METER SHALL BE FLANGED OR THREADED W/BRASS COMPANION FLANGES. DUCTILE IRON PIPE OR TYPE K COPPER PIPE SHALL BE USED 5' EITHER SIDE OF VAULT.
4. SHOULD ANY SITUATION ARISE OTHER THAN SHOWN, CONTACT DISTRICT REPRESENTATIVES.
5. PRESSURE REDUCING VALVE IS REQUIRED BEFORE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.
6. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.

\\TECHCENTER\projects\2006\06-24\wg\BLOCKS\Utility Details\WS-27 Outside Setting for Irrigation Meter in Manhole.dwg, 9/4/2015 9:58:25 AM, mchved

REV. DATE JULY 2015		MERIDIAN METROPOLITAN DISTRICT OUTSIDE SETTING FOR 1 1/2" AND 2" IRRIGATION METER IN MANHOLE	WS-27
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NOTES:

1. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE WATER METER.
2. A MINIMUM OF 6" OF $\frac{3}{4}$ " CRUSHED ROCK SHALL BE PLACED UNDER THE ENTIRE VAULT (SEE WS-29).
3. WHEN METER VAULT AND/OR CURB STOP BOX IS LOCATED IN LANDSCAPED AREAS A 6" CONCRETE COLLAR IS REQUIRED AROUND THE MANHOLE AND THE GATE VALVE.
4. VAULT MAY BE ROUND IF PRIOR APPROVAL FROM THE DISTRICT IS RECEIVED.
5. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

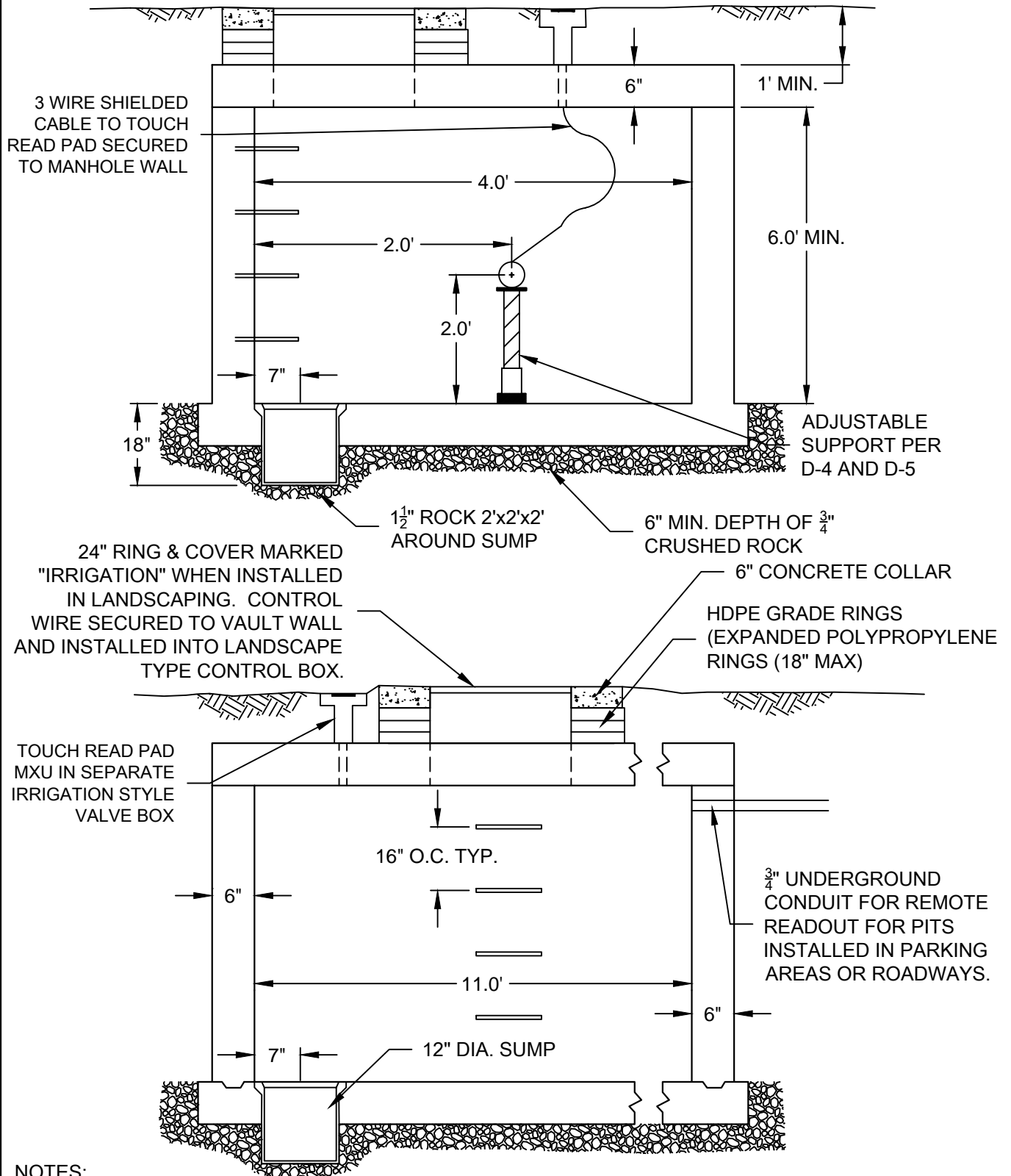
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

STANDARD SETTING FOR 3" & 4" IRRIGATION METER VAULT

WS-28



NOTES:

1. A MINIMUM OF 6" OF $\frac{3}{4}$ " CRUSHED ROCK SHALL BE PLACED UNDER THE ENTIRE VAULT.
2. WHEN METER VAULT AND/OR CURB STOP BOX IS LOCATED IN LANDSCAPED AREAS A 6" CONCRETE COLLAR IS REQUIRED AROUND THE MANHOLE AND THE GATE VALVE (SEE WS-28 FOR ADDITIONAL DETAILS).
3. RAMNEK ALL EXTERIOR JOINTS.

REV. DATE

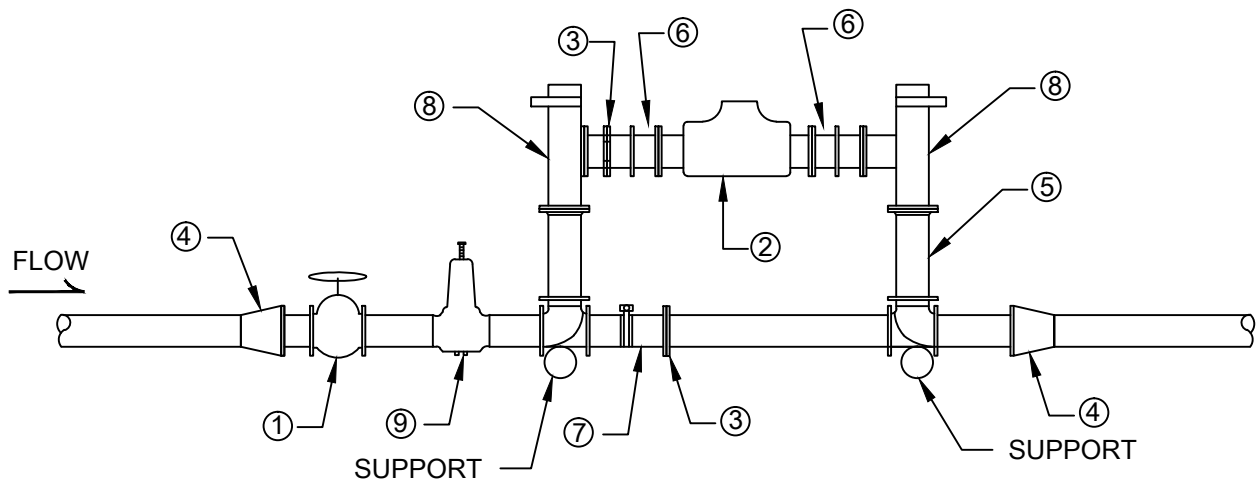
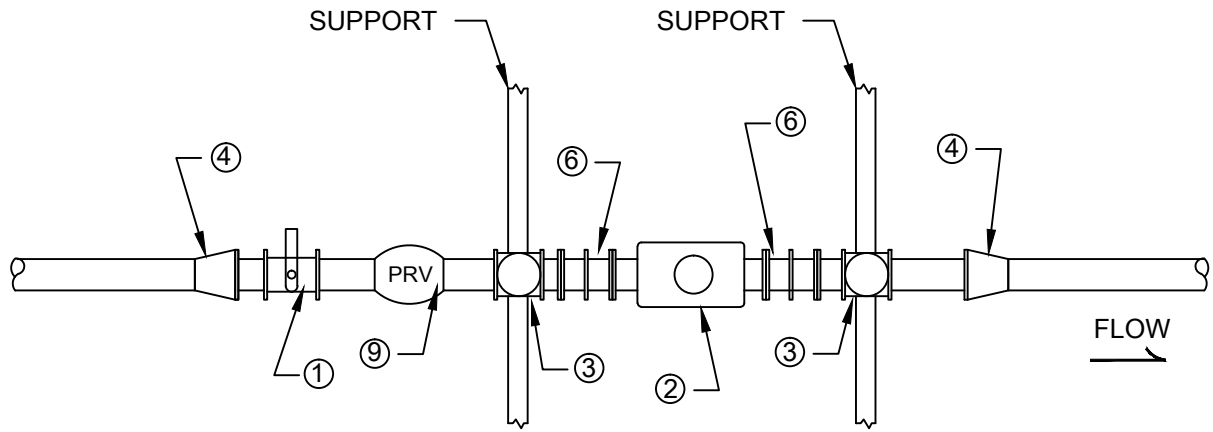
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

STANDARD FOR 3" & 4" IRRIGATION METER VAULT

WS-29



- | | |
|-------------------------------------|-----------------------------|
| ① BALL VALVE WITH HANDLE | ⑤ CUSTOM SETTER |
| ② METER (SENSUS C-2 INSIDE/OUTSIDE) | ⑥ TWO BOLT ADAPTOR |
| ③ LOK-PAK COUPLING | ⑦ LOCKING WING VALVE |
| ④ COMPRESSION OR FLARED FITTING | ⑧ CUSTOM SETTER ANGLE VALVE |
| | ⑨ PRESSURE REDUCING VALVE |

NOTES:

1. METERS INSTALLED IN PITS THAT ARE IN PARKING OR ROADWAYS, WILL REQUIRE THE INSTALLATION OF A REMOTE WIRE AND CONDUIT. METERS PITS INSTALLED IN LANDSCAPED AREAS WILL REQUIRE THAT A 2" HOLE BE PROVIDED IN THE CENTER OF THE MANHOLE COVER AT THE OWNERS EXPENSE FOR THE INSTALLATION OF A REMOTE SENSING UNIT.
2. FOR AN INSIDE INSTALLATION, REFER TO DETAIL WS-12. WHEN USING CUSTOM SETTER FOR AN OUTSIDE INSTALLATION, REFER TO DETAIL WS-21 (DOMESTIC SERVICE).
3. FOR AN OUTSIDE IRRIGATION INSTALLATION, REFER TO DETAIL WS-31.
4. AN APPROVED REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY WILL BE REQUIRED DOWNSTREAM OF THE METER.
5. A PRESSURE REDUCING VALVE IS REQUIRED BEFORE THE METER IF STATIC PRESSURE IS GREATER THAN 95 PSI.

REV. DATE

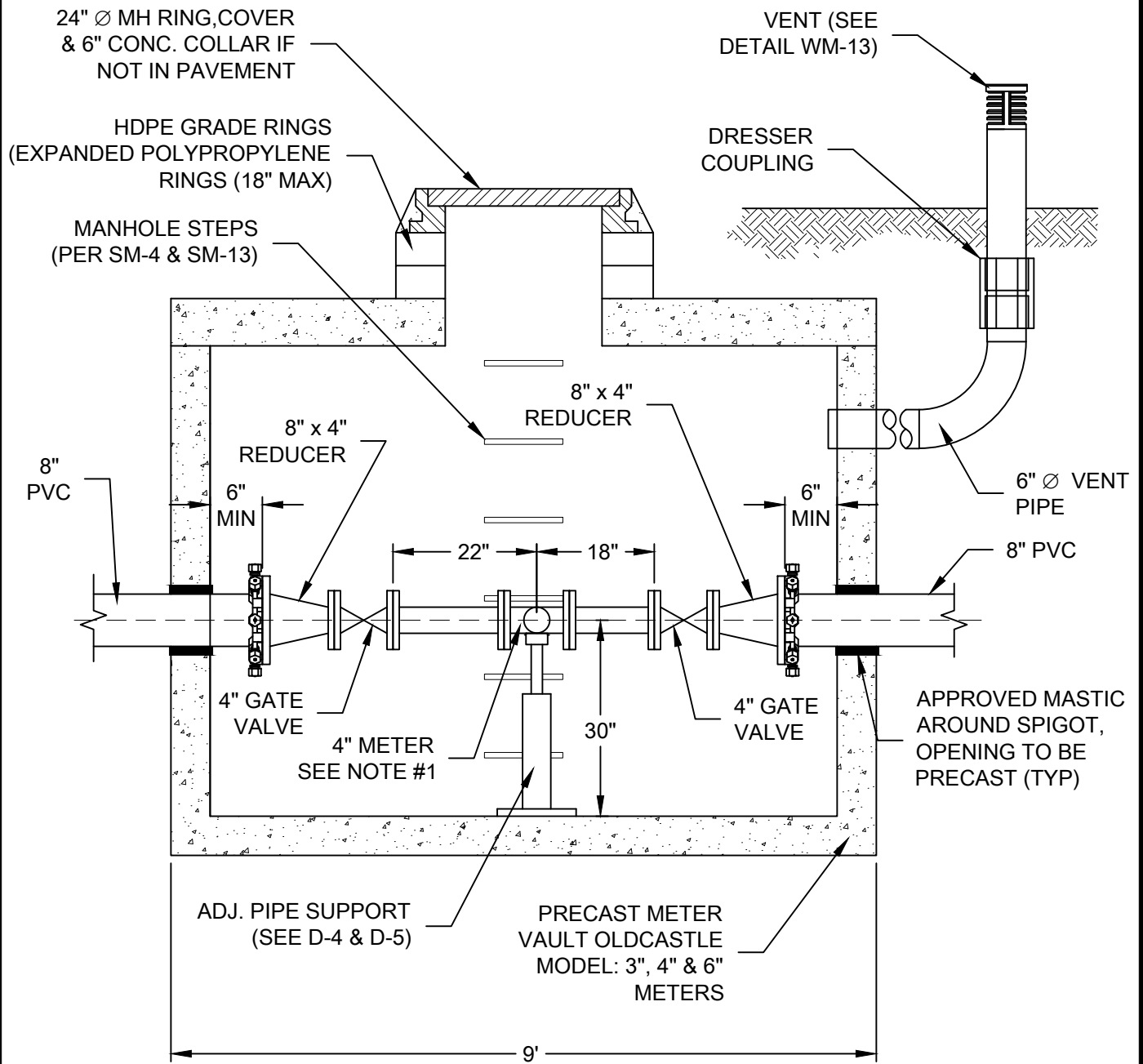
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

INSIDE OR OUTSIDE INSTALLATION
METER SETTING (1½" OR 2")

WS-30



NOTES:

1. TYPE OF METER TO BE DETERMINED BY MERIDIAN METROPOLITAN DISTRICT.
2. READOUT IN GPM AND DAILY TOTALIZER.
3. REMOTE READ OUT LOCATION TO BE DETERMINED BY THE DISTRICT.
4. CONNECTION CABLES TO BE INSTALLED IN 3" SCH. 40 PVC WITH NO SPLICES BURIED WITH 3' MIN. COVER.
5. RADIO REMOTE READOUT-K SERIES 900 MHZ SERIAL READOUT (FIELD SIGNAL CONFIRMATION REQUIRED PRIOR TO EQUIPMENT ORDER).

REV. DATE

JULY 2015



MERIDIAN METROPOLITAN DISTRICT

4" METER VAULT

WS-31

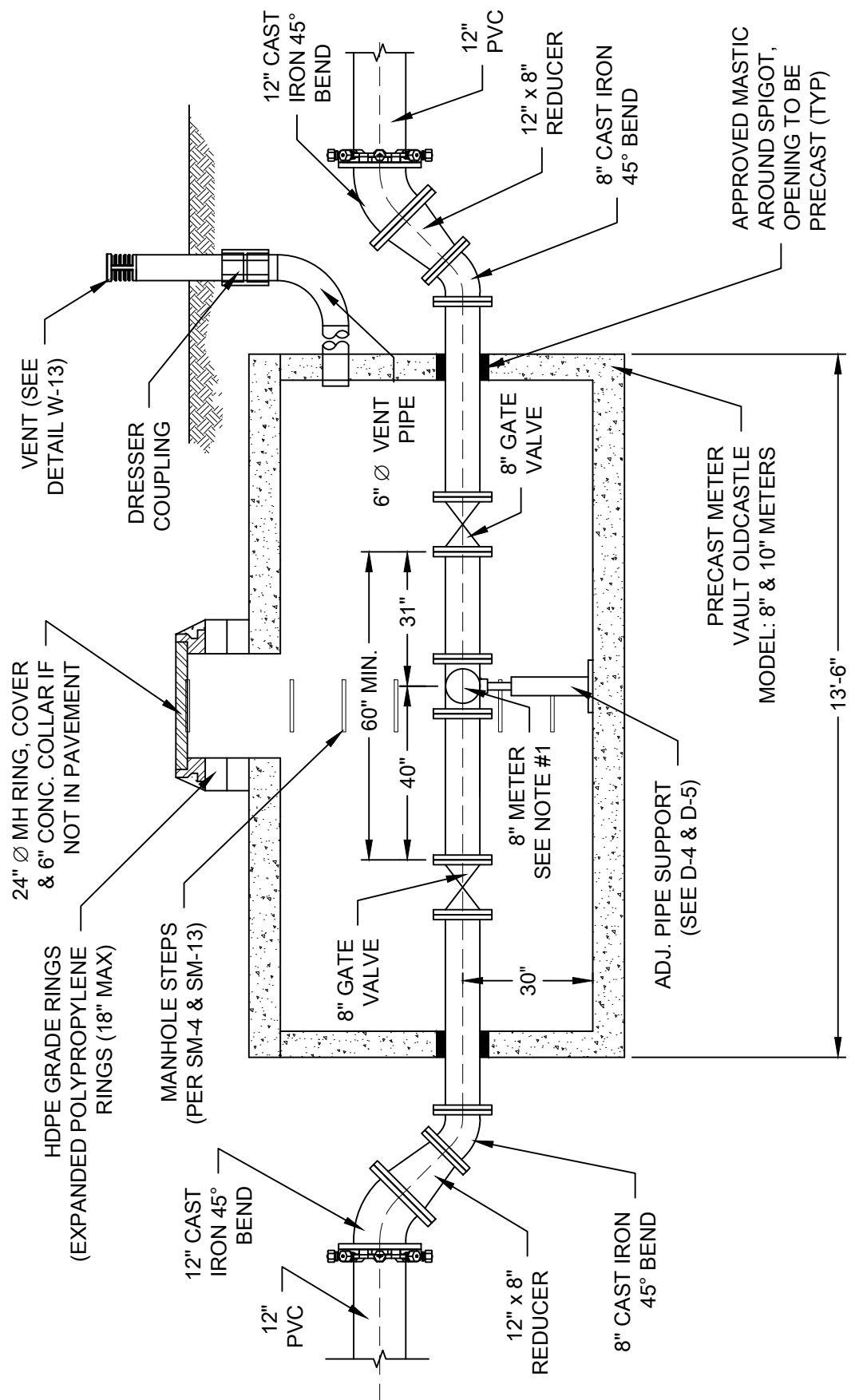
REV. DATE
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

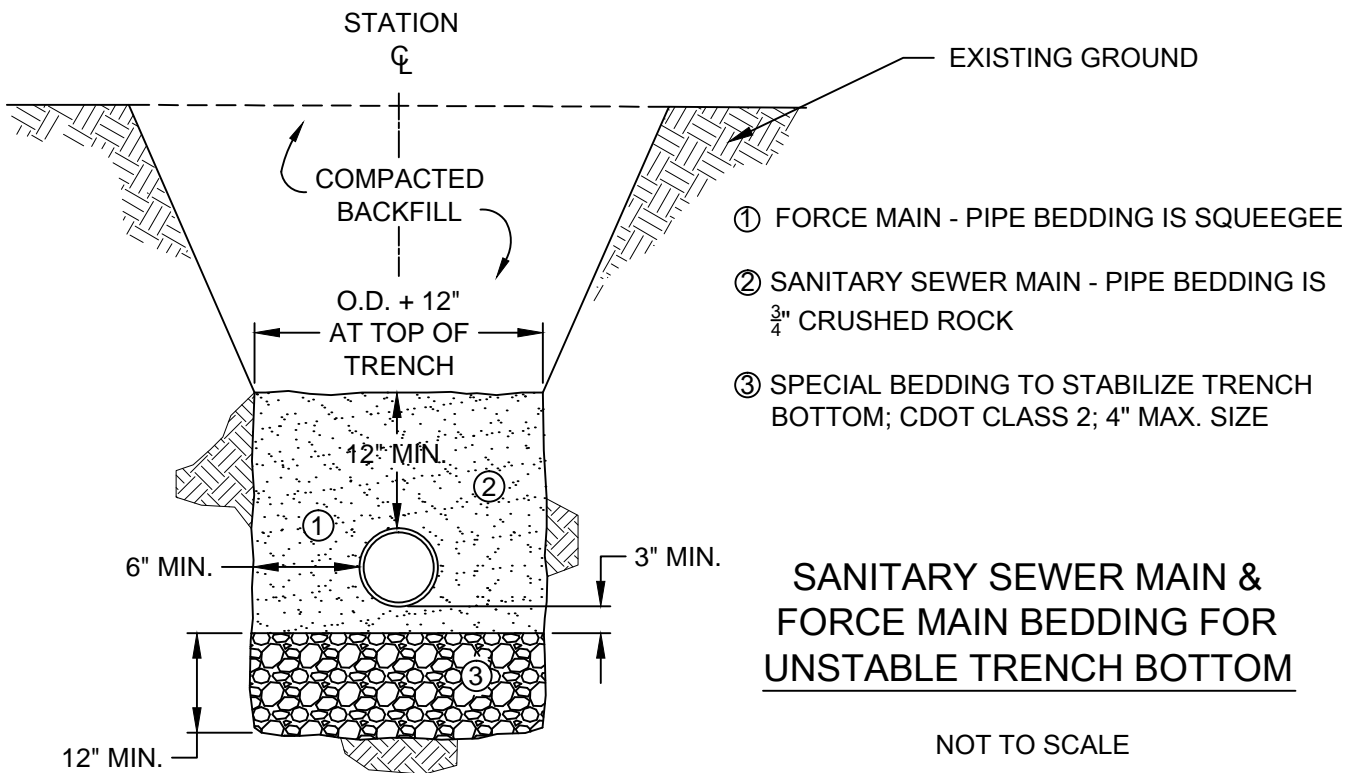
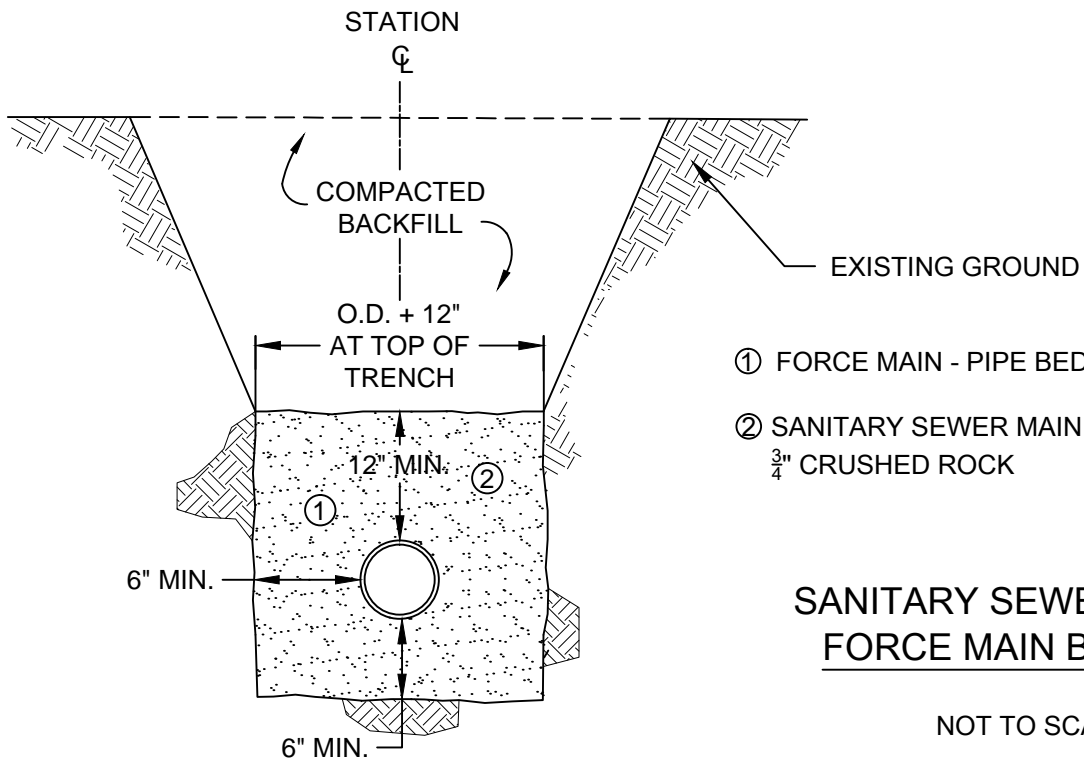
8" METER VAULT

WS-32



NOTES:

1. TYPE OF METER TO BE DETERMINED BY MERIDIAN METROPOLITAN DISTRICT.
2. REMOTE READ OUT LOCATION TO BE DETERMINED BY THE DISTRICT.
3. CONNECTION CABLES TO BE INSTALLED IN 3" SCH. 40 PVC WITH NO SPLICES BURIED WITH 3' MIN. COVER.
4. RADIO REMOTE READOUT-K SERIES 900 MHZ SERIAL READOUT (FIELD SIGNAL CONFIRMATION REQ. PRIOR TO EQUIPMENT ORDER).



REV. DATE

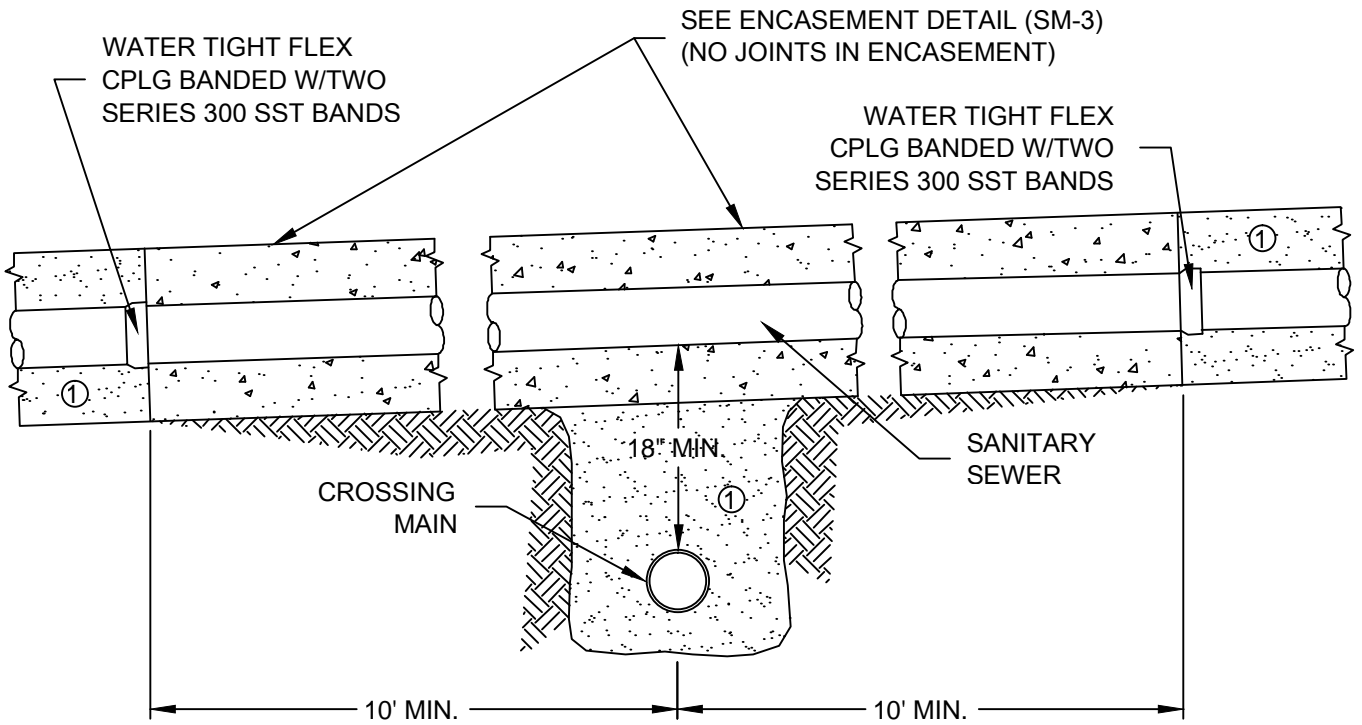
05/13



MERIDIAN METROPOLITAN DISTRICT

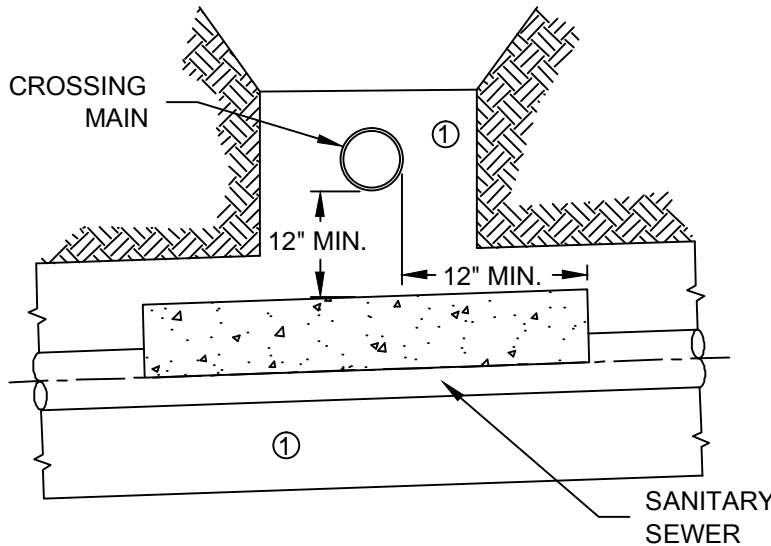
SANITARY SEWER MAIN BEDDING DETAIL

SM-1

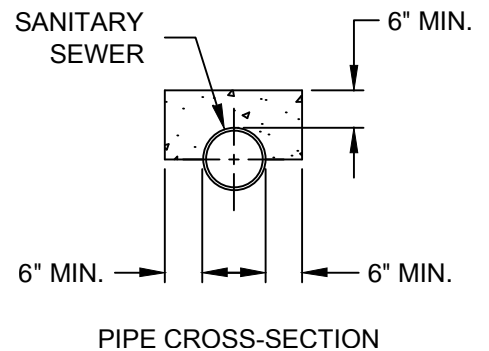


**SANITARY SEWER MAIN
CROSSING OVER ANOTHER MAIN**

NOT TO SCALE



① PIPE BEDDING -
SQUEEGEE OR $\frac{3}{4}$ " ROCK



**SANITARY SEWER MAIN
CROSSING UNDER ANOTHER MAIN**

NOT TO SCALE

NOTES:

1. ENCASE PIPE PER DETAIL SM-3.
2. ANY EXISTING SEWER DAMAGED DURING INSTALLATION MUST BE REPLACE WITH PVC.
3. DISTRICT APPROVED FLEX COUPLING SHALL BE USED: FERNCO 5000 SERIES REPAIR COUPLING, MISSION FLEX-SEAL ADJUSTABLE REPAIR COUPLING, ONSET SHEAR GUARD.

REV. DATE

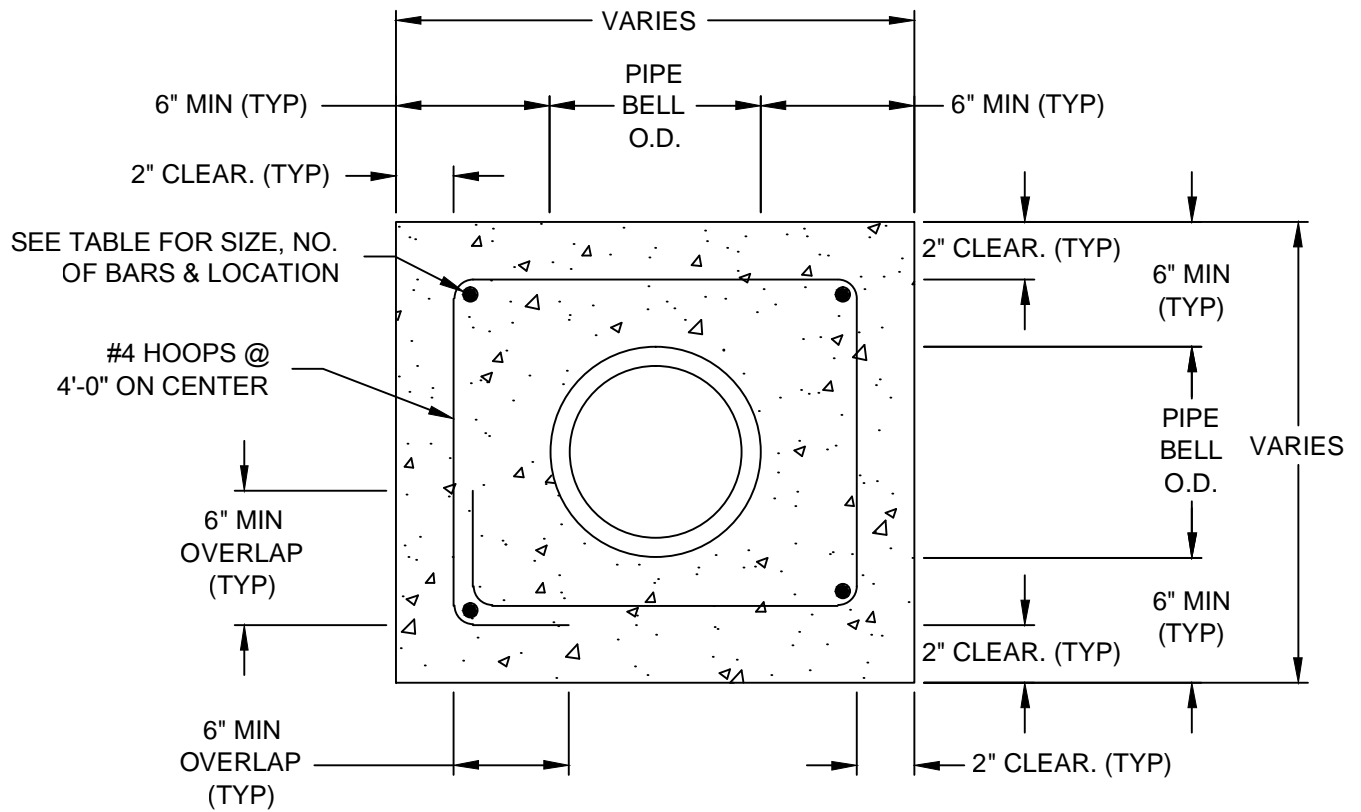
06/12



MERIDIAN METROPOLITAN DISTRICT

SANITARY SEWER MAIN CROSSING DETAIL

SM-2



PIPE INSIDE DIAMETER	NUMBER OF LONGITUDINAL BARS & LOCATION
8"	4 - NO. 4 BARS; 2 EACH SIDE
10"	8 - NO. 4 BARS; 3 EACH SIDE
12"	8 - NO. 4 BARS; 3 EACH SIDE
15"	8 - NO. 4 BARS; 3 EACH SIDE
18"	8 - NO. 4 BARS; 3 EACH SIDE
21"	12 - NO. 4 BARS; 4 EACH SIDE
24"	12 - NO. 4 BARS; 4 EACH SIDE
27"	12 - NO. 4 BARS; 4 EACH SIDE
30"	12 - NO. 4 BARS; 4 EACH SIDE
33"	12 - NO. 4 BARS; 4 EACH SIDE
36"	12 - NO. 4 BARS; 4 EACH SIDE

NOTES:

1. ALL CONCRETE SHALL DEVELOP 4000 PSI COMPRESSIVE STRENGTH AFTER 28 DAYS.
2. ANY EXISTING SEWER DAMAGED DURING INSTALLATION MUST BE REPLACE WITH PVC.
3. DISTRICT APPROVED FLEX COUPLING SHALL BE USED: FERNCO 5000 SERIES REPAIR COUPLING, MISSION FLEX-SEAL ADJUSTABLE REPAIR COUPLING, ONSET SHEAR GUARD.

REV. DATE

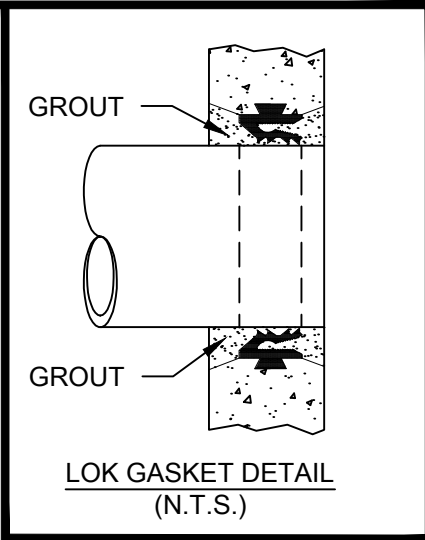
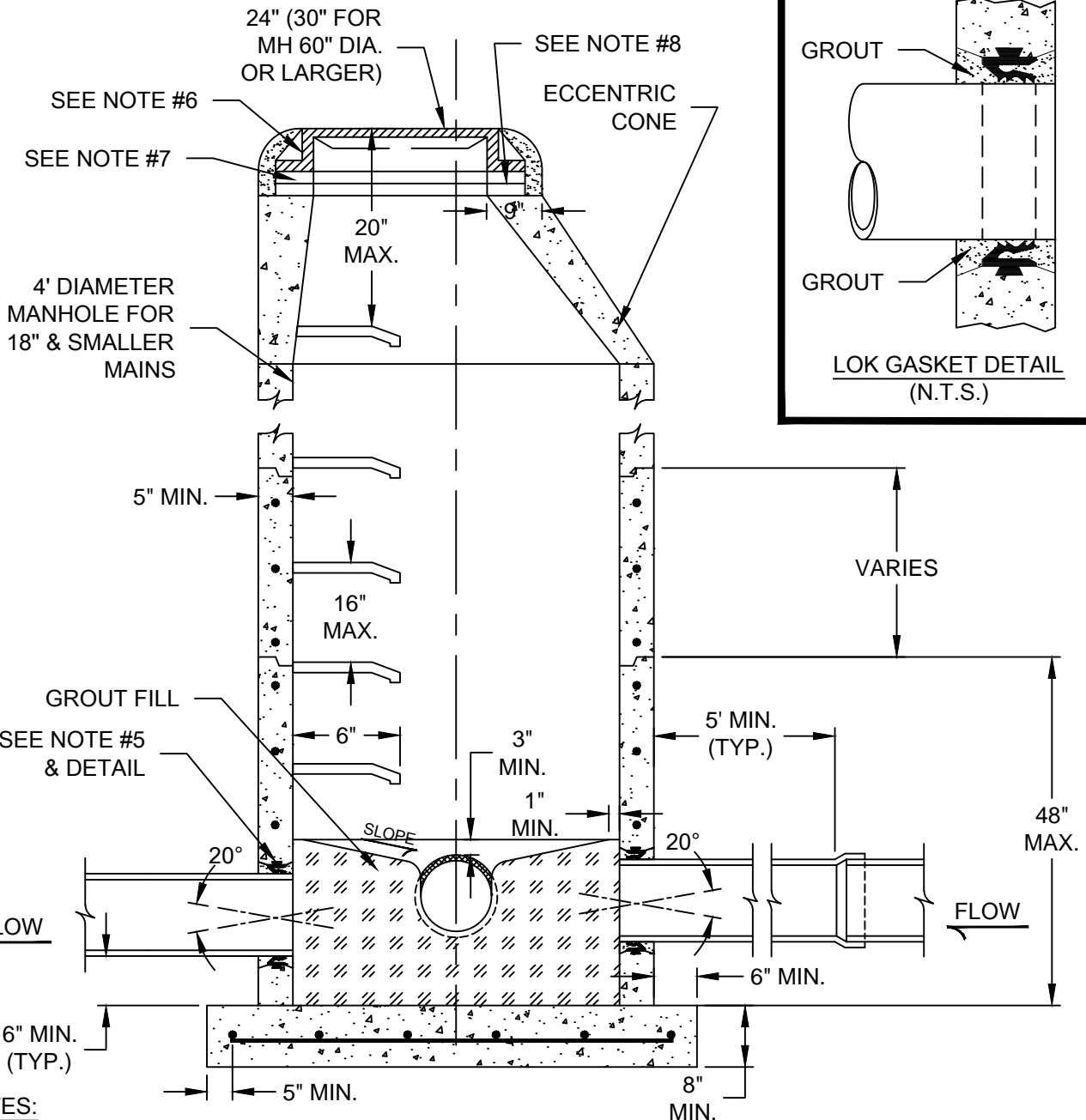
06/12



MERIDIAN METROPOLITAN DISTRICT

CONCRETE ENCASUREMENT DETAIL

SM-3



NOTES:

1. GROUT FILL IS USED TO SHAPE INVERTS. SIDE SLOPES SHALL BE 1"/FOOT WITH A 1" MINIMUM DROP.
2. MANHOLES BASES, RISERS, LIDS, ETC. TO BE REINFORCED PER SM-4. MANHOLE I.D. IS 4' FOR 18" & LESS PIPES; MANHOLE I.D. IS 5' FOR 20" - 30" PIPES; MANHOLE I.D. IS 6' FOR 33" AND UP PIPES.
3. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS & 0.3' FOR 90° CONNECTIONS.
4. A LOK GASKET PER ASTM RUBBER GASKET SPECIFICATION C443, CAST INTEGRALLY IN MANHOLE WALL AND LOCATED AS REQUIRED. JOINT ALLOWS 10° DEFLECTION OR EQUIVALENT.
5. MUST HAVE PRIOR APPROVAL FROM THE DISTRICT BEFORE INSTALLATION. CAST-IN-PLACE BASE IS THE DISTRICT STANDARD. SEE SM-4 FOR ADDITIONAL DETAILS.
6. RING & COVER SET TO PARALLEL THE FINISHED SURFACE. MANHOLES PLACED IN THE "OPEN SPACE" AREAS SHALL BE INSTALLED WITH THE RING & COVER AT AN ELEVATION THAT IS 6" ABOVE FINAL GRADE WITH A CONCRETE COLLAR.
7. RING & COVER GRADE ADJUSTMENT -HDPE (EXPANDED POLYPROPYLENE) RINGS (18" MAXIMUM). PRECAST CONCRETE RINGS MAY BE ALLOWED WITH PRIOR DISTRICT APPROVAL.
8. APPROVED SEALANT BETWEEN RINGS.

REV. DATE

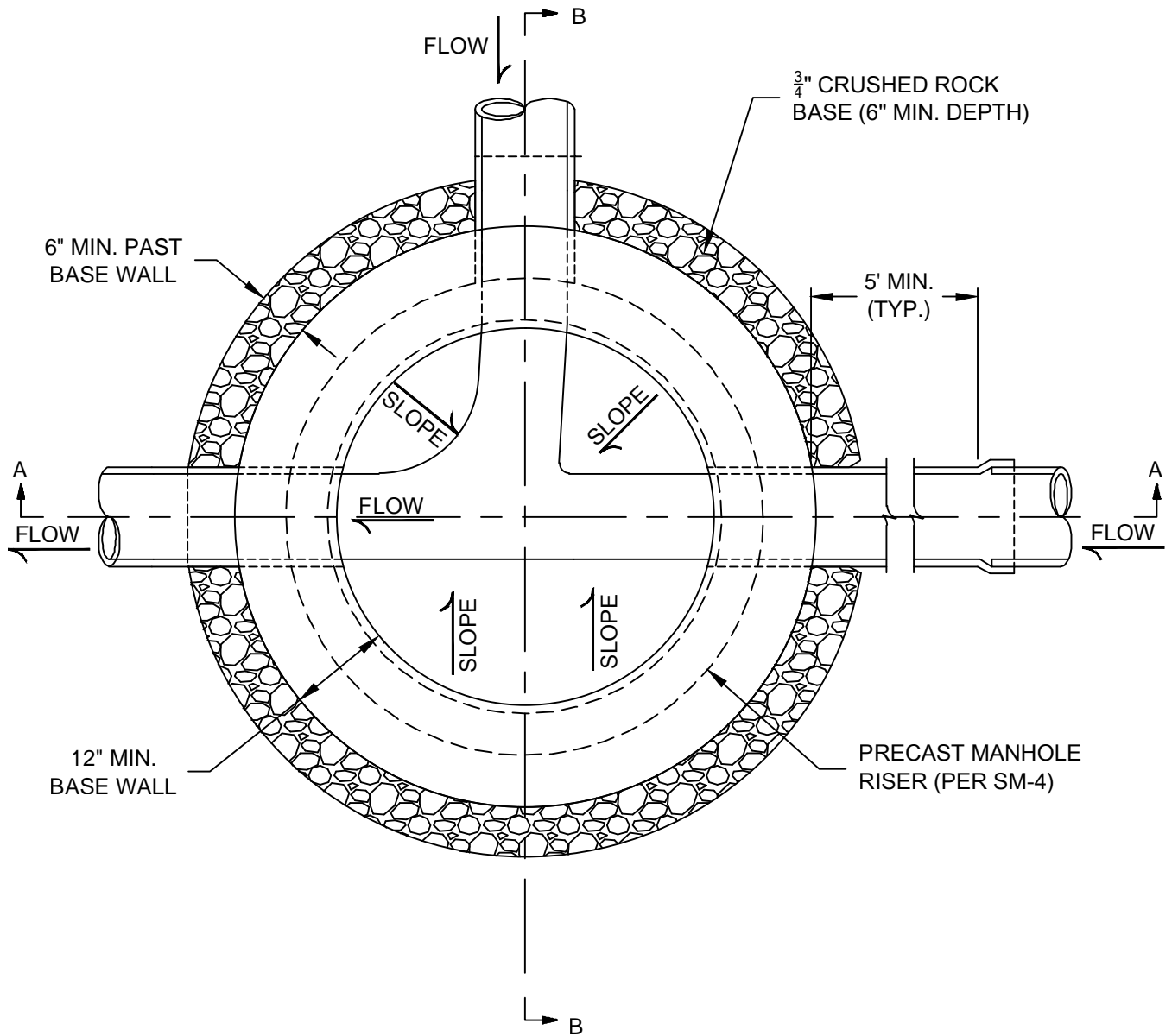
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

STANDARD MANHOLE DETAIL - PRECAST BASE

SM-5



PLAN VIEW
NOT TO SCALE

NOTES:

1. MANHOLE BASE TO HAVE SHAPED INVERTS. BASE TO BE A MONOLITHIC CONCRETE POUR.
2. MANHOLES BASES, RISERS, LIDS, ETC. TO BE REINFORCED PER SM-4.
3. SLOPES SHALL BE 1"/FOOT WITH A 1" MINIMUM DROP.
4. BASE IS CAST-IN-PLACE UNLESS PRIOR APPROVAL IS GRANTED BY THE DISTRICT. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS AND 0.3' FOR 90° CONNECTIONS.

REV. DATE

06/12

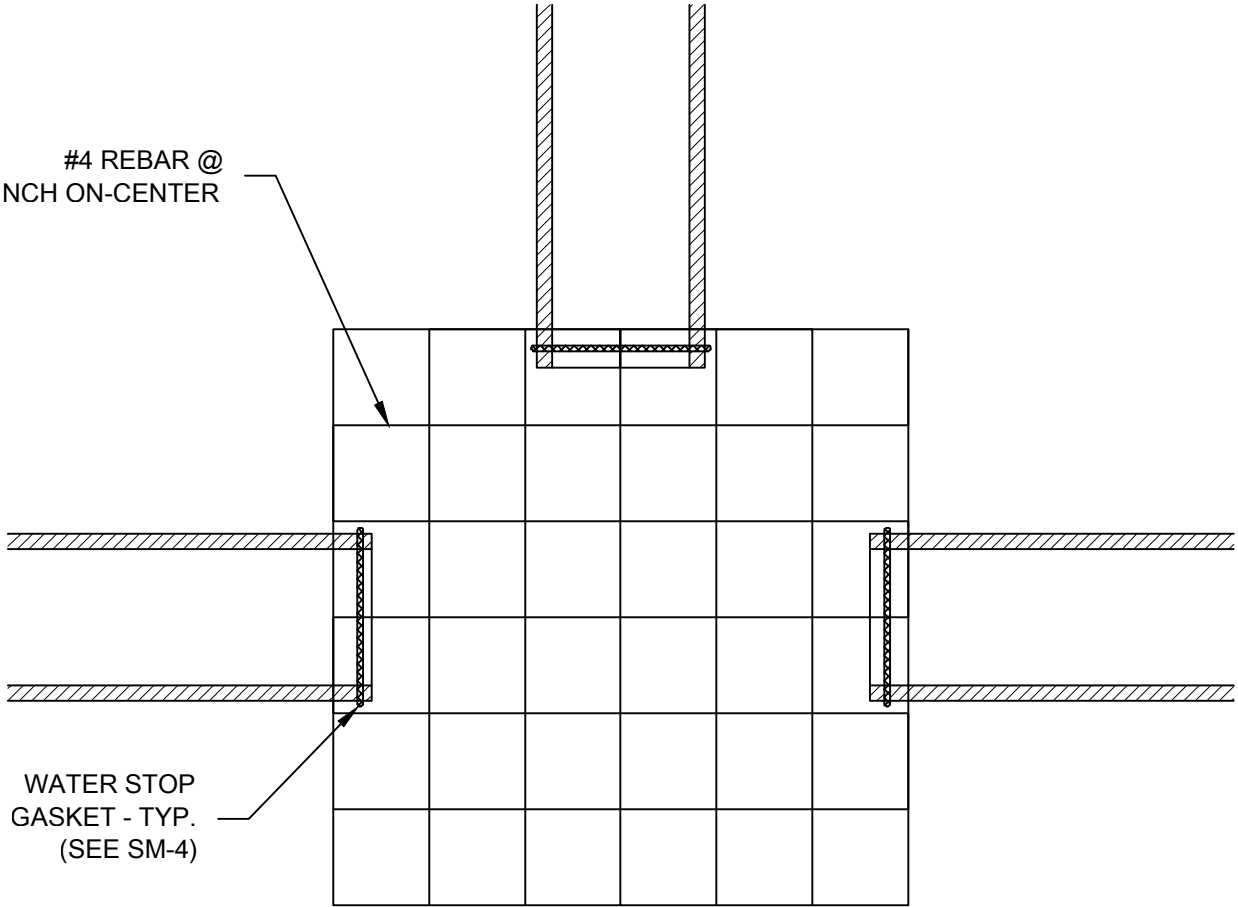


MERIDIAN METROPOLITAN DISTRICT

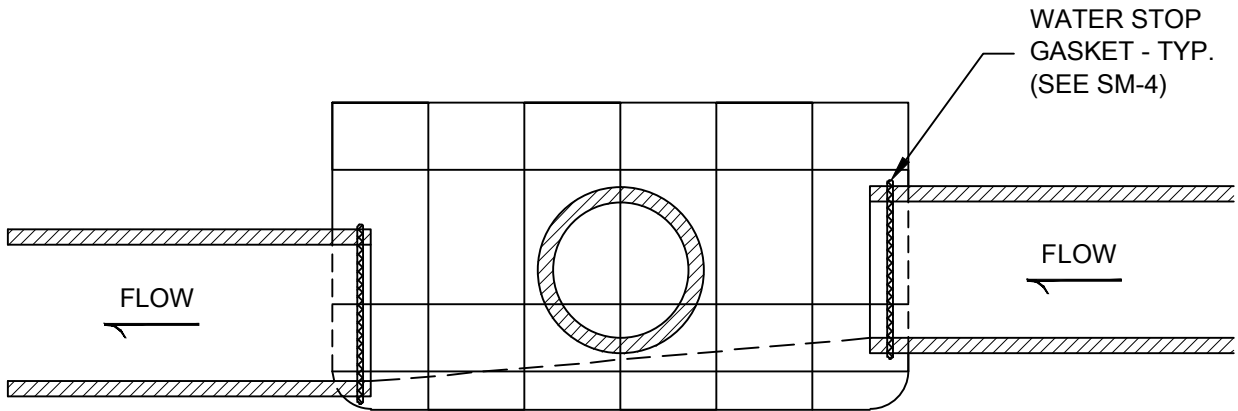
STANDARD MANHOLE BASE DETAIL

SM-6

#4 REBAR @
12 INCH ON-CENTER



WATER STOP
GASKET - TYP.
(SEE SM-4)



WATER STOP
GASKET - TYP.
(SEE SM-4)

FLOW

FLOW

NOTES:

1. THE RE-BAR BASKET MAY BE EITHER ROUND OR SQUARE.
2. MANHOLE RISERS, LIDS, ETC. TO BE REINFORCED PER SM-4.
4. BASE IS CAST-IN-PLACE UNLESS PRIOR APPROVAL IS GRANTED BY THE DISTRICT. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS AND 0.3' FOR 90° CONNECTIONS.

REV. DATE

06/12



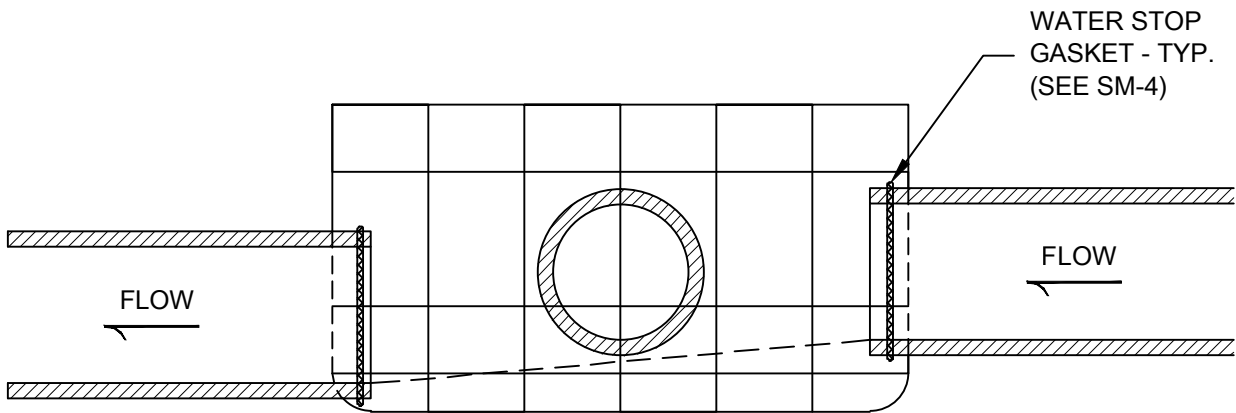
MERIDIAN METROPOLITAN DISTRICT

STANDARD MANHOLE BASE REBAR BASKET

SM-7

#4 REBAR @
12 INCH ON-CENTER

WATER STOP
GASKET - TYP.
(SEE SM-4)



NOTES:

1. THE RE-BAR BASKET MAY BE EITHER ROUND OR SQUARE.
2. MANHOLE RISERS, LIDS, ETC. TO BE REINFORCED PER SM-4.
4. BASE IS CAST-IN-PLACE UNLESS PRIOR APPROVAL IS GRANTED BY THE DISTRICT. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS AND 0.3' FOR 90° CONNECTIONS.

REV. DATE

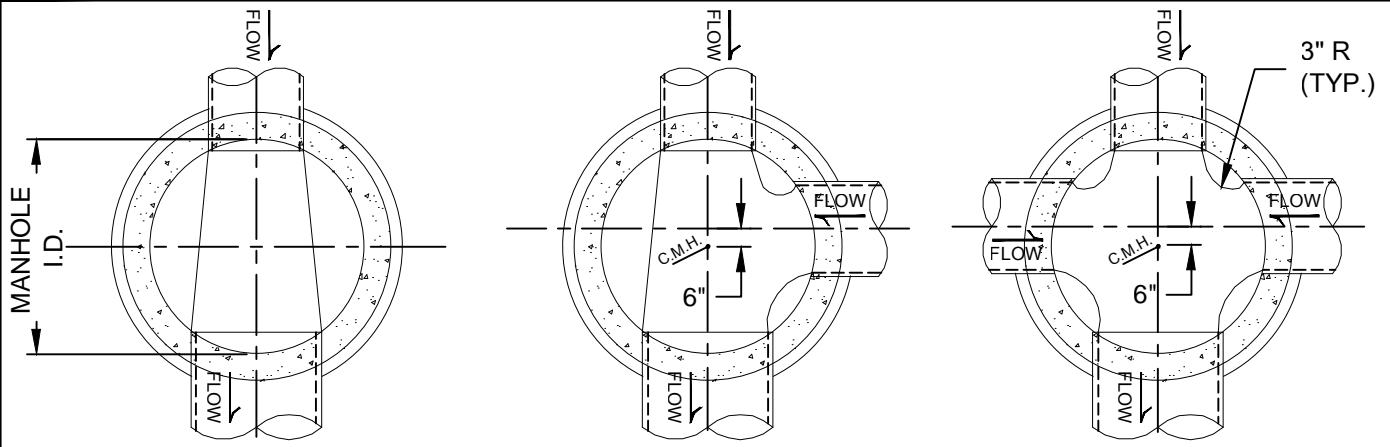
06/12



MERIDIAN METROPOLITAN DISTRICT

STANDARD MANHOLE BASE REBAR BASKET

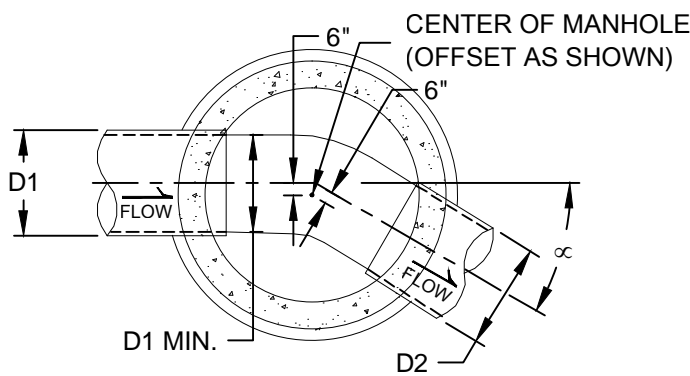
SM-8



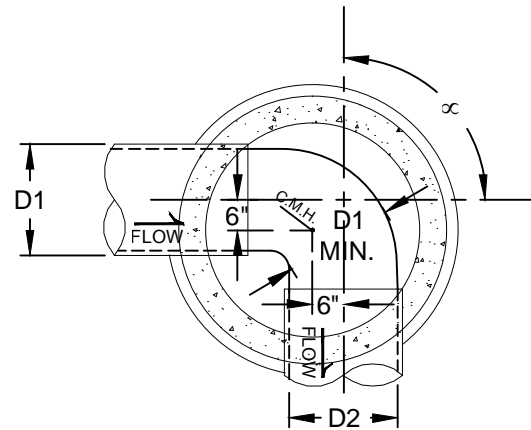
THROUGH PIPE

THROUGH PIPE
ONE COLLECTION LINE

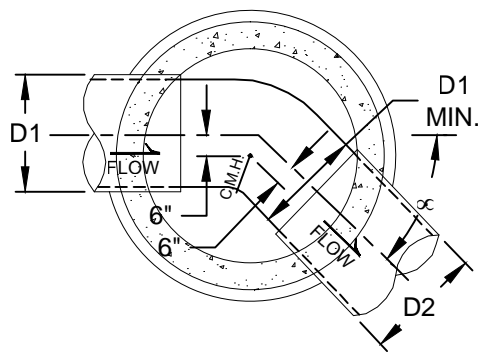
THROUGH PIPE
TWO COLLECTION LINE



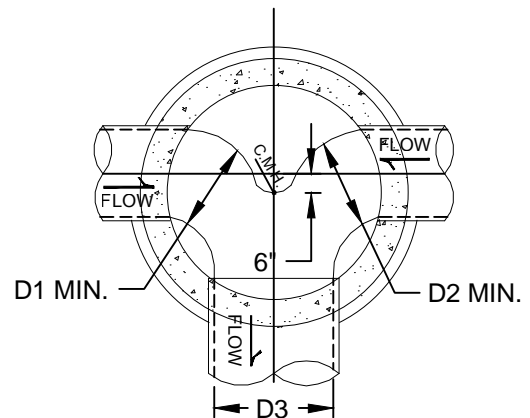
INTERMEDIATE ANGLE
 $\alpha = 30^\circ$



SHARP ANGLE
 $\alpha = 90^\circ$



INTERMEDIATE ANGLE
 $\alpha = 45^\circ$



OPPOSED LATERALS

NOTES:

1. C.M.H. IS CENTER OF MANHOLE.
2. BASE IS CAST-IN-PLACE UNLESS PRIOR APPROVAL IS GRANTED BY THE DISTRICT. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS AND INTERMEDIATE ANGLES; DROP ACROSS THE MANHOLE IS 0.3' FOR 90° (SHARP ANGLES AND OPPOSED LATERALS).

REV. DATE

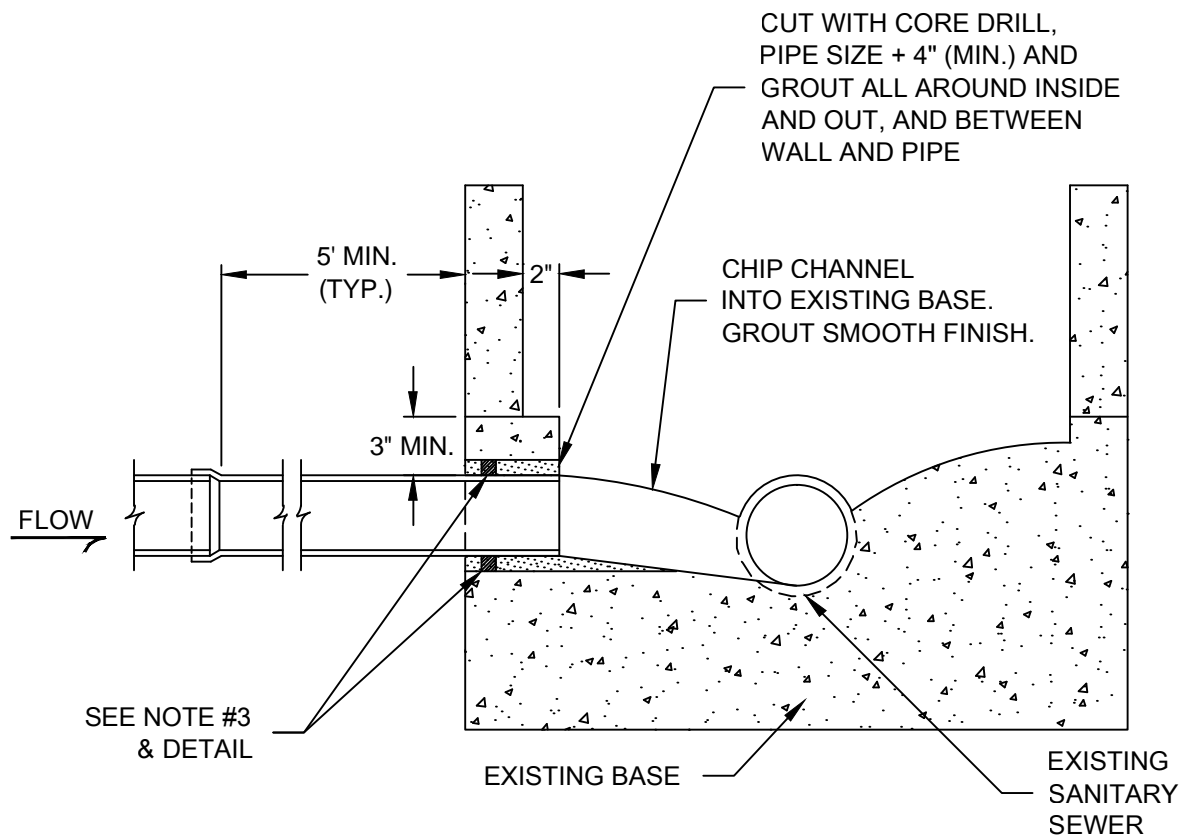
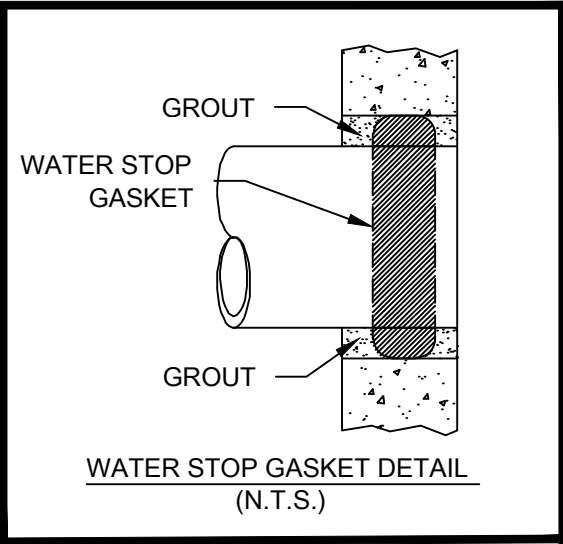
06/12



MERIDIAN METROPOLITAN DISTRICT

TYPICAL BASE AND DEFLECTOR DETAILS

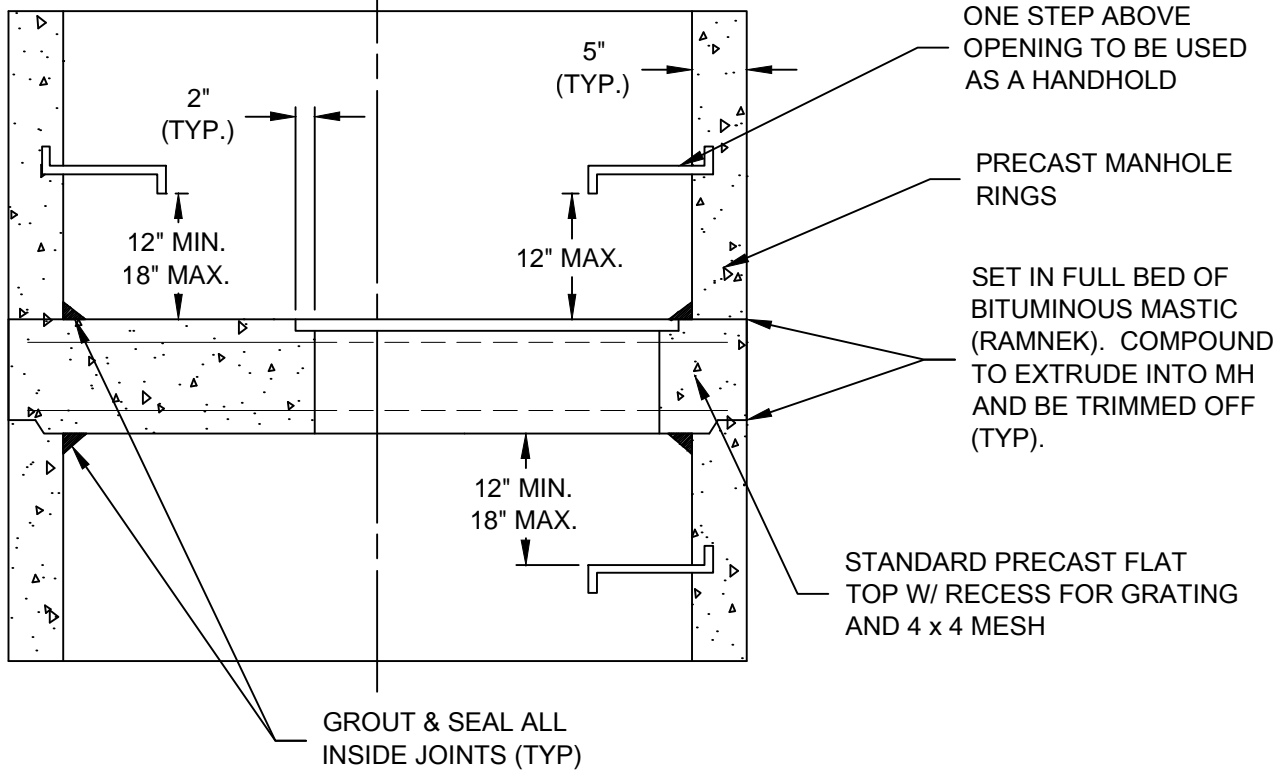
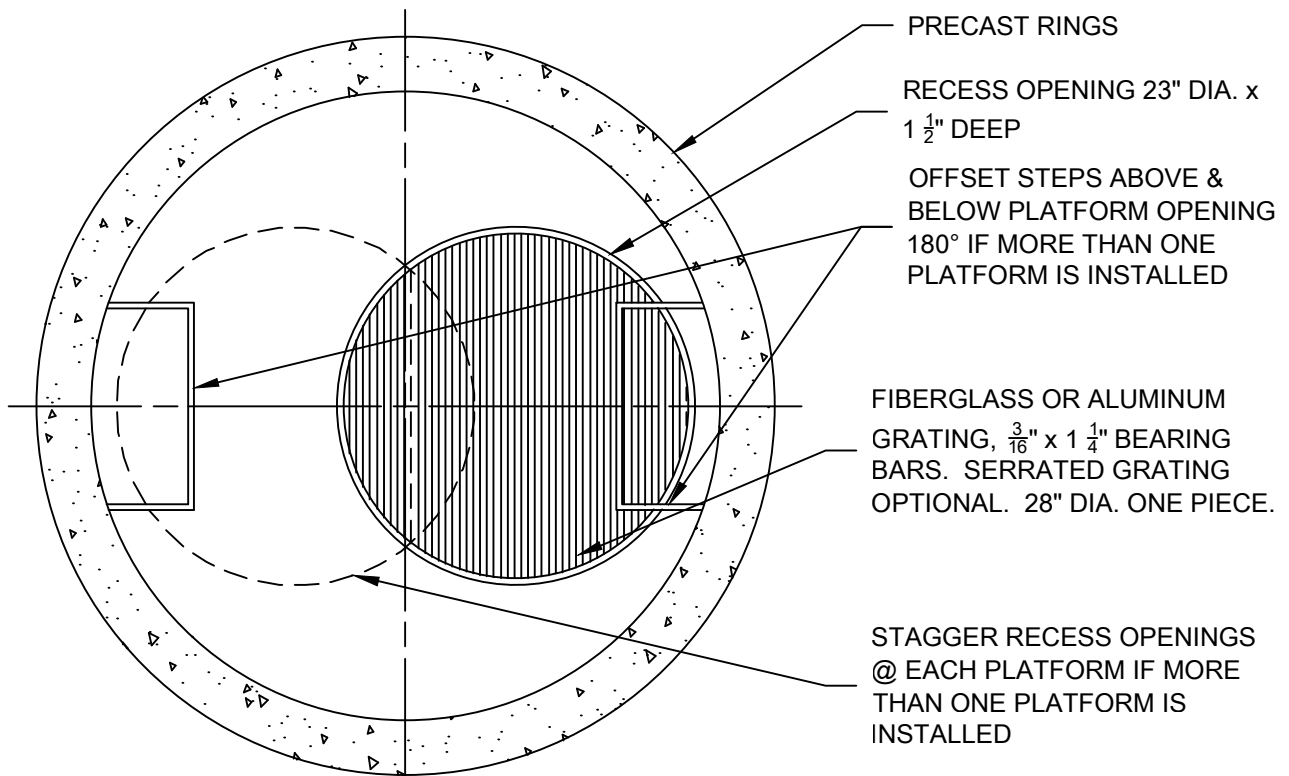
SM-9



NOTES:

1. TIE-INS SHALL ONLY BE PERMITTED THROUGH BASE WALL.
2. STEPS INSTALLED OVER DOWNSTREAM INVERT OF MANHOLE.
3. A WATER STOP GASKET SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
4. MINIMUM DROP ACROSS THE MANHOLE IS 0.2' FOR THROUGH MAINS & 0.3' FOR 90° CONNECTIONS.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	SM-10	
06/12				
		MANHOLE INVERT TIE IN DETAIL		

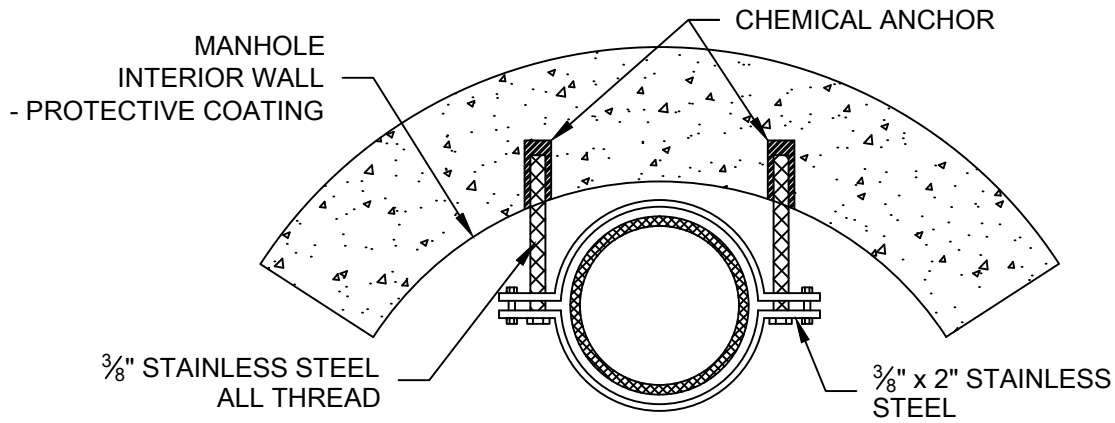


NOTES:

1. REQUIRED IN MANHOLES WHERE THE DEPTH MEASURED FROM THE RING AND COVERT TO THE INVERT EXCEEDS 20 FEET.
2. VERTICALLY CENTER FLATTOP PLATFORM BETWEEN RING AND COVER AND MANHOLE INVERT.

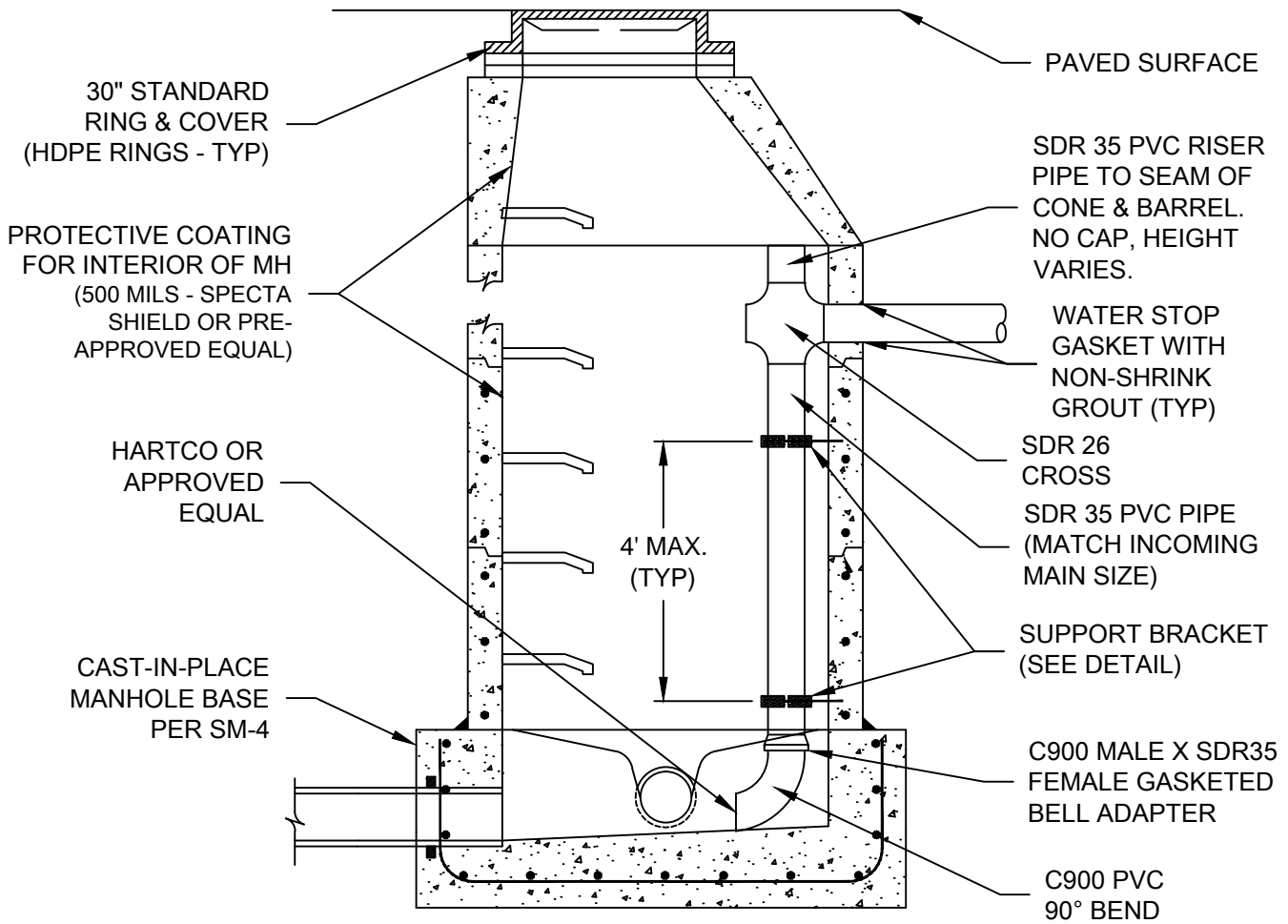
REV. DATE		MERIDIAN METROPOLITAN DISTRICT	SM-11
06/12		MANHOLE PLATFORM DETAIL	

I:\TECHCENTER\projects\2006\06-24\mg\BLOCCK\BUNNY\Drawings\SM-11 Manhole Platform Detail.dwg, 11/30/2012 1:02:07 PM, mmerquez, 11



BRACKET DETAIL

MANUFACTURE BRACKET FROM $\frac{3}{8}$ " STAINLESS STEEL
 ALL BRACING MATERIALS SHALL BE CONSTRUCTED USING STAINLESS STEEL



NOTES:

1. MANHOLE SIZE VARIES WITH SIZE OF THE MAINLINE: 8" - 10" MAINLINE = 5' DIA. MANHOLE; 12" - 15" MAINLINE = 6' DIA. MANHOLE; MAINLINES LARGER THAN 15" = 7' DIA. MANHOLE. STEPS INSTALLED OVER DOWNSTREAM INVERT OF MANHOLE. EPOXY COAT INTERIOR OF MANHOLE.
2. ADD TO THE CONCRETE, THE ANTI-MICROBIAL ADDITIVE CON-SHIELD (EPA REGISTERED MATERIAL).

REV. DATE

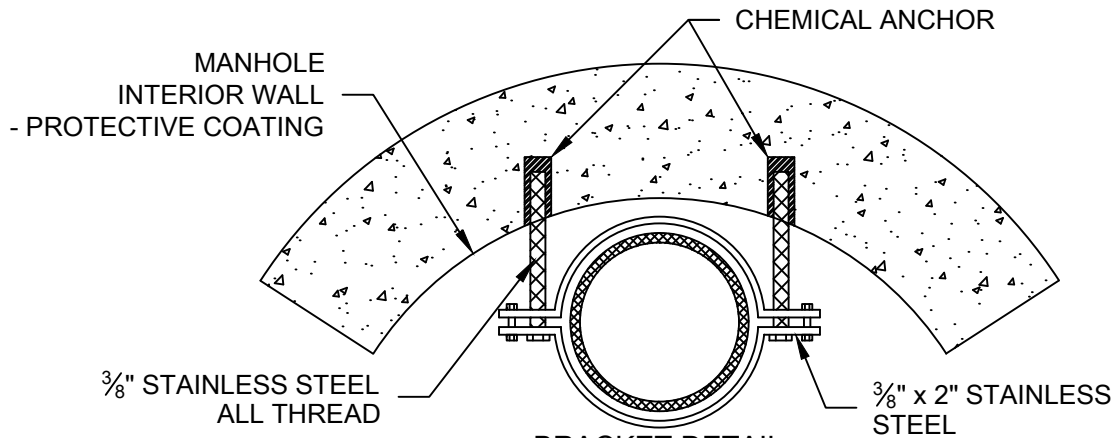
JULY 2015



MERIDIAN METROPOLITAN DISTRICT

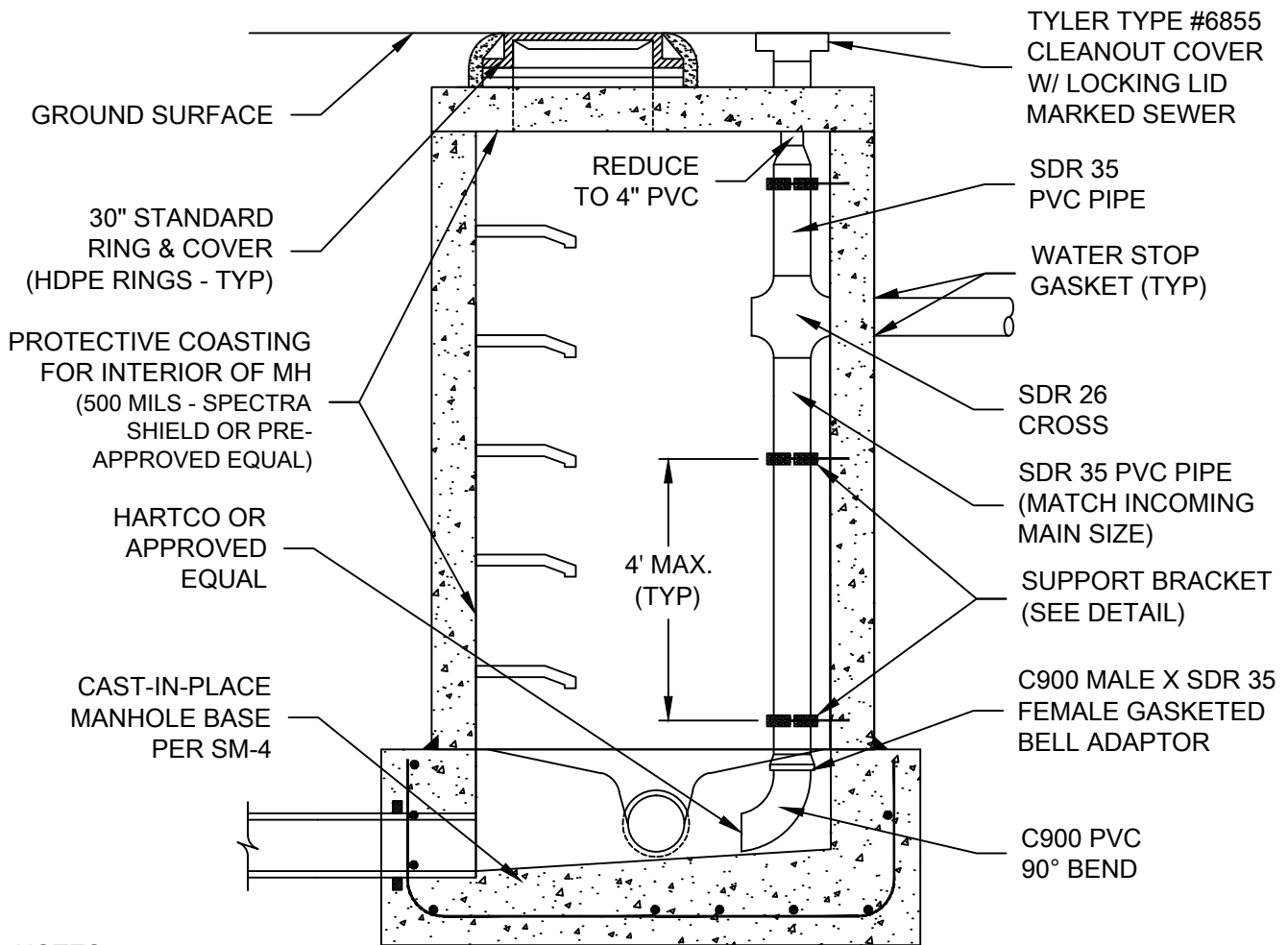
INSIDE DROP MANHOLE CONSTRUCTION DETAIL

SM-12



BRACKET DETAIL

MANUFACTURE BRACKET FROM 3/8" STAINLESS STEEL
 ALL BRACING MATERIALS SHALL BE CONSTRUCTED USING STAINLESS STEEL



NOTES:

1. MANHOLE SIZE VARIES WITH SIZE OF THE MAINLINE: 8" - 10" MAINLINE = 5' DIA. MANHOLE; 12" - 15" MAINLINE = 6' DIA. MANHOLE; MAINLINES LARGER THAN 15" = 7' DIA. MANHOLE. STEPS INSTALLED OVER DOWNSTREAM INVERT OF MANHOLE. EPOXY COAT INTERIOR OF MANHOLE.
2. CONCRETE COLLAR TO BE POURED AROUND BOTH RING AND LOCKING CLEANOUT.
3. FLAT-TOP MANHOLE LID MAY BE USED IN OPEN SPACE AREAS (NOT IN PAVED AREAS) AND ONLY WITH PRE-CONSTRUCTION APPROVAL FROM THE MERIDIAN METROPOLITAN DISTRICT.
4. ADD TO THE CONCRETE, THE ANTI-MICROBIAL ADDITIVE CON-SHIELD (EPA REGISTERED MATERIAL).

REV. DATE

JULY 2015

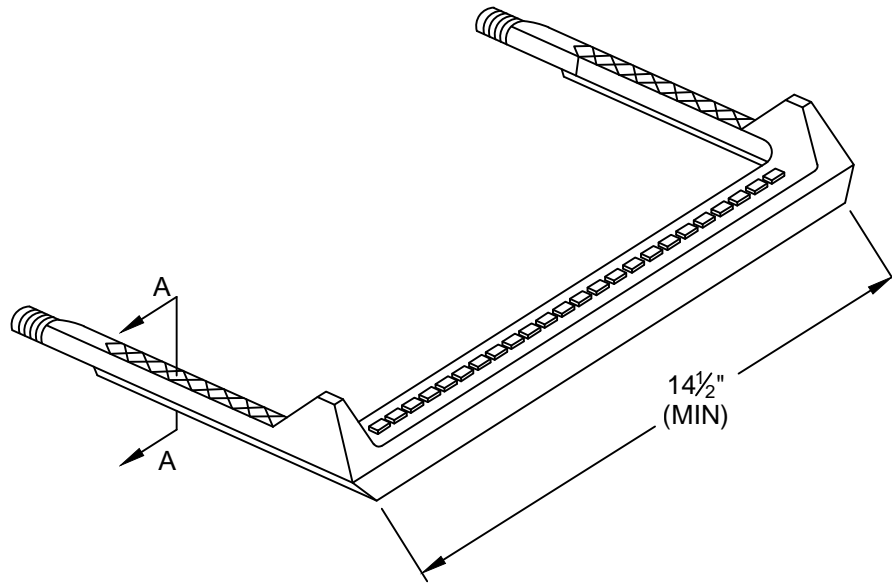


MERIDIAN METROPOLITAN DISTRICT

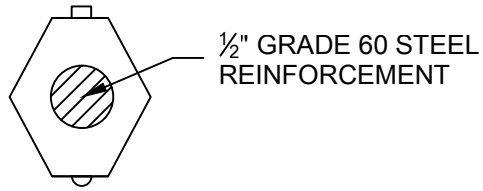
INSIDE DROP MANHOLE CONSTRUCTION DETAIL
 (ALTERNATE IF PRE-APPROVED BY MMD)

SM-12A

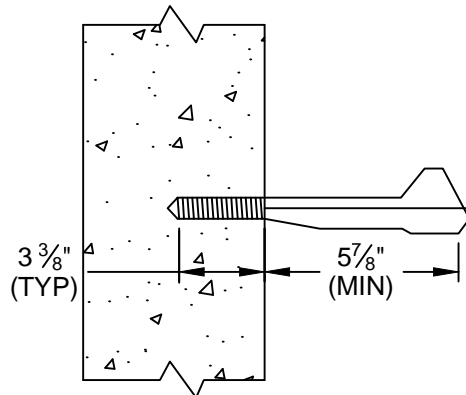
\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\SM-12A Inside Drop Manhole Detail.dwg, 9/4/2015 10:32:38 AM, mchved



DETAIL FOR M.A. INDUSTRIES STEP, OR APPROVED EQUAL



SECTION A-A



TYPICAL STEP INSTALLATION

NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS APPLICABLE TO THE PROJECT.
2. CAST IRON STEPS WILL NOT BE PERMITTED.

REV. DATE

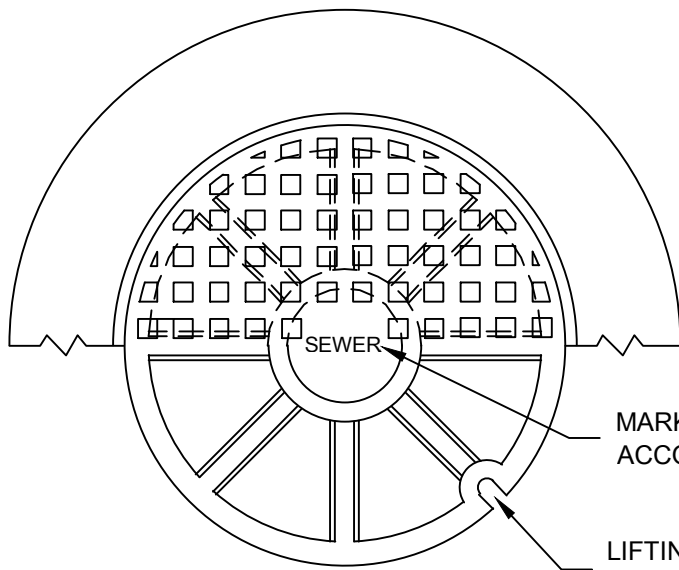
November 2014



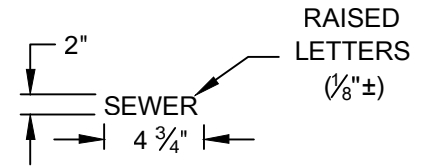
MERIDIAN METROPOLITAN DISTRICT

STANDARD STEP FOR MANHOLES

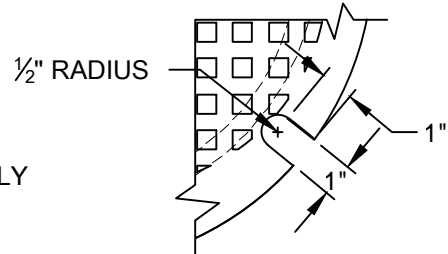
SM-13



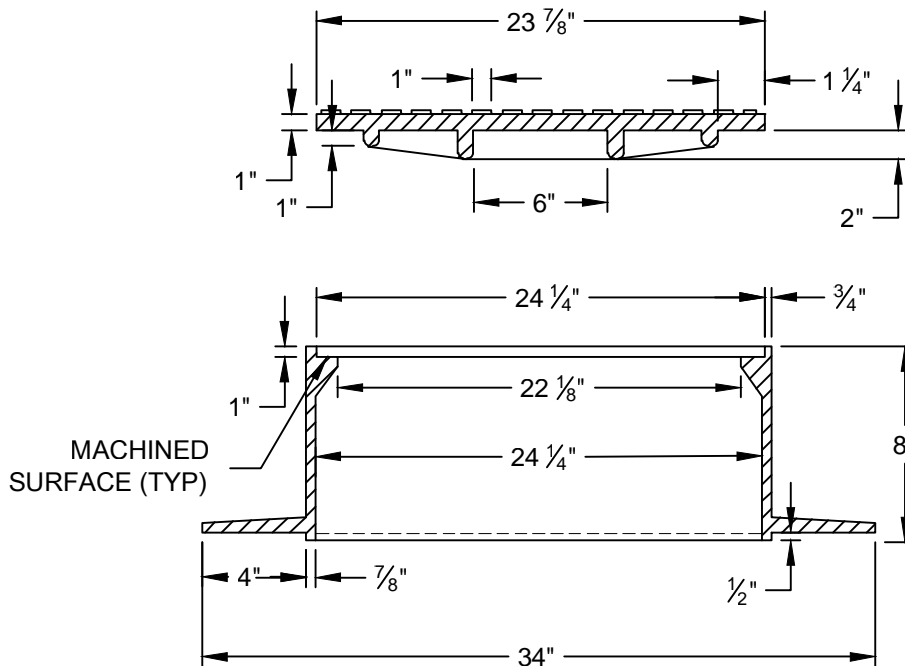
HALF PLAN



LETTERING DETAIL



LIFTING NOTCH DETAIL



NOTES:

1. COVER SHALL BE THE DISTRICT STANDARD PATTERN. THE CASTING SHALL BE OF GRAY CAST IRON, ASTM DESIGNATION A48 CLASS 35B. CASTING SHALL NOT BE PAINTED OR DIPPED.
2. TOTAL WEIGHT SHALL BE A MINIMUM OF 400 LBS (LID WEIGHT OF 165 LBS MIN.), CAST IRON ONLY.
3. ALL BEARING SURFACES SHALL BE MACHINED.
4. CASTINGS SHALL BE CLEAN, FREE OF FUSED SAND & REASONABLY SMOOTH. THERE SHALL BE NO PROMINENT BLOW HOLES, NO CRACKS OR FISSURES, AND NO OBSERVED INCOMPLETE FILLING OF THE MOLD.

REV. DATE

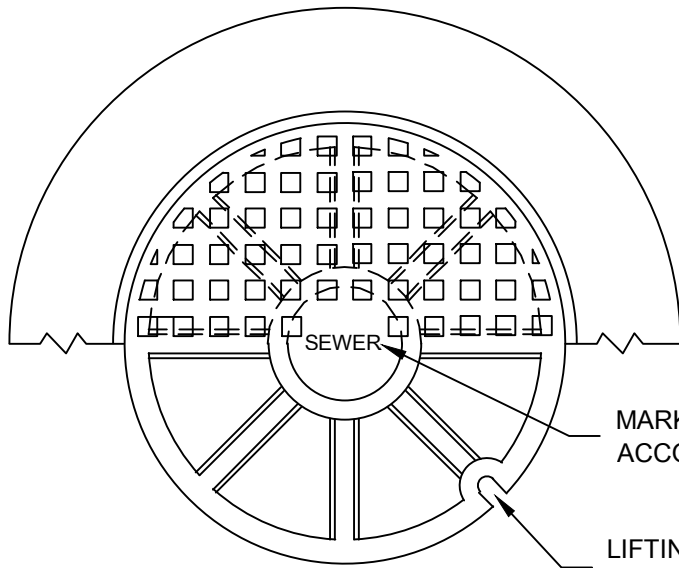
06/12



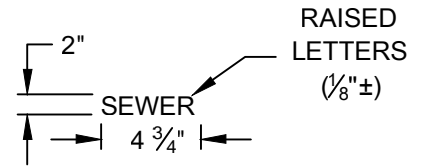
MERIDIAN METROPOLITAN DISTRICT

24" MANHOLE COVER DETAIL

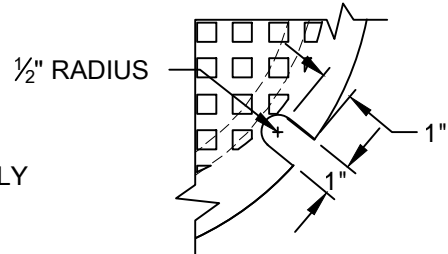
SM-14



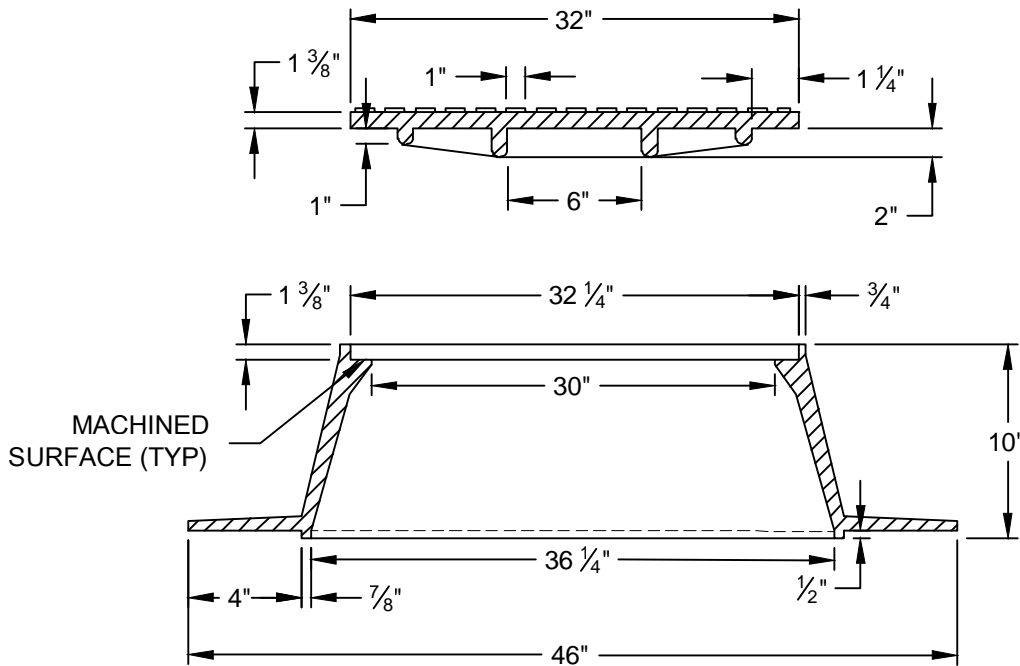
HALF PLAN



LETTERING DETAIL



LIFTING NOTCH DETAIL



NOTES:

1. COVER SHALL BE THE DISTRICT STANDARD PATTERN. THE CASTING SHALL BE OF GRAY CAST IRON, ASTM DESIGNATION A48 CLASS 35B. CASTING SHALL NOT BE PAINTED OR DIPPED.
2. TOTAL WEIGHT SHALL BE A MINIMUM OF 400 LBS (LID WEIGHT OF 165 LBS MIN.), CAST IRON ONLY.
3. ALL BEARING SURFACES SHALL BE MACHINED.
4. CASTINGS SHALL BE CLEAN, FREE OF FUSED SAND & REASONABLY SMOOTH. THERE SHALL BE NO PROMINENT BLOW HOLES, NO CRACKS OR FISSURES, AND NO OBSERVED INCOMPLETE FILLING OF THE MOLD.

REV. DATE

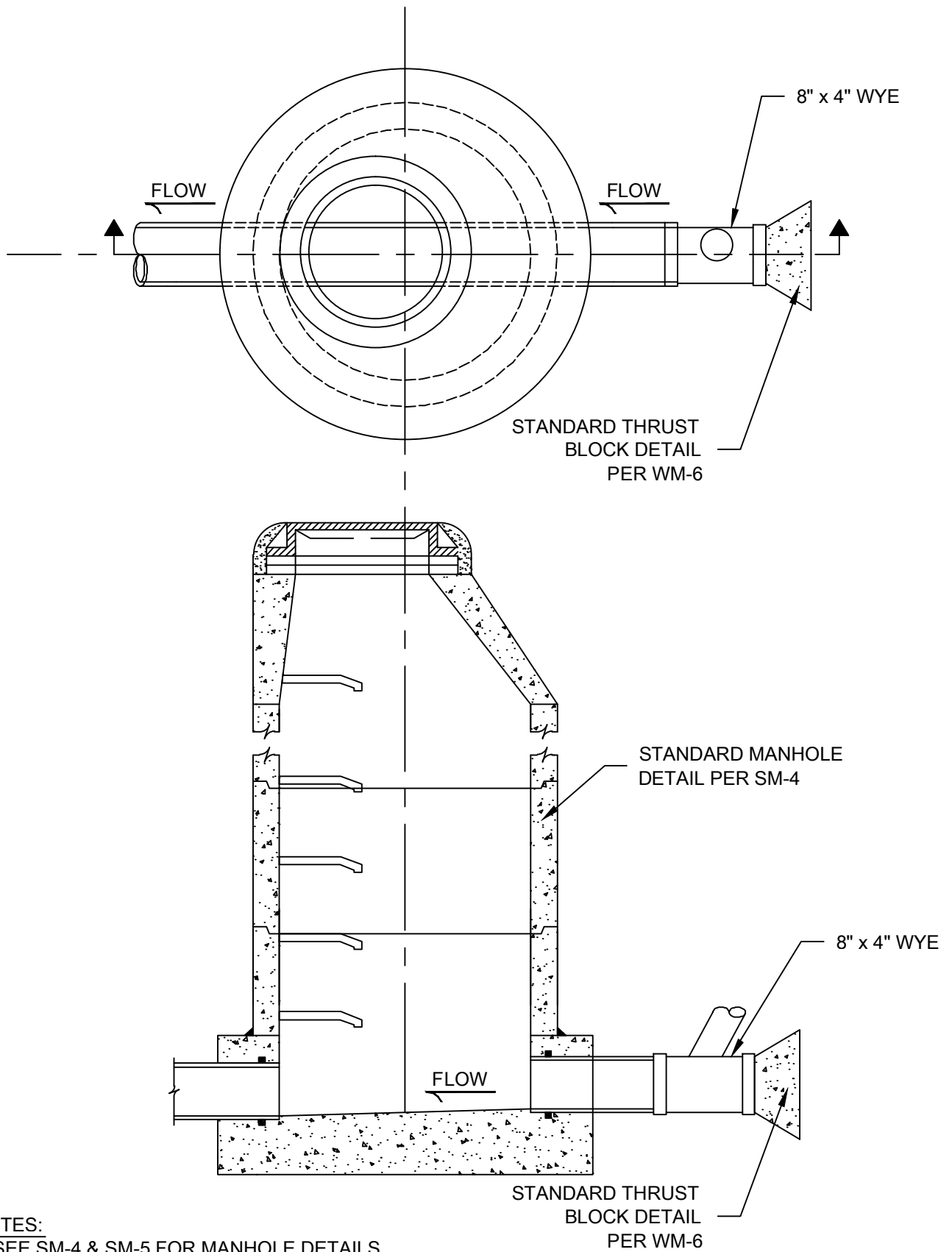
06/12



MERIDIAN METROPOLITAN DISTRICT

30" MANHOLE COVER DETAIL

SM-15



NOTES:

1. SEE SM-4 & SM-5 FOR MANHOLE DETAILS.
2. SEE WM-6 FOR THRUST BLOCK DETAILS.

REV. DATE

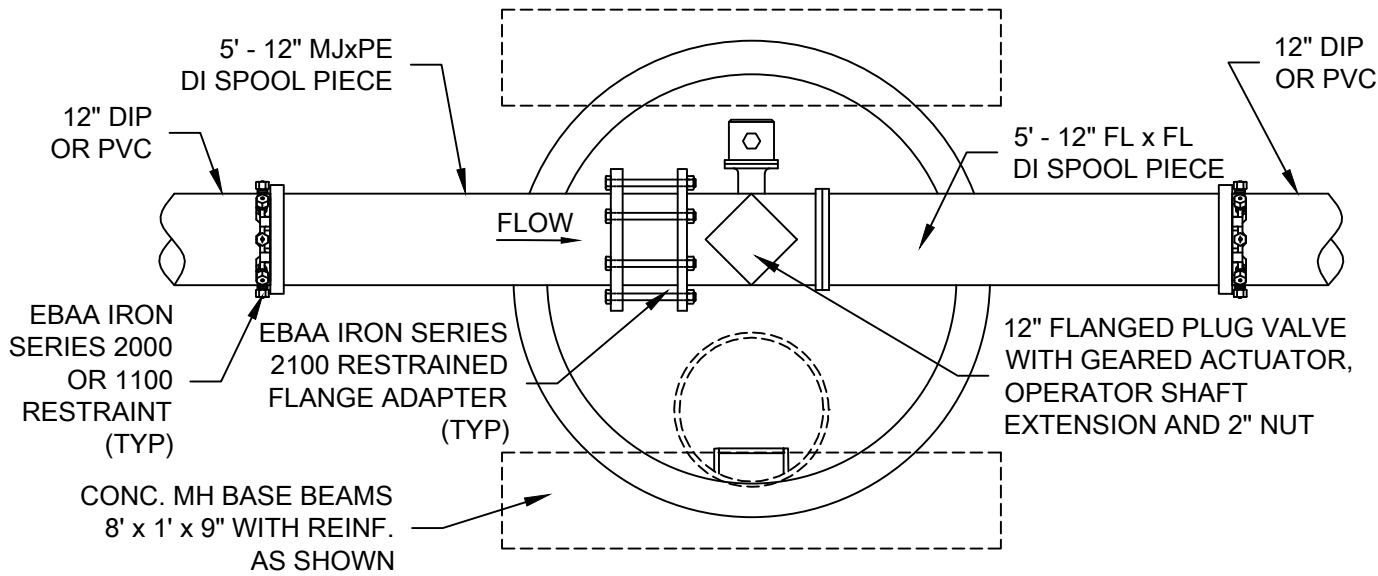
06/12



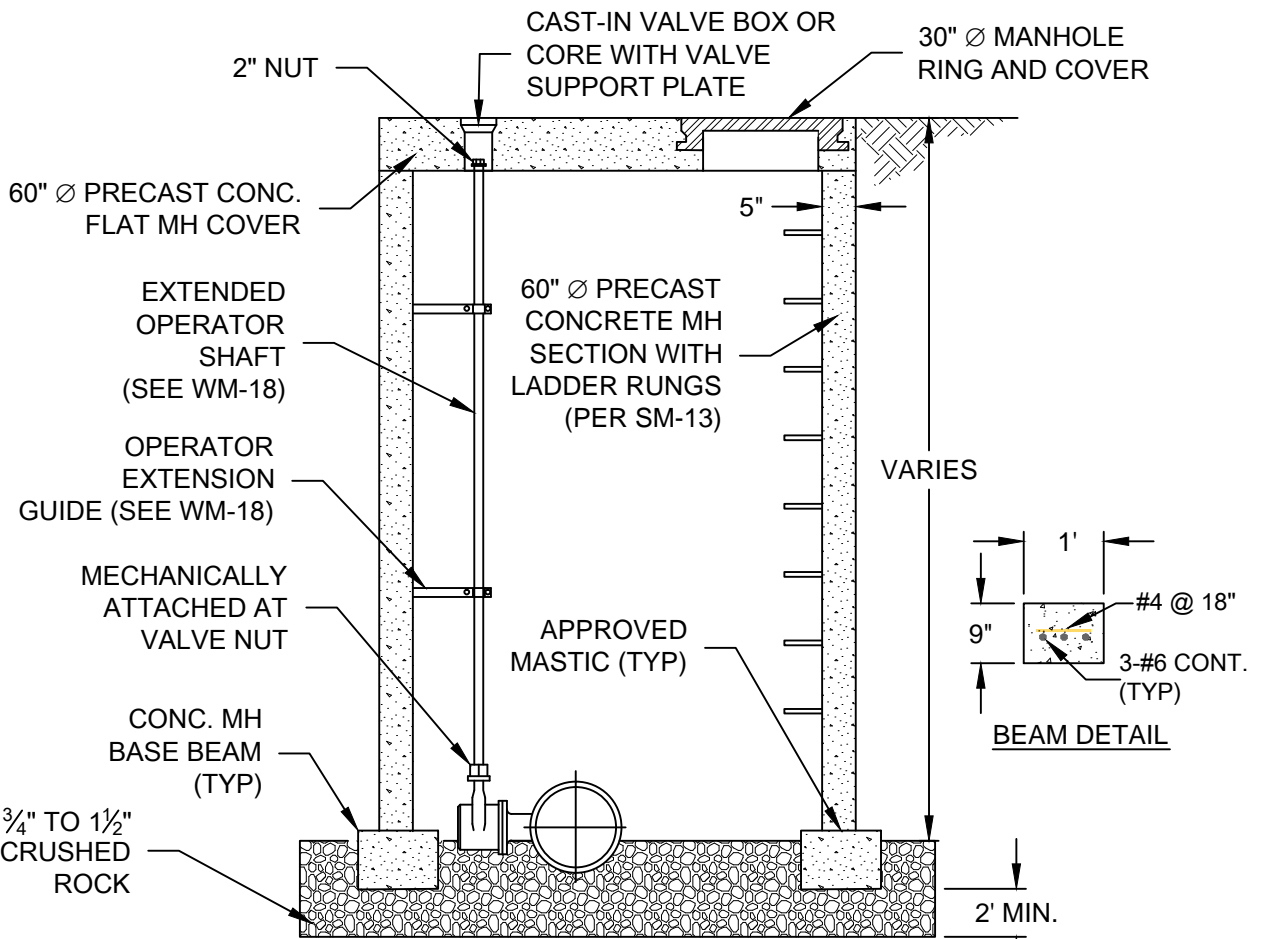
MERIDIAN METROPOLITAN DISTRICT

DEAD END MANHOLE SERVICE CONNECTION DETAIL

SM-16



PLAN



ELEVATION

NOTES:

1. SEE WM-17 & WM-18 FOR OPERATOR SHAFT AND EXTENSION GUIDE DETAIL.

REV. DATE

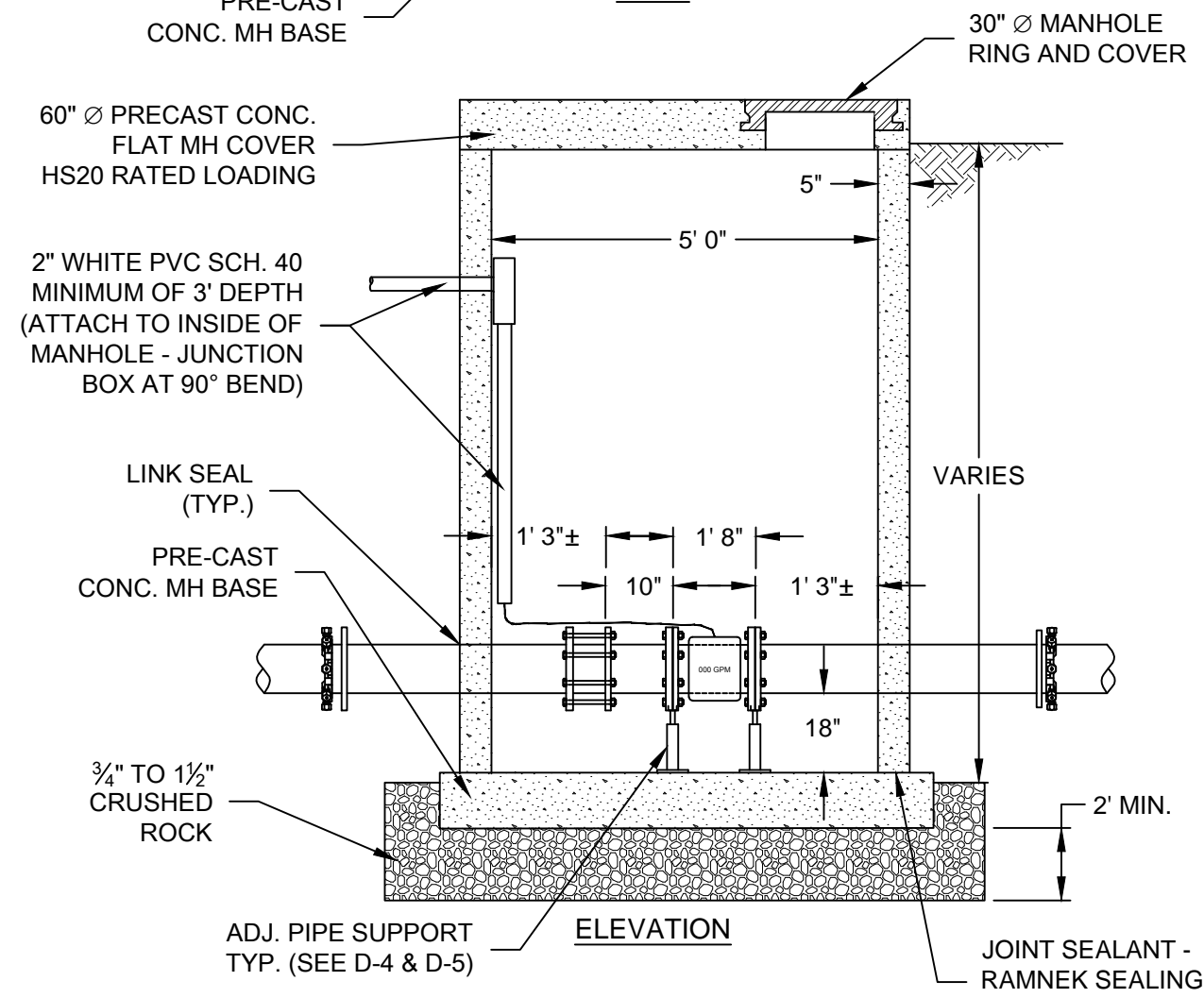
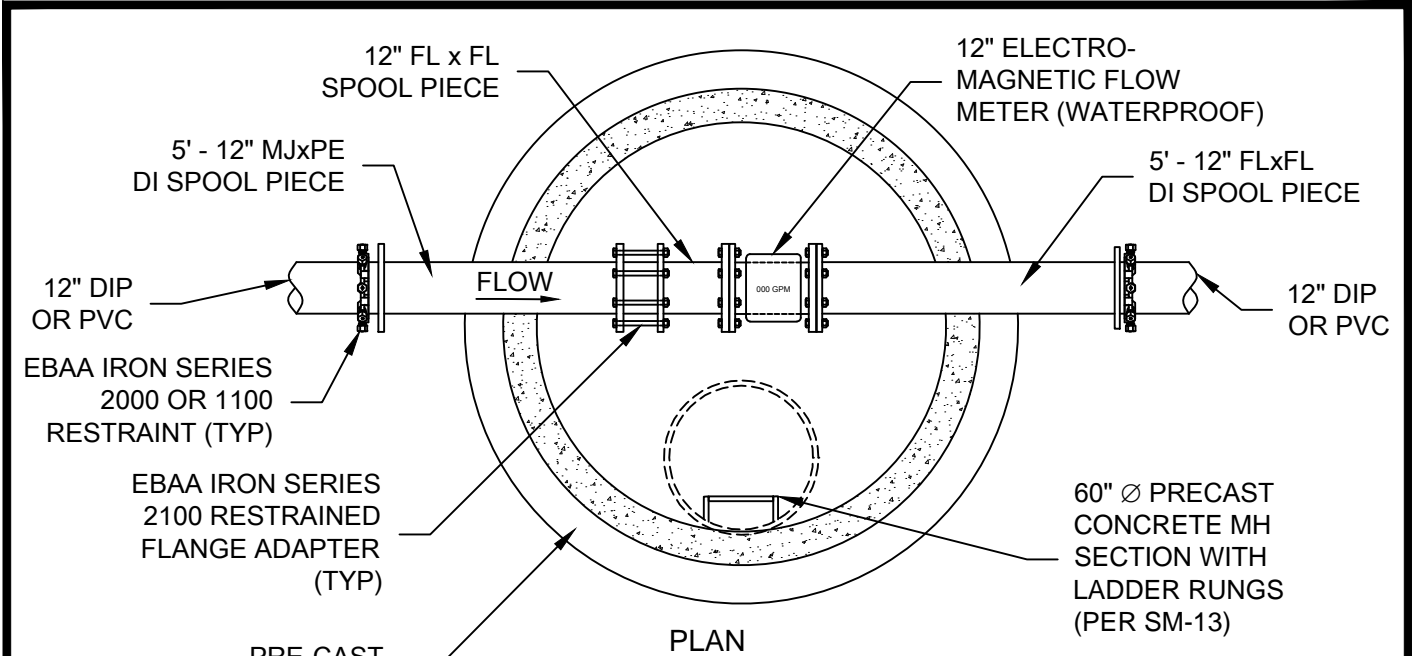
JULY 2015



MERIDIAN METROPOLITAN DISTRICT


FORCE MAIN PLUG VALVE MANHOLE DETAIL

SM-17

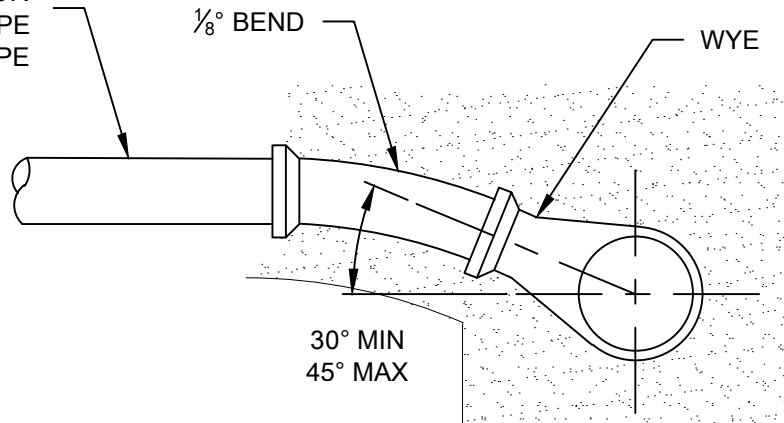


NOTES:
 1. SEE SM-1 FOR SANITARY SEWER MAIN BEDDING DETAIL, SEE SM-4 FOR STANDARD MANHOLE DETAIL.

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\SM-18 Force Main Flow Meter Manhole Detail.dwg, 9/4/2015 10:42:28 AM, mchved

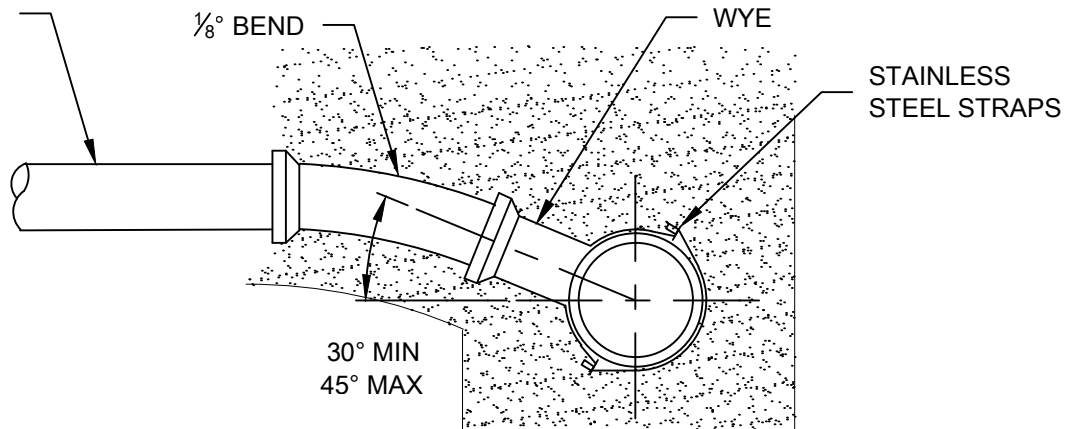
REV. DATE SEPTEMBER 2015		MERIDIAN METROPOLITAN DISTRICT FORCE MAIN FLOW METER MANHOLE DETAIL	SM-18
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SEE DISTRICT
STANDARDS FOR
MINIMUM SLOPE
AND TYPE OF PIPE



1/8° BEND CONNECTION TO WYE

SEE DISTRICT
STANDARDS FOR
MINIMUM SLOPE
AND TYPE OF PIPE



1/8° BEND CONNECTION TO A TAPPING SADDLE

NOTES:

1. SANITARY SEWER MAIN - PIPE BEDDING IS EITHER SQUEEGEE OR 3/4" CRUSHED ROCK.
2. SEE SM-1 FOR ADDITIONAL BEDDING DETAILS.

REV. DATE

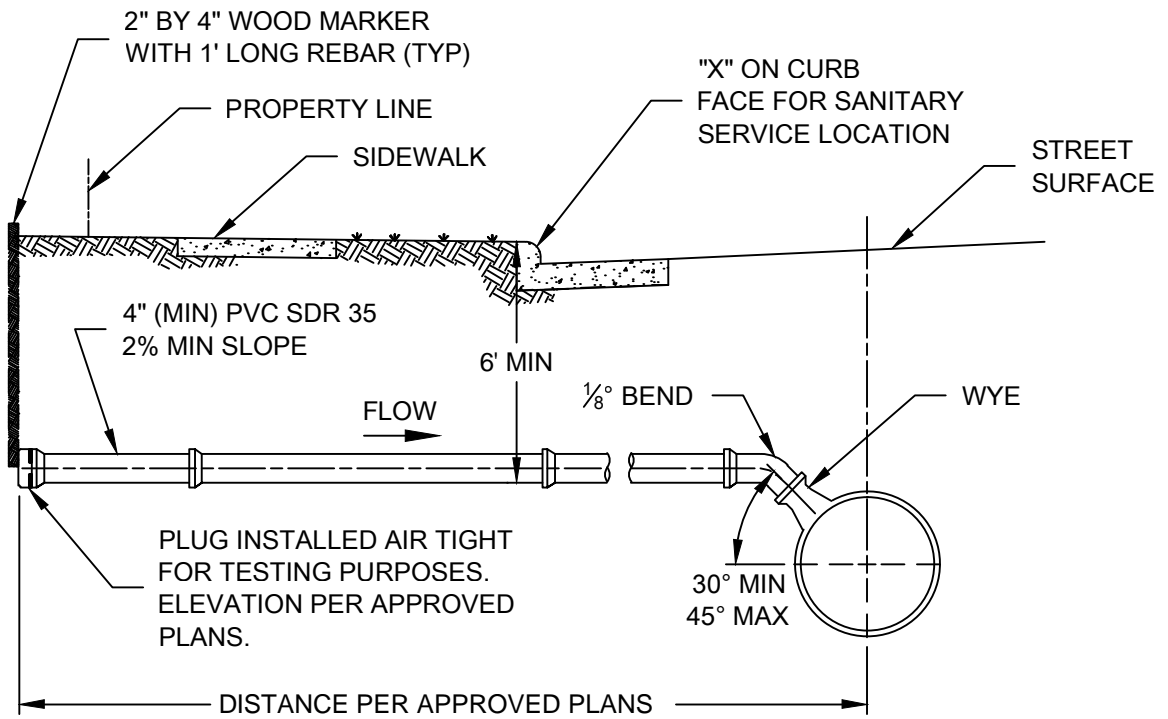
06/12



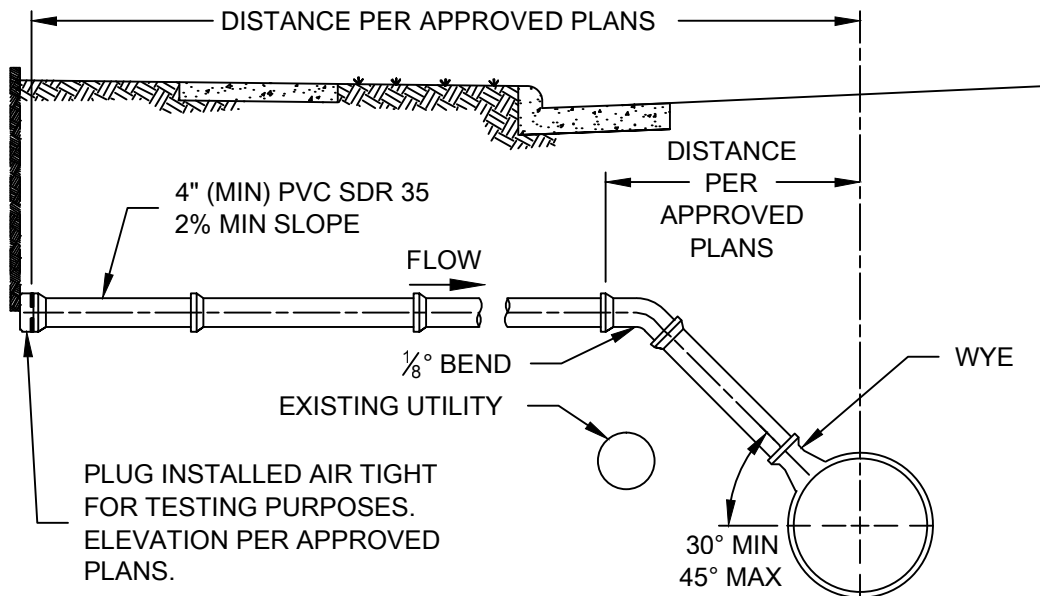
MERIDIAN METROPOLITAN DISTRICT

SANITARY SEWER SERVICE TAPPING DETAIL

SS-1



TYPE A



TYPE B

NOTES:

1. TYPE "A" ELEMENTS ARE TYPICAL FOR ALL TYPES UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL LATERALS SHALL BE LOCATED 10' MINIMUM DISTANCE FROM DOWNHILL PROPERTY LINE OF THE SERVICE SIDE OF THE LOT, UNLESS OTHERWISE APPROVED BY THE DISTRICT PRIOR TO INSTALLATION.
3. ALL SEWER LATERAL CONNECTIONS SHALL BE TYPE "A" AND SHALL BE CONSTRUCTED ON A STRAIGHT LINE AND GRADE BETWEEN CONTROL POINTS EXCEPT AS OTHERWISE INDICATED ON THE APPROVED PROJECT PLANS.

REV. DATE

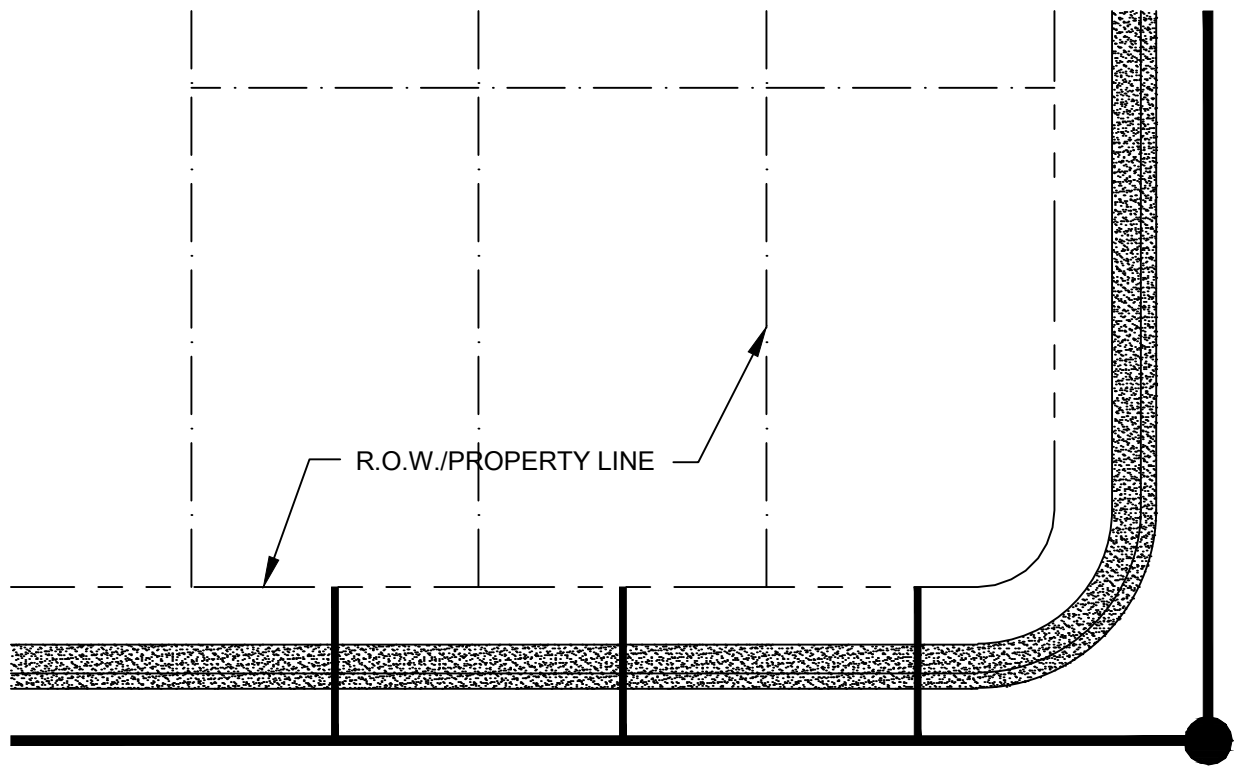
06/12



MERIDIAN METROPOLITAN DISTRICT

SANITARY SERVICE CONNECTION

SS-2



NOTES:

1. SEWER SERVICE LINES (INDIVIDUAL TRENCH) SHALL BE LOCATED A MAXIMUM OF 1.5' ON EITHER SIDE OF THE CENTER LINE OF THE LOT.
2. FOR JOINT TRENCH INSTALLATIONS, SEWER SERVICE LINES SHALL BE LOCATED IN ACCORDANCE WITH WS-1.

REV. DATE

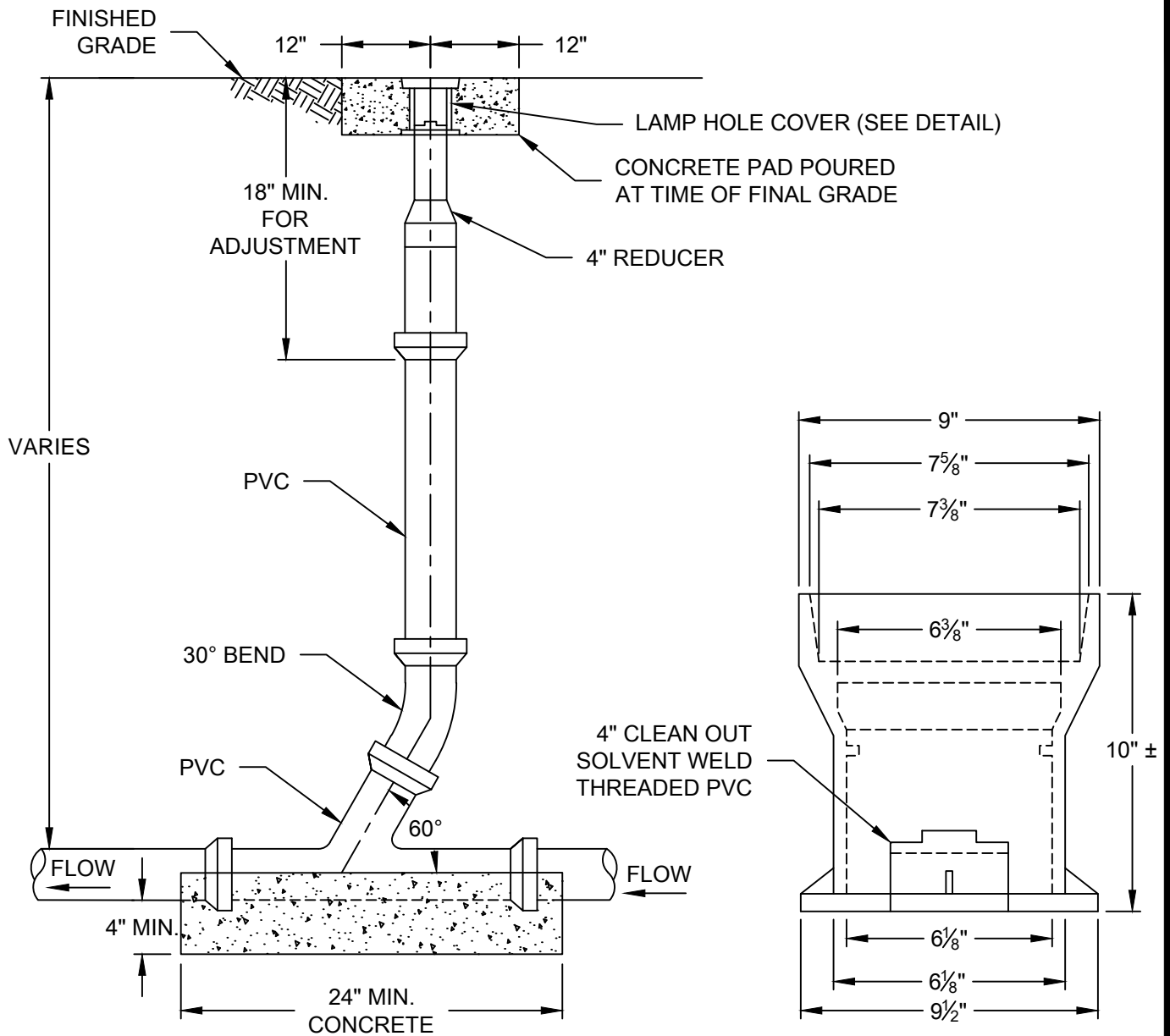
06/12



MERIDIAN METROPOLITAN DISTRICT

SANITARY SEWER SERVICE LOCATION ONLY
(CENTER LOT)

SS-3



LAMP HOLE COVER DETAIL

NOTES:

1. COVER SHALL HAVE A LOCKING LID MARKED "SEWER".
2. TYLER SERIES 6855 SLIP TYPE TOP SECTION, D&L SUPPLY SERIES M8056 OR EQUAL.
3. INSIDE DIAMETER = 6 ¹/₈".

REV. DATE

July 2015

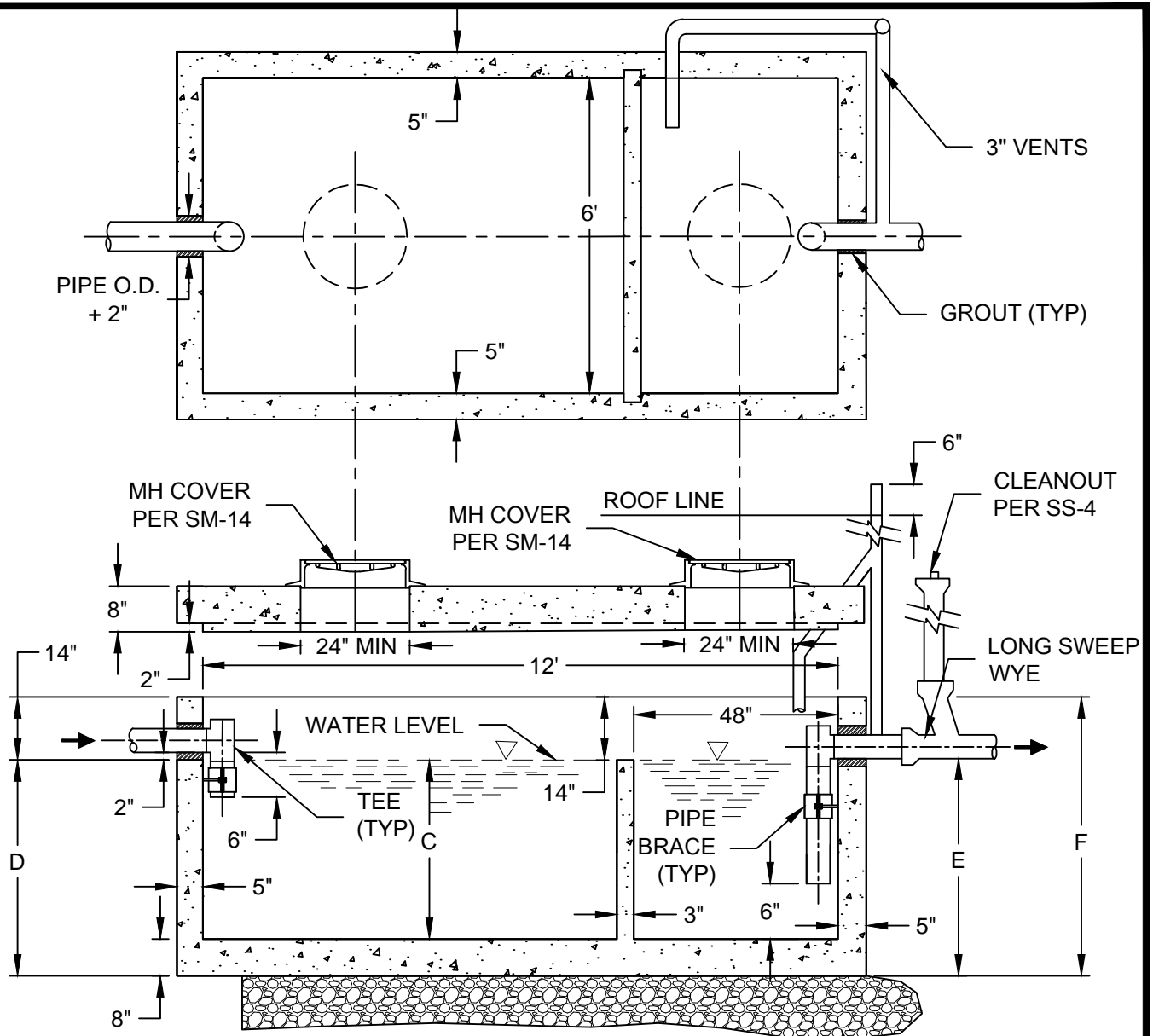


MERIDIAN METROPOLITAN DISTRICT

IN-LINE SANITARY SEWER CLEANOUT

(4" & 6")

SS-4



NOTES:

1. SECONDARY COMPARTMENT HAS VOLUME EQUAL TO $\frac{1}{3}$ OF TOTAL CAPACITY.
2. ALL PIPE AND FITTINGS SHALL BE SOLVENT WELDED SCHEDULE 40 P.V.C. MIN. 3" DIA. WITHIN TRAP.
3. WALL AND BOTTOM REINFORCED THROUGHOUT WITH 2X16 $\frac{5}{10}$ REMESH.
4. COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS, NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND ACCESS HOLES.
5. CLEAN OUT SHALL BE PVC SCREW PLUG
6. VENT PIPE MAY BE CAST IRON OR PVC SCHEDULE 40, TO A POINT 6" ABOVE GROUND.
7. MANHOLE RING AND COVER SHALL BE 24" DENVER HEAVY OR EQUAL.
8. CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
9. NO BOLT TIE DOWN COVER ALLOWED WITHOUT PERMISSION FROM MERIDIAN METROPOLITAN DISTRICT.
10. CAPACITY RATED FOR LARGE COMPARTMENT ONLY.
11. ALL BRACING SHALL BE CONSTRUCTED WITH STAINLESS STEEL MATERIALS.
12. REFER TO THE CURRENT VERSION OF THE INTERNATIONAL PLUMBING CODE (IPC) FOR SIZING REQUIREMENTS.

$\frac{3}{4}$ " CRUSHED ROCK (6" MIN. DEPTH)

WATER CAPACITY APPROX. GALLONS	DIMENSIONS IN INCHES			
	C	D	E	F
1565	40	50	48	62
1800	46	56	54	68
2035	52	62	60	74
2505	64	74	72	86
2975	76	86	84	98
3210	82	92	90	104
3445	88	98	96	110

REV. DATE

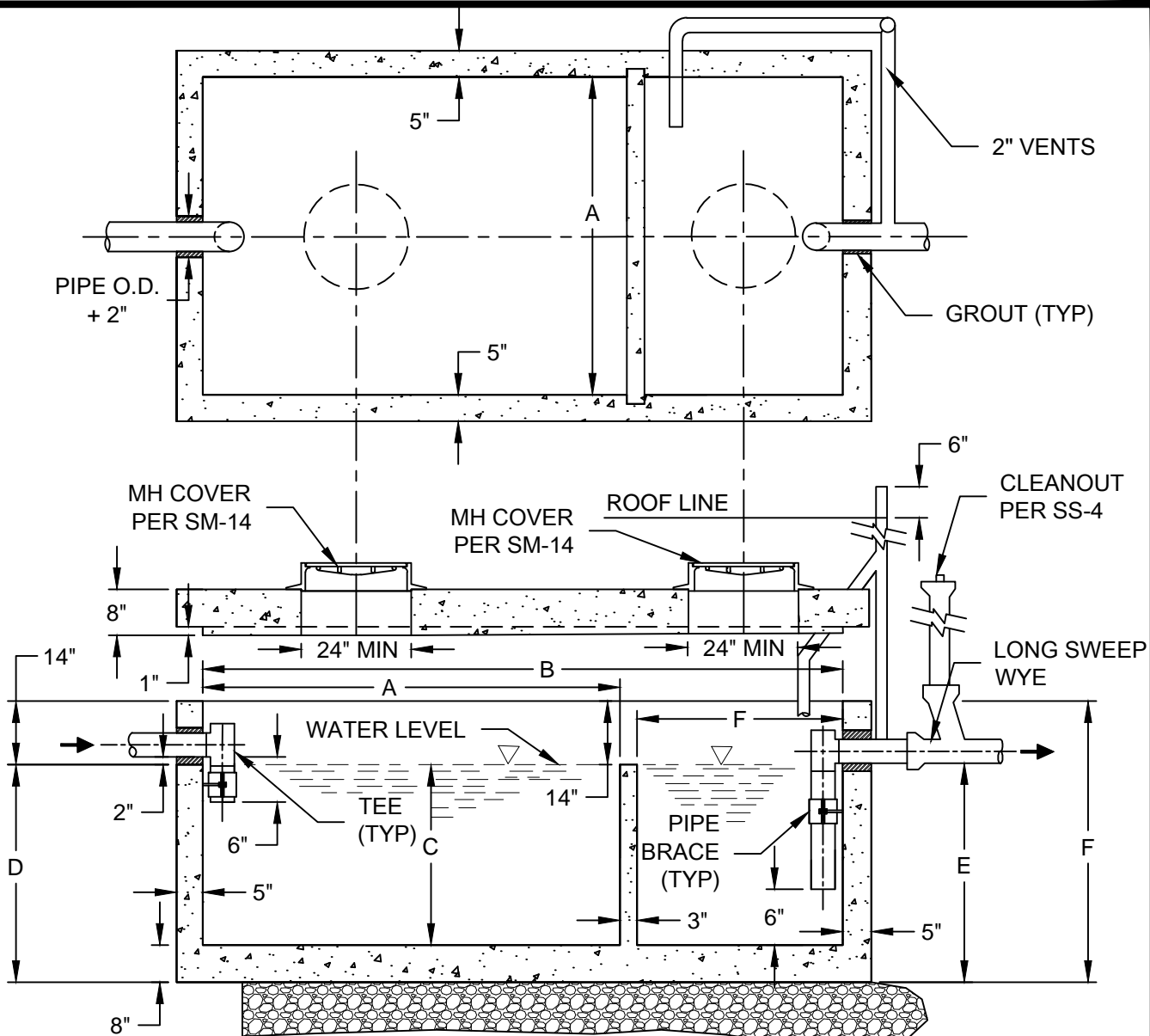
July 2015



MERIDIAN METROPOLITAN DISTRICT

SAND AND OIL INTERCEPTOR

SS-5



NOTES:

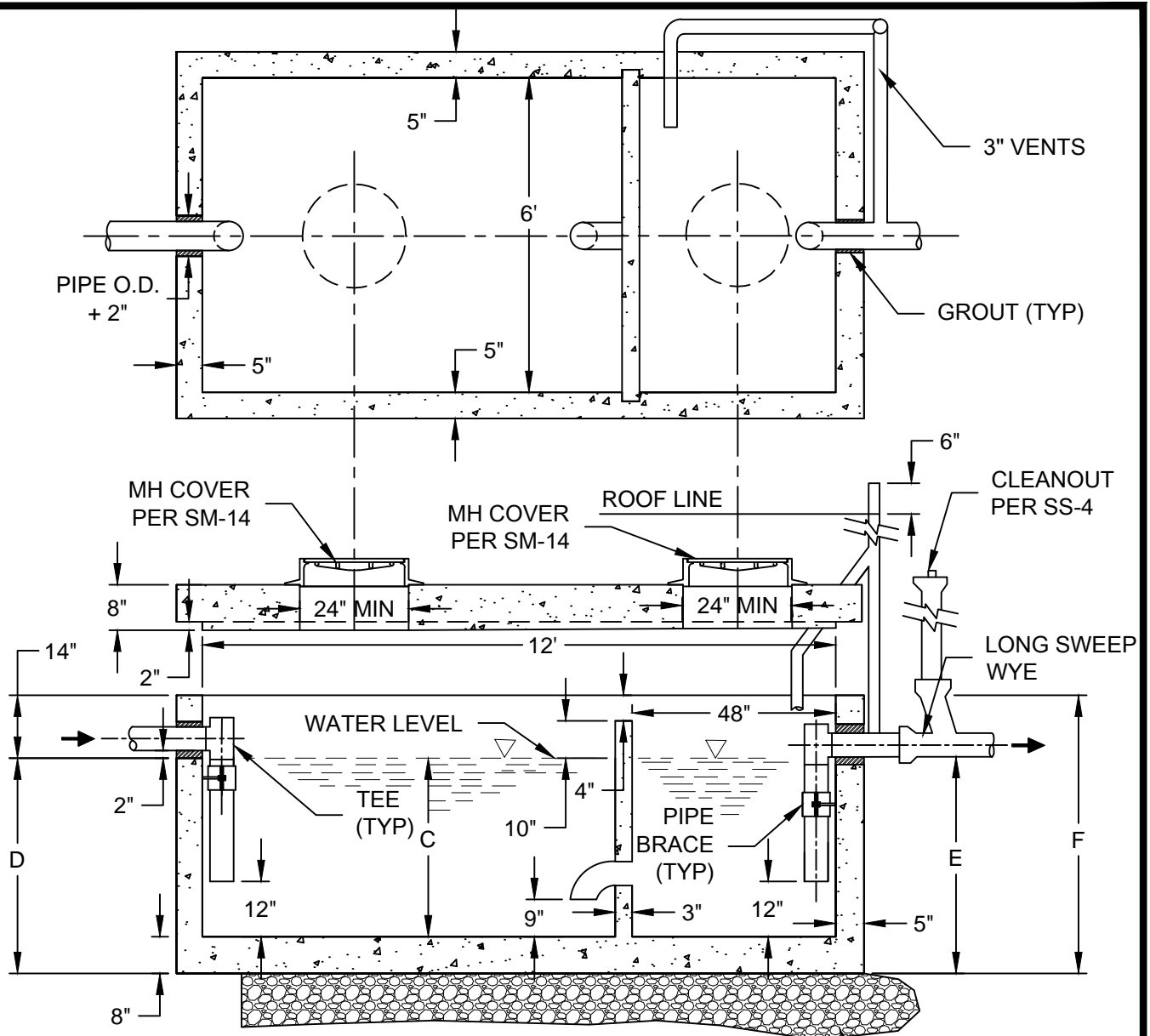
1. SECONDARY COMPARTMENT HAS VOLUME EQUAL TO 1/3 OF TOTAL CAPACITY.
2. ALL PIPE AND FITTINGS SHALL BE SOLVENT WELDED SCHEDULE 40 P.V.C. MIN. 3" DIA. WITHIN TRAP.
3. WALL AND BOTTOM REINFORCED THROUGHOUT WITH 2X16 5/10 REMESH.
4. COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS, NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND ACCESS HOLES.
5. CLEAN OUT SHALL BE PVC SCREW PLUG
6. VENT PIPE MAY BE CAST IRON OR PVC SCHEDULE 40, TO A POINT 6" ABOVE GROUND.
7. MANHOLE RING AND COVER SHALL BE 24" DENVER HEAVY OR EQUAL.
8. CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
9. NO BOLT TIE DOWN COVER ALLOWED WITHOUT PERMISSION FROM MERIDIAN METROPOLITAN DISTRICT.
10. CAPACITY RATED FOR LARGE COMPARTMENT ONLY.
11. ALL BRACING SHALL BE CONSTRUCTED WITH STAINLESS STEEL MATERIALS.
12. REFER TO THE CURRENT VERSION OF THE INTERNATIONAL PLUMBING CODE (IPC) FOR SIZING REQUIREMENTS.

3/4" CRUSHED ROCK (6" MIN. DEPTH)

WATER CAPACITY APPROX. GALLONS	DIMENSIONS IN INCHES					
	A	B	C	D	E	F
320	48	72	22	30	44	24
500	48	72	36	46	44	24
780	48	96	40	48	62	32
1060	72	102	34	42	56	34

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\SS-6 Sand Oil Interceptor - Small.dwg, 9/4/2015 10:49:22 AM, tmetved

REV. DATE JULY 2015		<h2 style="margin: 0;">MERIDIAN METROPOLITAN DISTRICT</h2> <p style="margin: 0;">SAND AND OIL INTERCEPTOR</p>	<h1 style="margin: 0;">SS-6</h1>
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NOTES:

1. SECONDARY COMPARTMENT HAS VOLUME EQUAL TO $\frac{1}{3}$ OF TOTAL CAPACITY.
2. ALL PIPE AND FITTINGS SHALL BE SOLVENT WELDED SCHEDULE 40 P.V.C. MIN. 3" DIA. WITHIN TRAP.
3. WALL AND BOTTOM REINFORCED THROUGHOUT WITH 2X16 $\frac{5}{16}$ REMESH.
4. COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS, NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND ACCESS HOLES.
5. CLEAN OUT SHALL BE PVC SCREW PLUG
6. VENT PIPE MAY BE CAST IRON OR PVC SCHEDULE 40, TO A POINT 6" ABOVE GROUND.
7. MANHOLE RING AND COVER SHALL BE 24" DENVER HEAVY OR EQUAL.
8. CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
9. NO BOLT TIE DOWN COVER ALLOWED WITHOUT PERMISSION FROM MERIDIAN METROPOLITAN DISTRICT.
10. CAPACITY RATED FOR LARGE COMPARTMENT ONLY.
11. ALL BRACING SHALL BE CONSTRUCTED WITH STAINLESS STEEL MATERIALS.
12. REFER TO THE CURRENT VERSION OF THE INTERNATIONAL PLUMBING CODE (IPC) FOR SIZING REQUIREMENTS.

$\frac{3}{4}$ " CRUSHED ROCK (6" MIN. DEPTH)

WATER CAPACITY APPROX. GALLONS	DIMENSIONS IN INCHES			
	C	D	E	F
1565	40	50	48	62
1800	46	56	54	68
2035	52	62	60	74
2505	64	74	72	86
2975	76	86	84	98
3210	82	92	90	104
3445	88	98	96	110

REV. DATE

JULY 2015

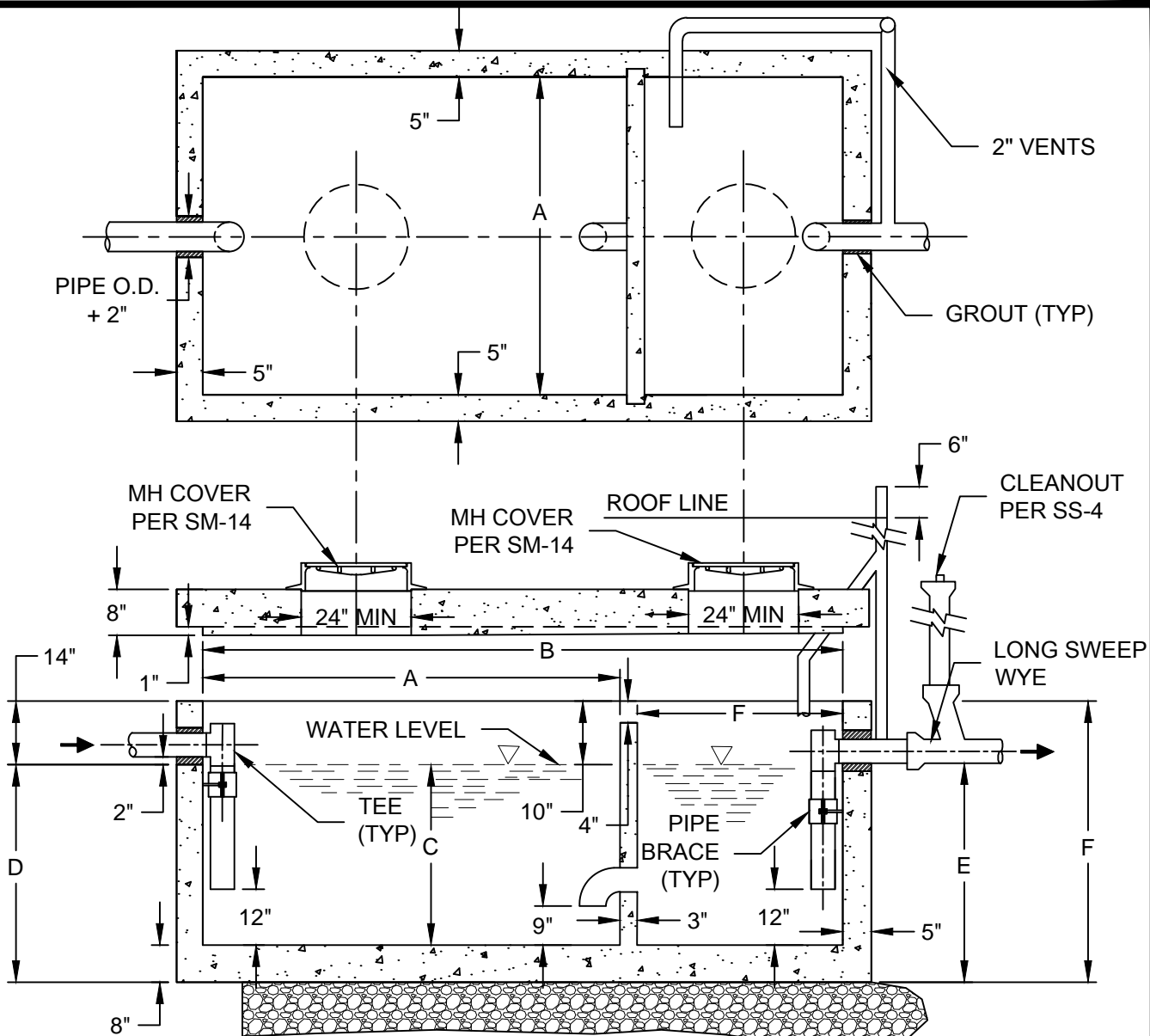


MERIDIAN METROPOLITAN DISTRICT

GREASE INTERCEPTOR

SS-7

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\SS-7 Grease Interceptor - Large.dwg, 9/4/2015 10:50:55 AM, mchved



NOTES:

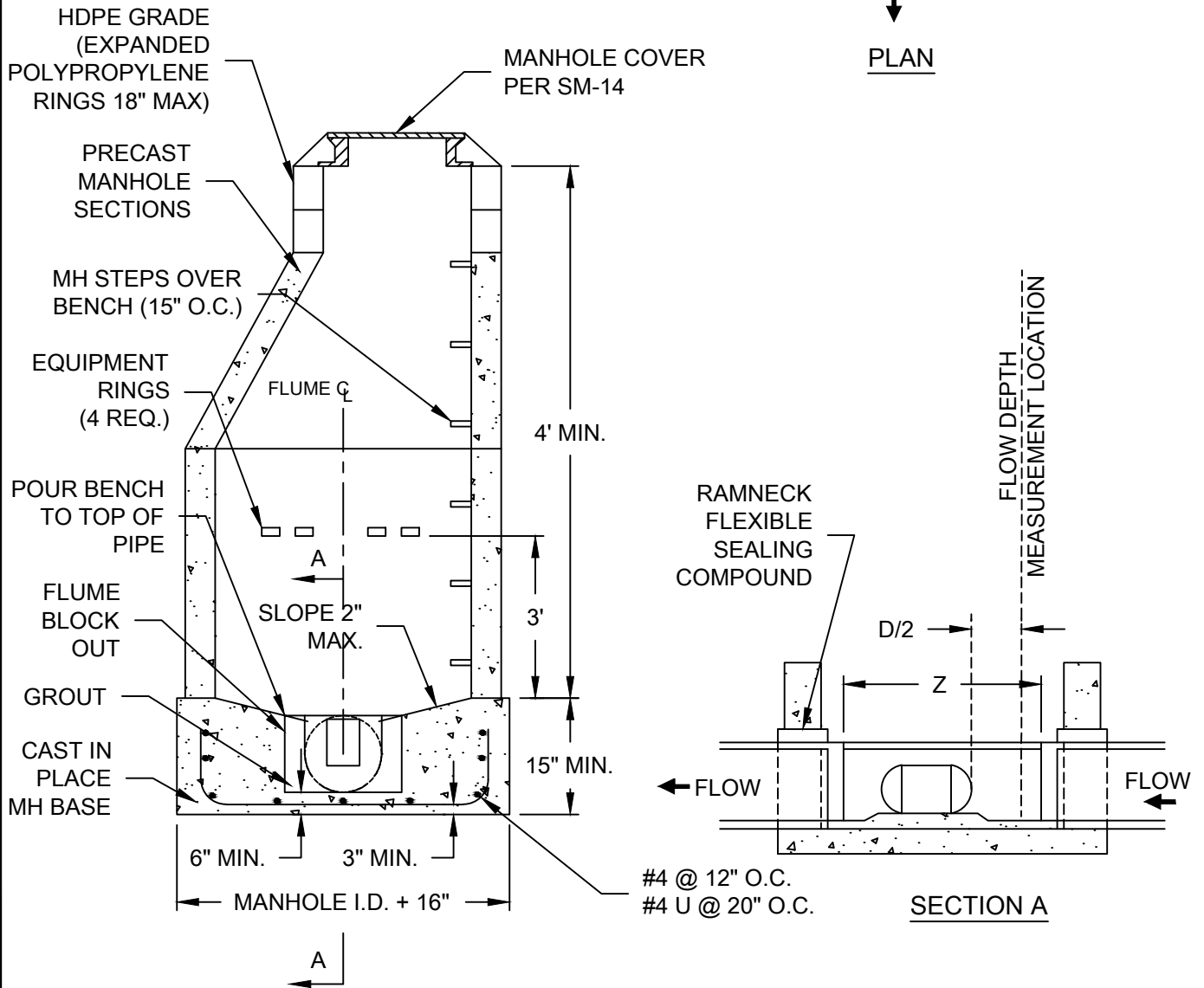
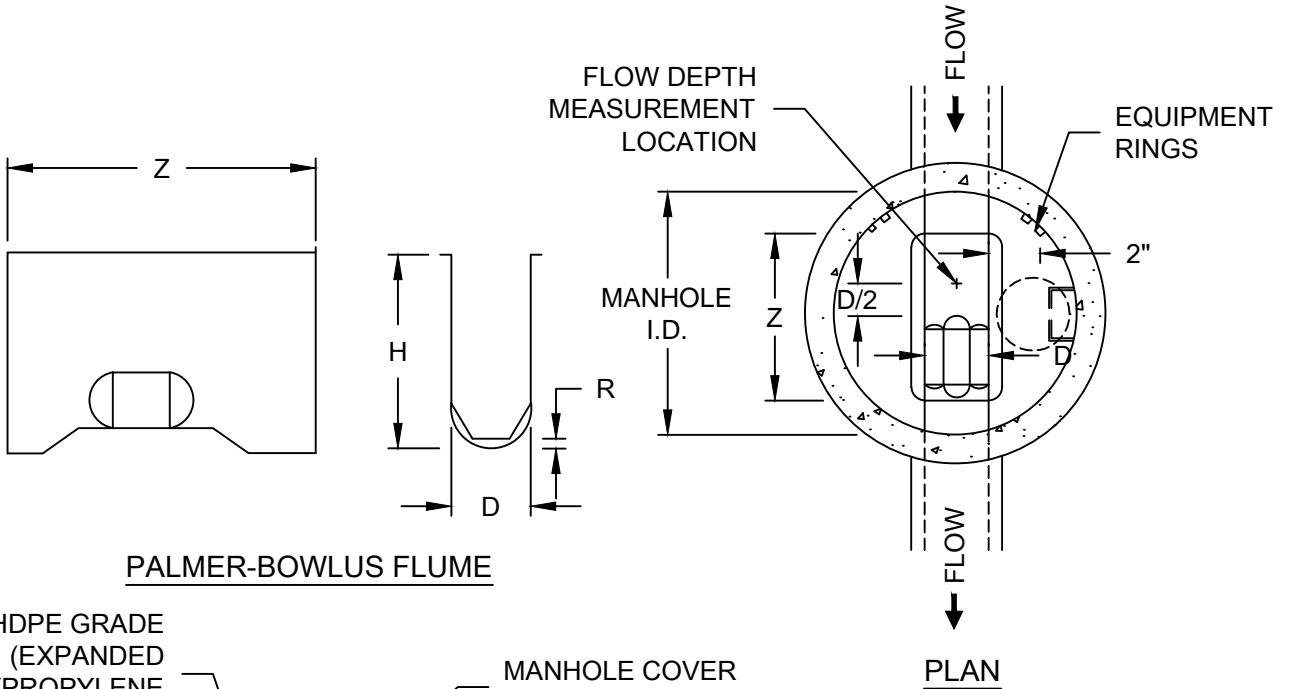
1. SECONDARY COMPARTMENT HAS VOLUME EQUAL TO 1/3 OF TOTAL CAPACITY.
2. ALL PIPE AND FITTINGS SHALL BE SOLVENT WELDED SCHEDULE 40 P.V.C. MIN. 3" DIA. WITHIN TRAP.
3. WALL AND BOTTOM REINFORCED THROUGHOUT WITH 2X16 5/10 REMESH.
4. COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS, NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND ACCESS HOLES.
5. CLEAN OUT SHALL BE PVC SCREW PLUG
6. VENT PIPE MAY BE CAST IRON OR PVC SCHEDULE 40, TO A POINT 6" ABOVE GROUND.
7. MANHOLE RING AND COVER SHALL BE 24" DENVER HEAVY OR EQUAL.
8. CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
9. NO BOLT TIE DOWN COVER ALLOWED WITHOUT PERMISSION FROM MERIDIAN METROPOLITAN DISTRICT.
10. CAPACITY RATED FOR LARGE COMPARTMENT ONLY.
11. ALL BRACING SHALL BE CONSTRUCTED WITH STAINLESS STEEL MATERIALS.
12. REFER TO THE CURRENT VERSION OF THE INTERNATIONAL PLUMBING CODE (IPC) FOR SIZING REQUIREMENTS.

3/4" CRUSHED ROCK (6" MIN. DEPTH)

WATER CAPACITY APPROX. GALLONS	DIMENSIONS IN INCHES					
	A	B	C	D	E	F
320	48	72	22	30	44	24
500	48	72	36	46	44	24
780	48	96	40	48	62	32
1060	72	102	34	42	56	34

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\SS-8 Grease Interceptor - Small.dwg, 9/4/2015 10:52:35 AM, mvelled

REV. DATE JULY 2015		<h2 style="margin: 0;">MERIDIAN METROPOLITAN DISTRICT</h2> <p style="margin: 0;">GREASE INTERCEPTOR</p>	<h1 style="margin: 0;">SS-8</h1>
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REV. DATE

JULY 2015



MERIDIAN METROPOLITAN DISTRICT

WASTE METERING MANHOLE

SS-9

FLUME DESIGN CRITERIA FOR WASTE METERING MANHOLE

FLUME										MANHOLE SIZE ID	SLOPE UPSTREAM
MAXIMUM DISCHARGE			HEAD	MODEL	DIMENSIONS (INCHES)						
GPM	MGD	CFS	INCHES	-	D	D-2	R	H	Z	MINIMUM	MAXIMUM
52	0.075	0.116	2.90	PBF-4	4	2	0.67	6	17	6' Dia.	2.4
165	0.238	0.368	4.70	PBF-6	6	2	1.00	8	25	6' Dia.	2.2
343	0.495	0.765	6.30	PBF-8	8	3	1.33	10	33	6' Dia.	2.0
603	0.870	1.345	7.90	PBF-10	10	4	1.67	12	41	6' Dia.	1.8
936	1.350	2.088	9.40	PBF-12	12	6	2.00	14	49	6' Dia.	1.6
1648	2.377	3.676	11.80	PBF-15	15	7.5	2.50	17	61	6' Dia.	1.5
2614	3.770	5.831	14.20	PBF-18	18	9	3.00	20	73	7.5' Dia.	1.4

REV. DATE

06/12



MERIDIAN METROPOLITAN DISTRICT

FLUME DESIGN CRITERIA

SS-9A

CONTROL MANHOLE NOTES

STRUCTURE:

1. SHAPE AND SMOOTH MANHOLE INVERTS BY FORMING OR SHAPING WITH CEMENT MORTAR.
2. ALL PRECAST MANHOLE SECTION, BASES, FLAT TOPS, BARRELS, REDUCERS, ETC., SHALL CONFORM TO ASTM, C-478, AND THESE STANDARD SPECIFICATIONS.
3. REINFORCING IN BASE REQUIRED FOR 6' & 7.5" DIAMETER MANHOLES. THE OWNER SHALL BE RESPONSIBLE FOR STRUCTURAL REQUIREMENTS UNDER THE SPECIFIC LOADING CONDITIONS, (DEAD LOAD PLUS LIVE LOAD OR H-20 FOR TRAFFIC).
4. MANHOLE RING, COVER AND LEVELING RINGS SHALL BE SET IN A FILL BED OF MORTAR.
5. ECCENTRIC CONE SECTIONS MAY BE USED IN LIEU OF FLAT TOP SECTIONS, PROVIDED COVER OVER TOP OF PIPE IS GREATER THAN 4.5 FEET.
6. FLEXIBLE PLASTIC SEALANT IS REQUIRED IN ALL JOINTS.
7. VENTILATOR MAY BE REQUIRED; DISTRICT ENGINEER SHALL DECIDE WHEN THIS IS NECESSARY, AND APPROVE METHOD OF PROVIDING VENTILATION.

FLUME:

1. THE FLUME SHALL BE A PALMER-BOWLUS FLUME, WITH INTEGRAL APPROACH SECTION, OR APPROVED EQUAL.
2. IT IS SUGGESTED THAT THE OWNER PLACE CONCRETE FOR MANHOLE BENCH IN TWO POURS.
 - (a) POUR BENCH, LEAVING ADEQUATE "BLOCK OUT" AREA TO FIT FLUME.
 - (b) GROUT FLUME INTO "BLOCK OUT" AT EXISTING OR NEW SEWER LINE SLOPE.
3. CONSTRUCTION OF A BYPASS CHANNEL FOR FLUME SHALL BE AT THE OWNER'S OPTION, THIS CAN BE ACCOMPLISHED IN POUR (a). THIS TYPE OF CONSTRUCTION WILL REQUIRE A LARGER STRUCTURE. THE DESIGN OF ANY BYPASS CHANNEL SHALL BE SUCH AS TO INDUCE MINIMUM TURBULENCE IN NORMAL FLUME FLOW CHANNEL.
4. FLUME SELECTION SHALL BE BASED UPON THE FLOW TO BE MEASURED AND NOT UPON THE PIPE SIZE.
5. FLUME SELECTION CALCULATIONS WILL BE SUBMITTED TO DISTRICT ENGINEER FOR CONCURRENCE AS WILL FLUME CALIBRATION CURVES AND DATA.
6. A MOUNTING BRACKET SHALL BE PROVIDED TO SUPPORT THE DISTRICT'S FLOW RECORDING TRANSDUCER. THE BRACKET SHALL BE INSTALLED SO THAT THE TRANSDUCER FACE IS OVER THE CENTER OF THE CHANNEL.

REV. DATE

06/12



MERIDIAN METROPOLITAN DISTRICT

WASTE METERING MANHOLE NOTES

SS-9B

ELECTRIC CONTROL PANEL

1. SHALL BE A MILLTRONICS OCM III - NON-CONTRACTING ULTRASONIC FLOW METER, TWO-WAY COMMUNICATIONS - DATA LOG WITH 2 YEAR HISTORY.
2. CHART RECORDER - FOXBORO 740 SERIES, OR APPROVED EQUAL, WITH 100 PROPERLY SCALED CHARTS FOR THE SIZE OF FLUME UTILIZED.
3. THE TRANSDUCER MOUNTING HARDWARE SHALL BE FIBERGLASS UNISTRUT WITH STAINLESS STEEL ANCHORS & BOLTS. THE MOUNT SHOULD BE DESIGNED TO ALLOW LEVELING OF TRANSDUCER FACE AND OFFERING SOME LATERAL ADJUSTMENTS.
4. CONDUIT FROM MANHOLE PANEL SHALL BE PVC JACKETED GRC, (USING ONLY WIDE RADIUS BENDS).
 REQUIRED (1) 3/4" FOR TRANSDUCER CABLE
 (1) 1" FOR ISCO SAMPLE LINE
 (1) 3/4" SPARE
5. EQUIPMENT ENCLOSURE SHALL BE A NEMA 4, WITH DOUBLE DOOR ACCESS, MOUNTED ON A CONCRETE PAD.
 PANEL SHOULD INCLUDE THE FOLLOWING:
 - ELECTRICAL DISTRIBUTION BOX WITH (6) 20 AMP GFI CIRCUIT BREAKERS.
 - HEATER WITH THERMOSTAT
 - EXHAUST FAN WITH LOUVERS
 - LIGHT
 - UTILITY OUTLETS
 - SIZED ACCORDINGLY TO ACCOMMODATE AN ISCO SAMPLER, MODEL #3700
6. FLUME LENGTH FOR 8" PALMER-BOWLUS WITH APPROACH SECTION,
 (4 x DIAMETER) + 1" e.i. 32" + 1" = 33"

REV. DATE

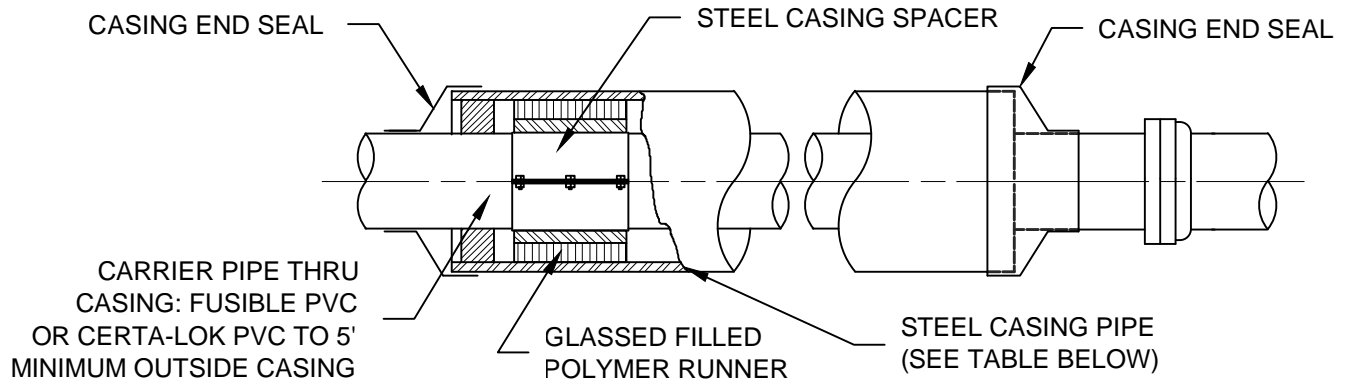
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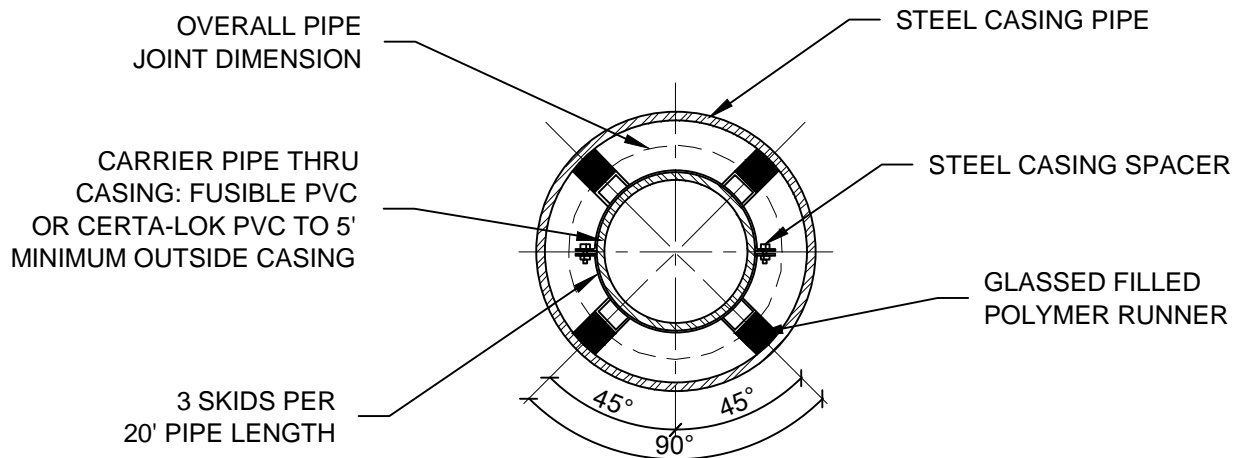
MERIDIAN METROPOLITAN DISTRICT

WASTE METERING MANHOLE NOTES

SS-9C



SLED DETAIL



PIPE CASING DETAIL

CARRIER PIPE NOMINAL Ø	CASING PIPE	
	MIN OD	MIN WALL THICKNESS
4"	12"	0.25"
6"	16"	0.3125"
8"	18"	0.3125"
12"	22"	0.375"
16"	28"	0.500"
20"	32"	0.500"

PIPE CASING TABLE

NOTES:

1. CASING LENGTH TO BE SHOWN CLEARLY ON THE APPROVED PLANS.
2. TRENCH LAID CASING SHALL BE DESIGNED AND INSTALLED PER PLANS.
3. BORING AND CASING METHOD AND MATERIALS SHALL BE APPROVED BY THE DISTRICT.
4. SOIL AT THE ENDS OF CASING SHALL BE STABLE AT ALL TIMES.
5. CASING PIPE SHALL BE STRAIGHT, ROUND AND OF NEW MATERIAL.

REV. DATE

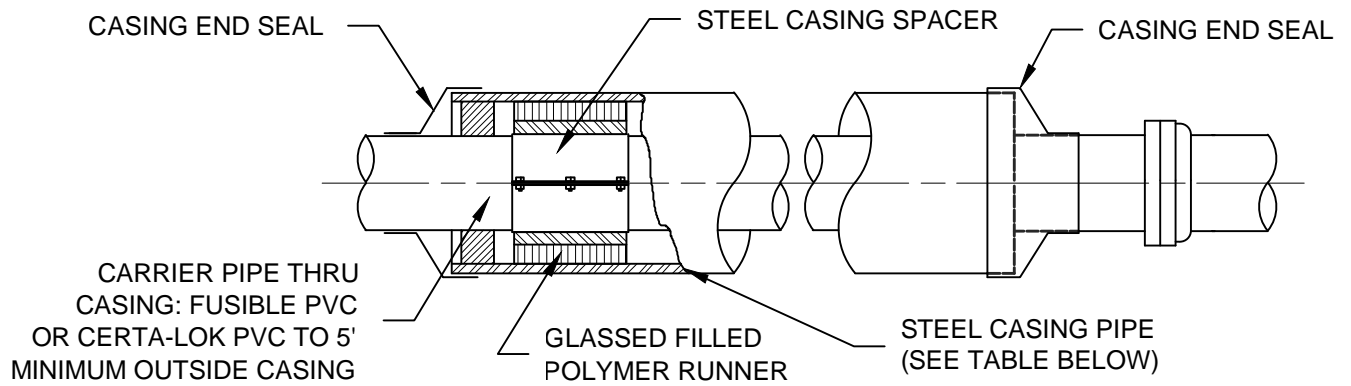
August 2012



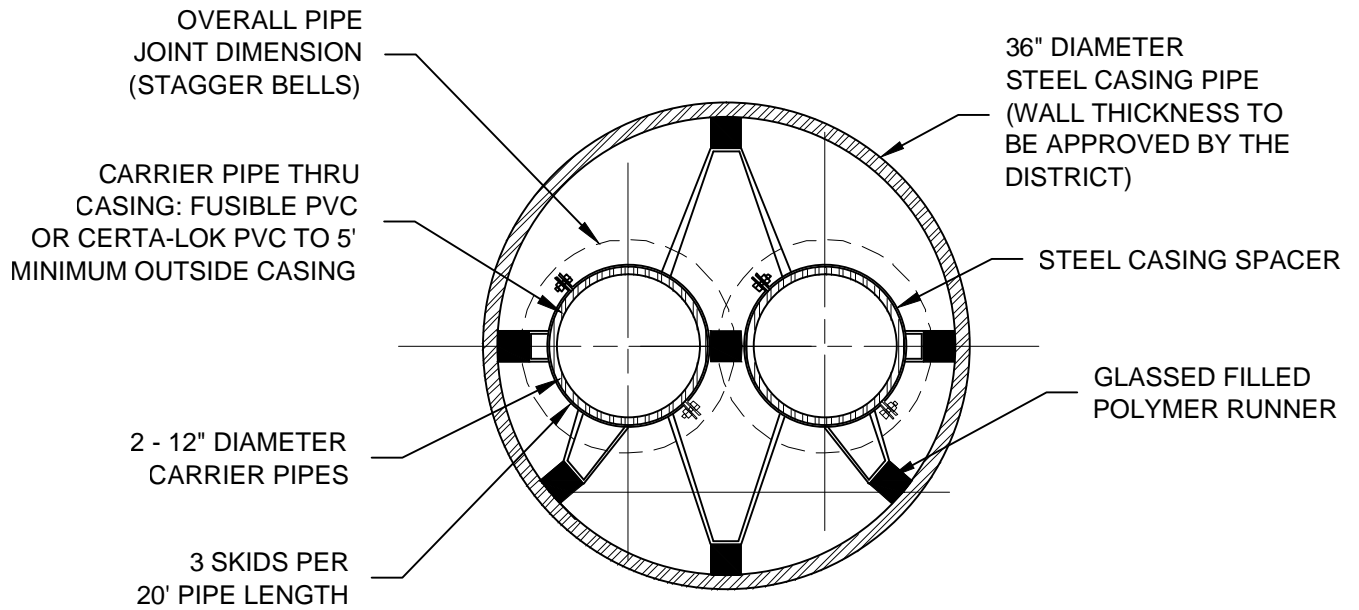
MERIDIAN METROPOLITAN DISTRICT

BORE CASING DETAIL

D-1



SLED DETAIL



PIPE CASING DETAIL

NOTES:

1. CASING LENGTH TO BE SHOWN CLEARLY ON THE APPROVED PLANS.
2. TRENCH LAID CASING SHALL BE DESIGNED AND INSTALLED PER PLANS.
3. BORING AND CASING METHOD AND MATERIALS SHALL BE APPROVED BY THE DISTRICT.
4. SOIL AT THE ENDS OF CASING SHALL BE STABLE AT ALL TIMES.
5. CASING PIPE SHALL BE STRAIGHT, ROUND AND OF NEW MATERIAL.
6. MUST HAVE PRIOR APPROVAL FROM THE DISTRICT BEFORE CONSIDERING IN APPROVED PLANS.

REV. DATE

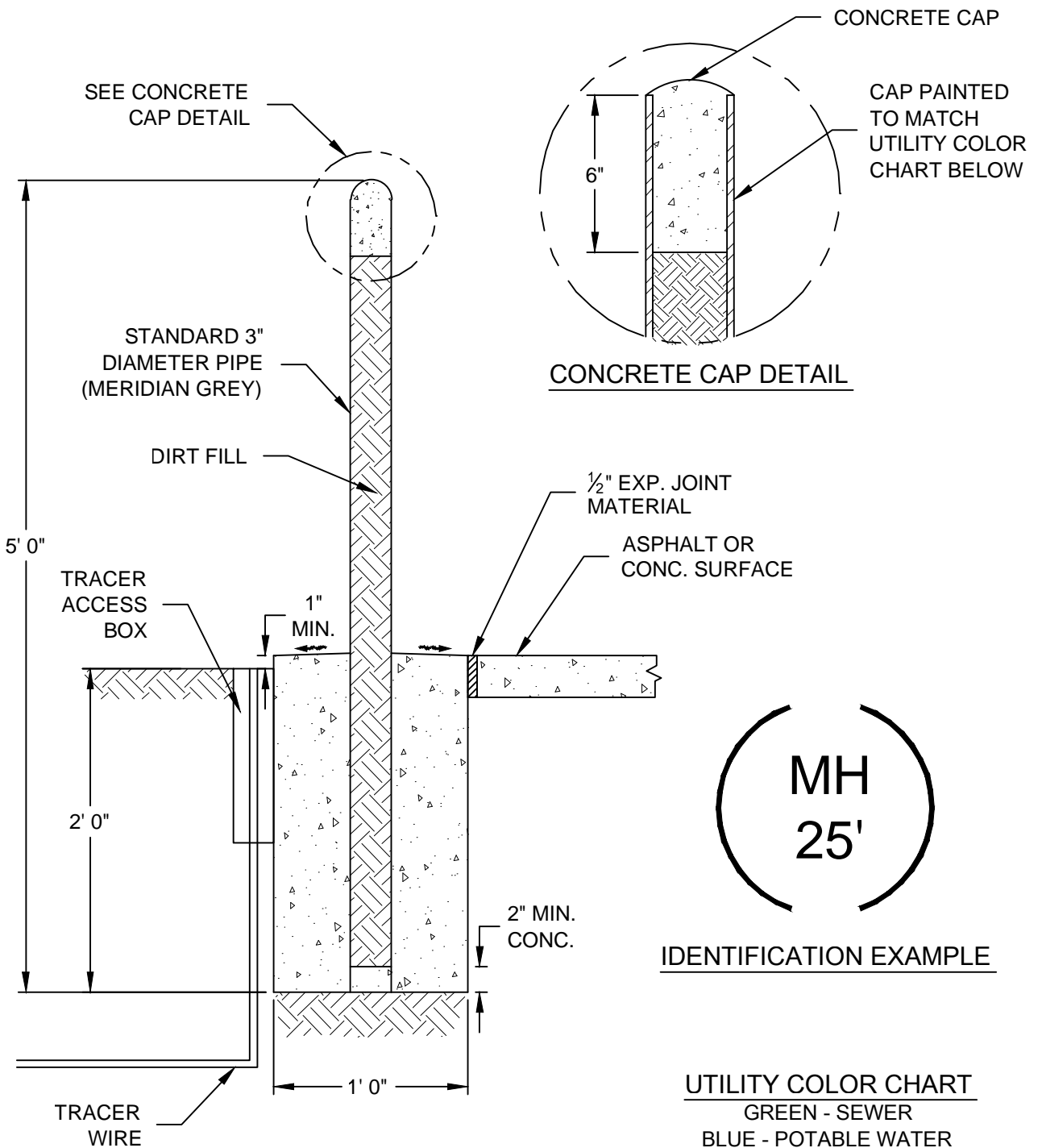
August 2012



MERIDIAN METROPOLITAN DISTRICT

DOUBLE BORE CASING DETAIL

D-2



NOTES:

1. LOCATIONS TO BE SHOWN CLEARLY ON THE APPROVED PLANS.
2. IDENTIFICATION MARKS ON POSTS SHALL BE 3"Ø CIRCLES BROKEN IN VERTICAL CENTER (SEE DETAIL) POINTING TO APPURTENANCE, WITH 1" STENCILS INSIDE CIRCLE INDICATING TYPE OF APPURTENANCE (MH, 12" GATE VALVE, ETC) AND THE DISTANCE IN FEET AND INCHES FROM POST.

REV. DATE

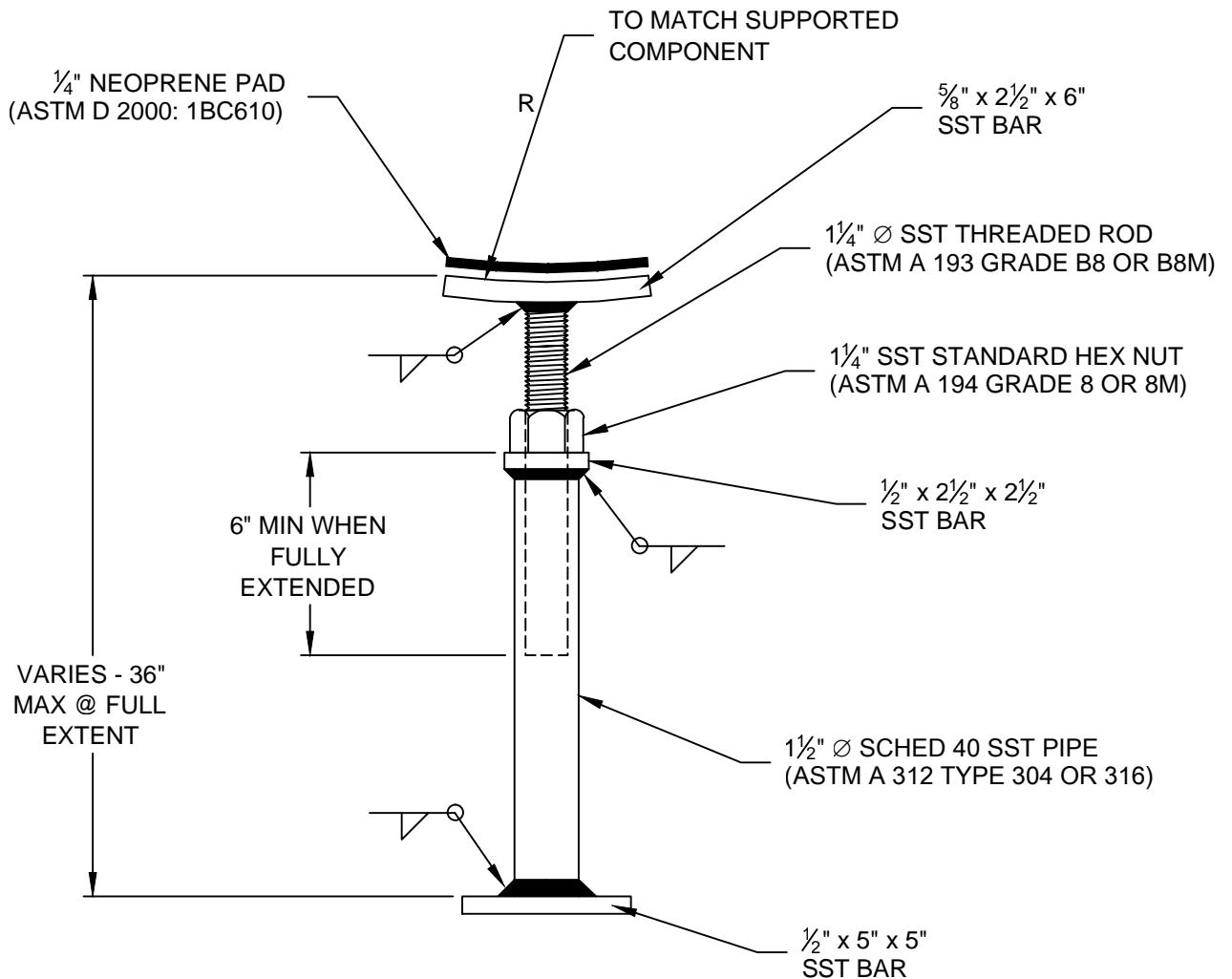
August 2012



MERIDIAN METROPOLITAN DISTRICT

REFERENCE POST DETAIL

D-3



STANDARD

NOTE:

1. BAR MATERIAL TO BE ASTM A 240 TYPE 304 OR 316 (Fy = 30 KSI MINIMUM).

REV. DATE

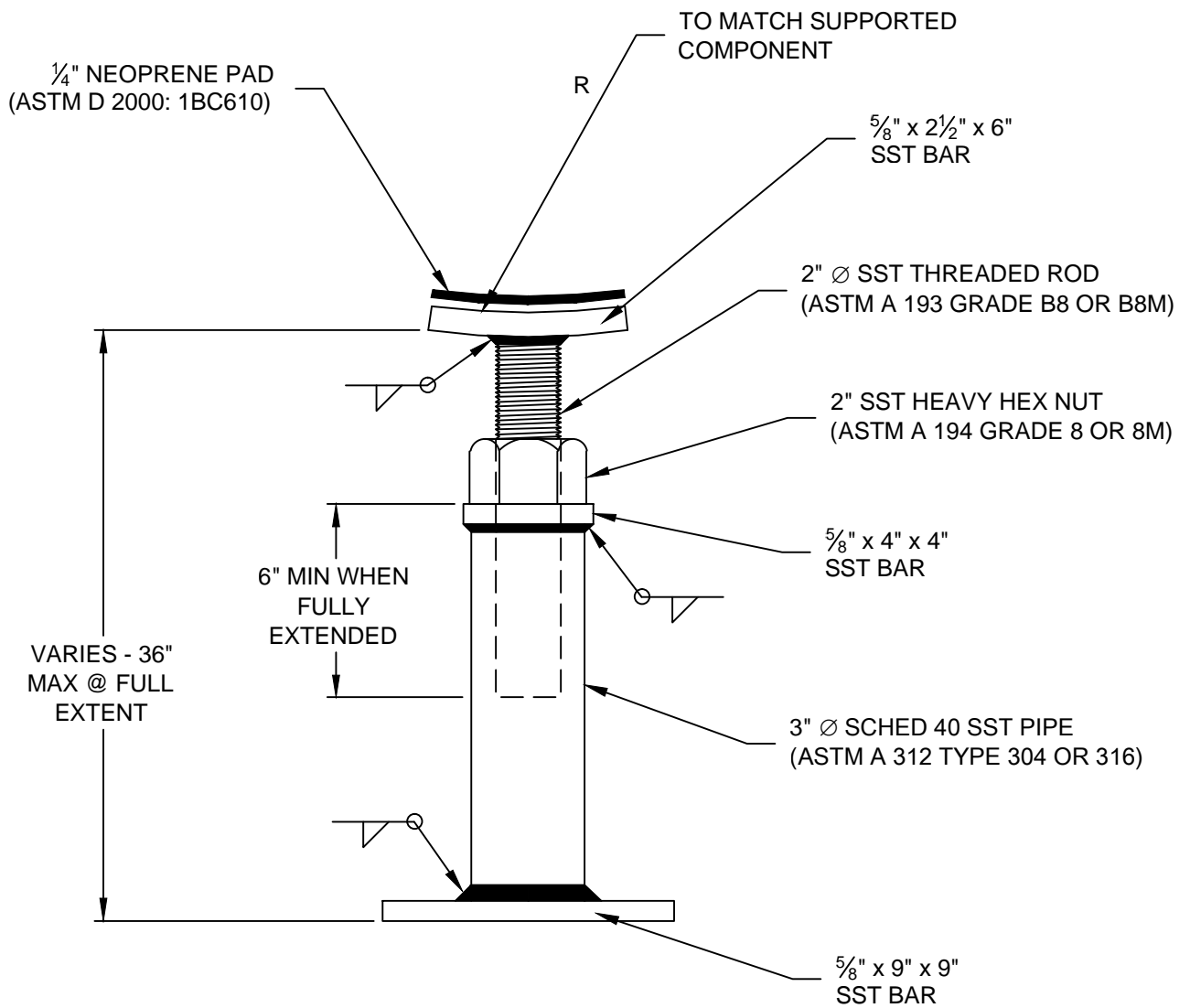
August 2012



MERIDIAN METROPOLITAN DISTRICT

ADJUSTABLE SUPPORT DETAIL (STANDARD)

D-4



HEAVY DUTY

NOTE:

1. BAR MATERIAL TO BE ASTM A 240 TYPE 304 OR 316 ($F_y = 30$ KSI MINIMUM).

REV. DATE

August 2012



MERIDIAN METROPOLITAN DISTRICT

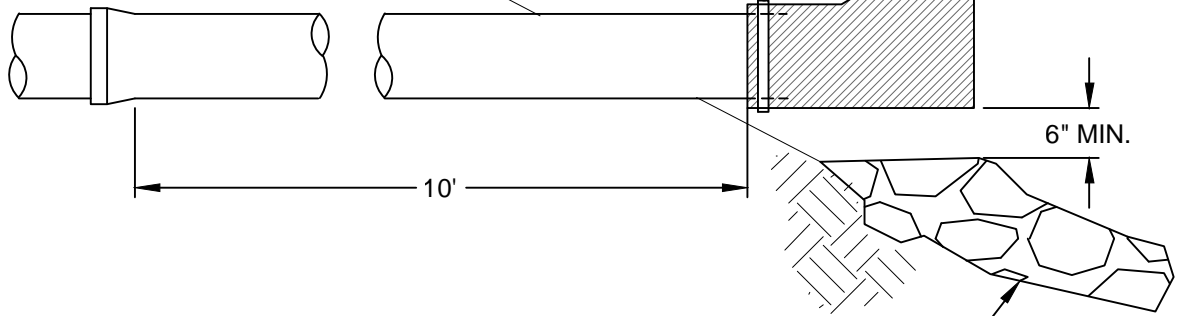
ADJUSTABLE SUPPORT DETAIL (HEAVY DUTY)

D-5

FINISHED GRADE

TIDEFLEX TF-1
SLIP-ON CHECK VALVE

STAINLESS STEEL BAND
OR HALF CLAMPS



TYPE "L" RIP RAP
LENGTH = 4*PIPE DIA.
WIDTH = 4*PIPE DIA.
DEPTH = 18" MINIMUM

REV. DATE

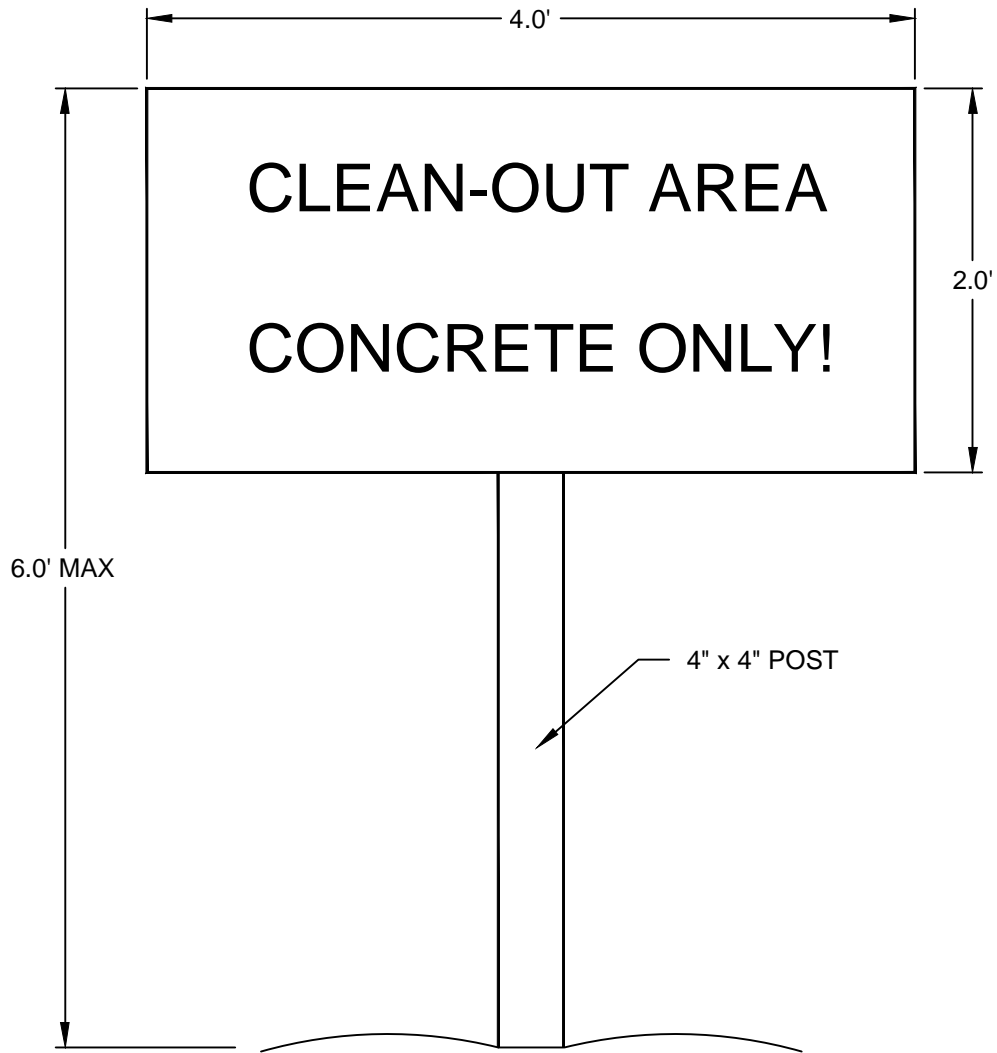
August 2012



MERIDIAN METROPOLITAN DISTRICT

TIDEFLEX CHECK VALVE DETAIL
FOR DRAIN OUTLET

D-6



TYPICAL SIGN FOR CONCRETE WASHOUT

NOTES:

1. SEE DOUGLAS COUNTY GESC MANUAL SECTION 3.13.5.
2. SIGN SHALL BE CONSTRUCTED OF WEATHER RESISTANT MATERIALS.

REV. DATE

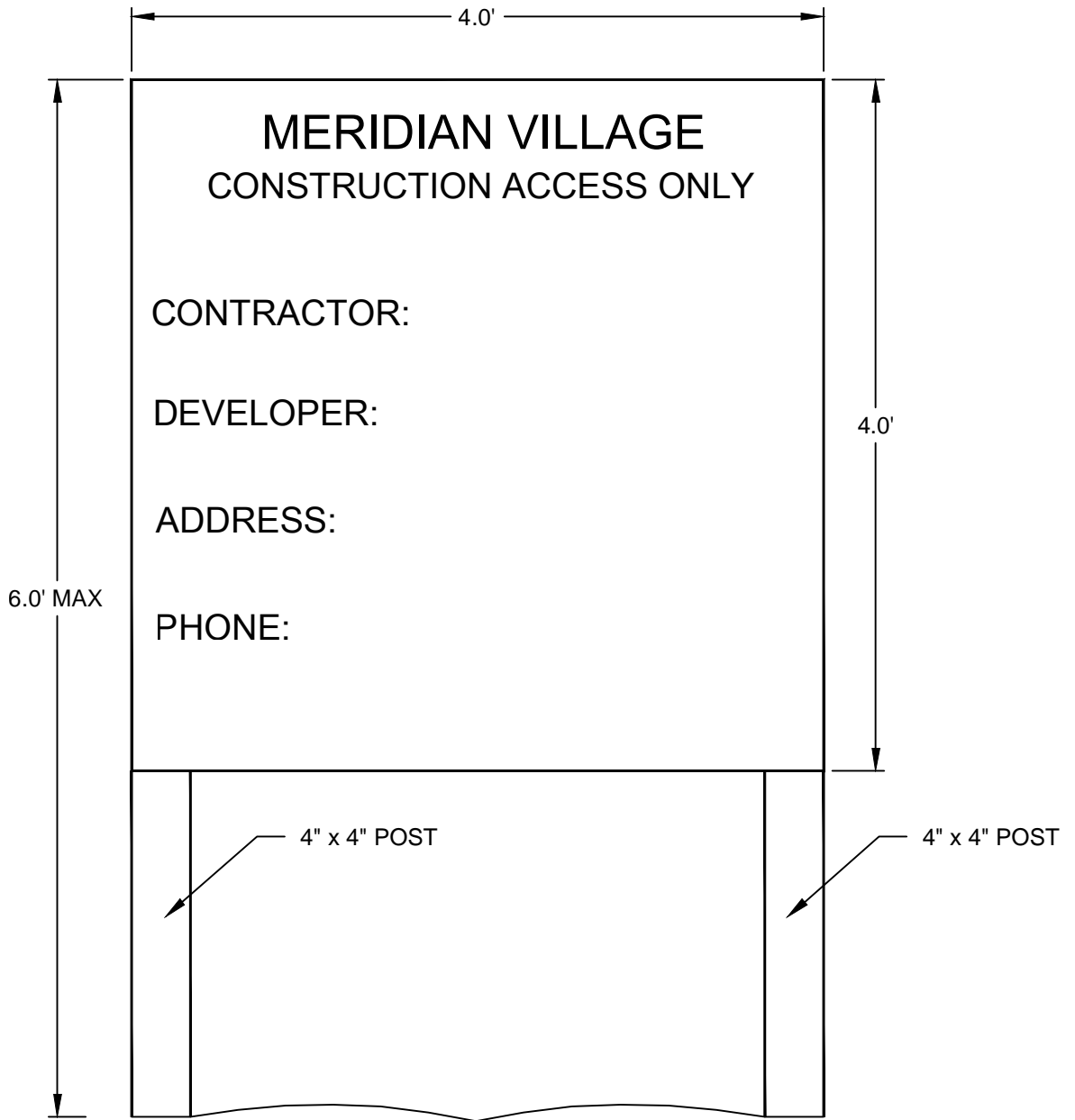
August 2012



MERIDIAN METROPOLITAN DISTRICT

CONCRETE WASHOUT SIGN

D-7



TYPICAL CONSTRUCTION ACCESS SIGN

NOTES:

1. SIGN PER EXHIBIT 9 OF THE MERIDIAN VILLAGE DESIGN CONTROL COMMITTEE MANUAL.
2. SIGN SHALL BE CONSTRUCTED OF WEATHER RESISTANT MATERIALS.

REV. DATE

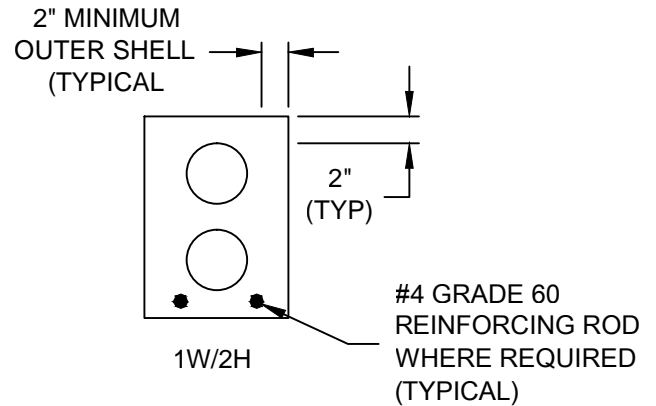
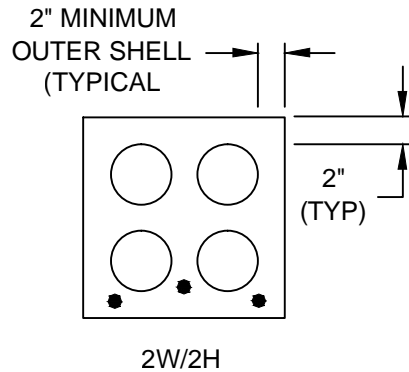
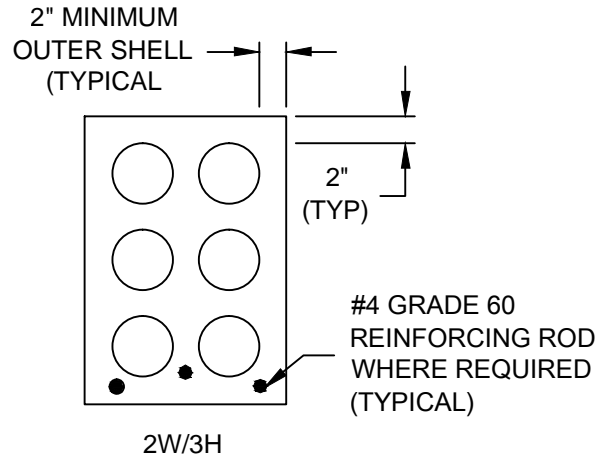
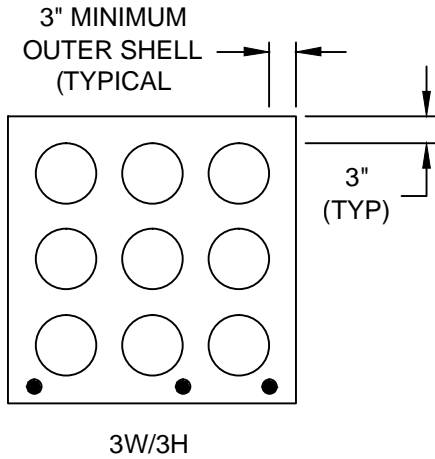
August 2012



MERIDIAN METROPOLITAN DISTRICT

CONSTRUCTION ACCESS SIGN

D-8



**DETAIL - ENCASEMENT,
ENCASED DUCT BANK SECTIONS**

REINFORCING OF DUCT BANK

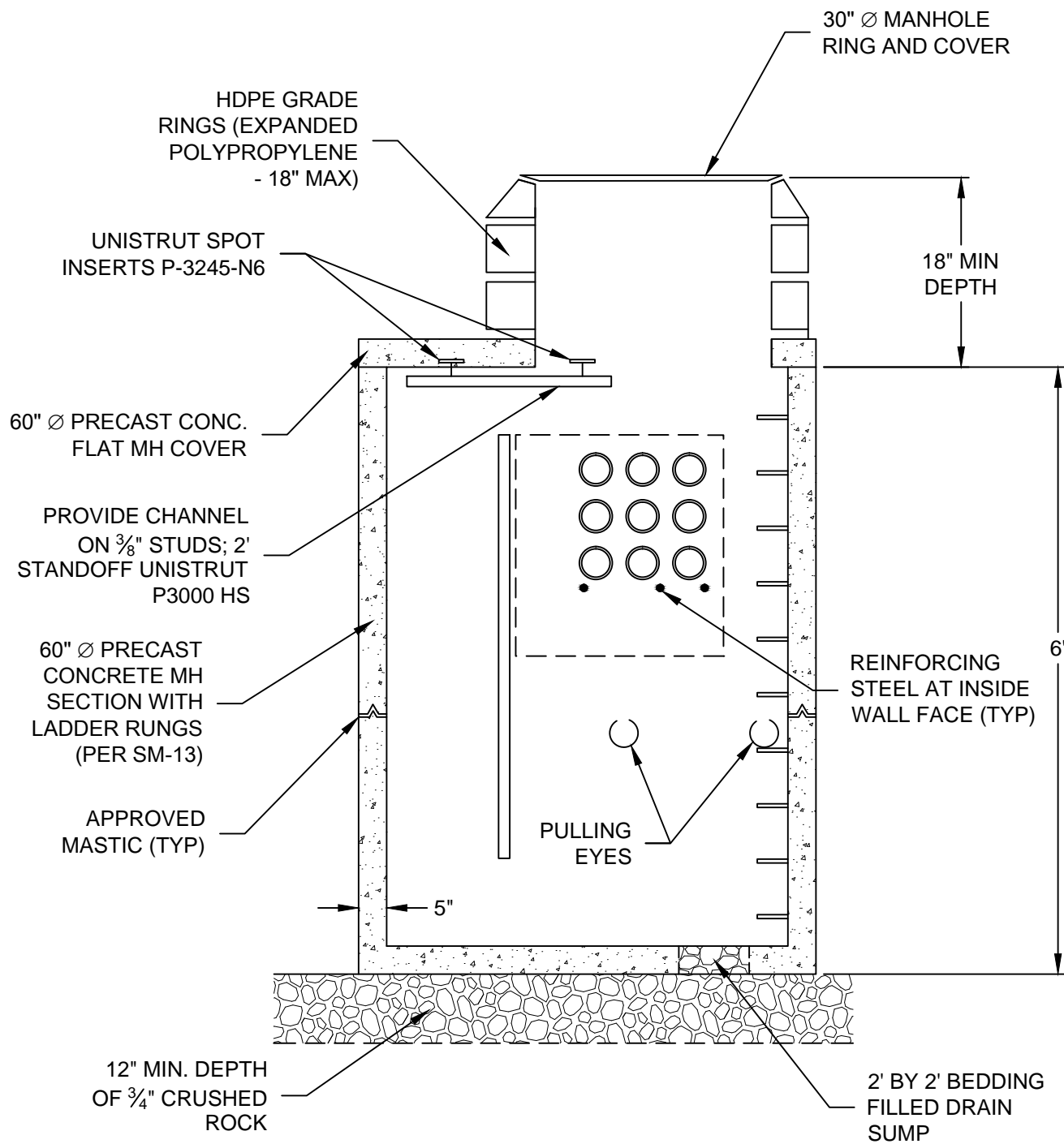
PROVIDE REINFORCING STEEL AT THE FOLLOWING LOCATIONS:

1. CROSSING OF ALL ROADS BETWEEN OUTSIDE EASEMENT LINES.
2. CROSSING OF ALL EXISTING AND PLANNED PIPELINES AND DUCTS, TO 10'-0" OF EITHER SIDE.
3. WITHIN 10'-0" OF WATER VALVES, MANHOLES AND VAULTS.
4. AS DETERMINED IN THE FIELD WHERE DAMAGE BY SETTLING MAY OCCUR.
5. REINFORCING STEEL SHALL BE GR-60.

NOTES:

1. CONDUIT SPACING SHALL BE MAINTAINED BY FACTORY MADE DUCT-BANK SPACERS.
2. ALL CONDUIT JOINTS SHALL BE CEMENTED WATERTIGHT.
3. REINFORCING ROD SHALL BE SUPPORTED AWAY FROM EARTH FOR COMPLETE ENCASEMENT.
4. CHANGES IN CONFIGURATION SHALL HAVE ADDITIONAL REINFORCEMENT AND BE APPROVED BY THE MERIDIAN METROPOLITAN DISTRICT PRIOR TO ENCASEMENT.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	DAS-1
06/12		DUCT ENCASEMENT SECTIONS	



REV. DATE

JULY 2015

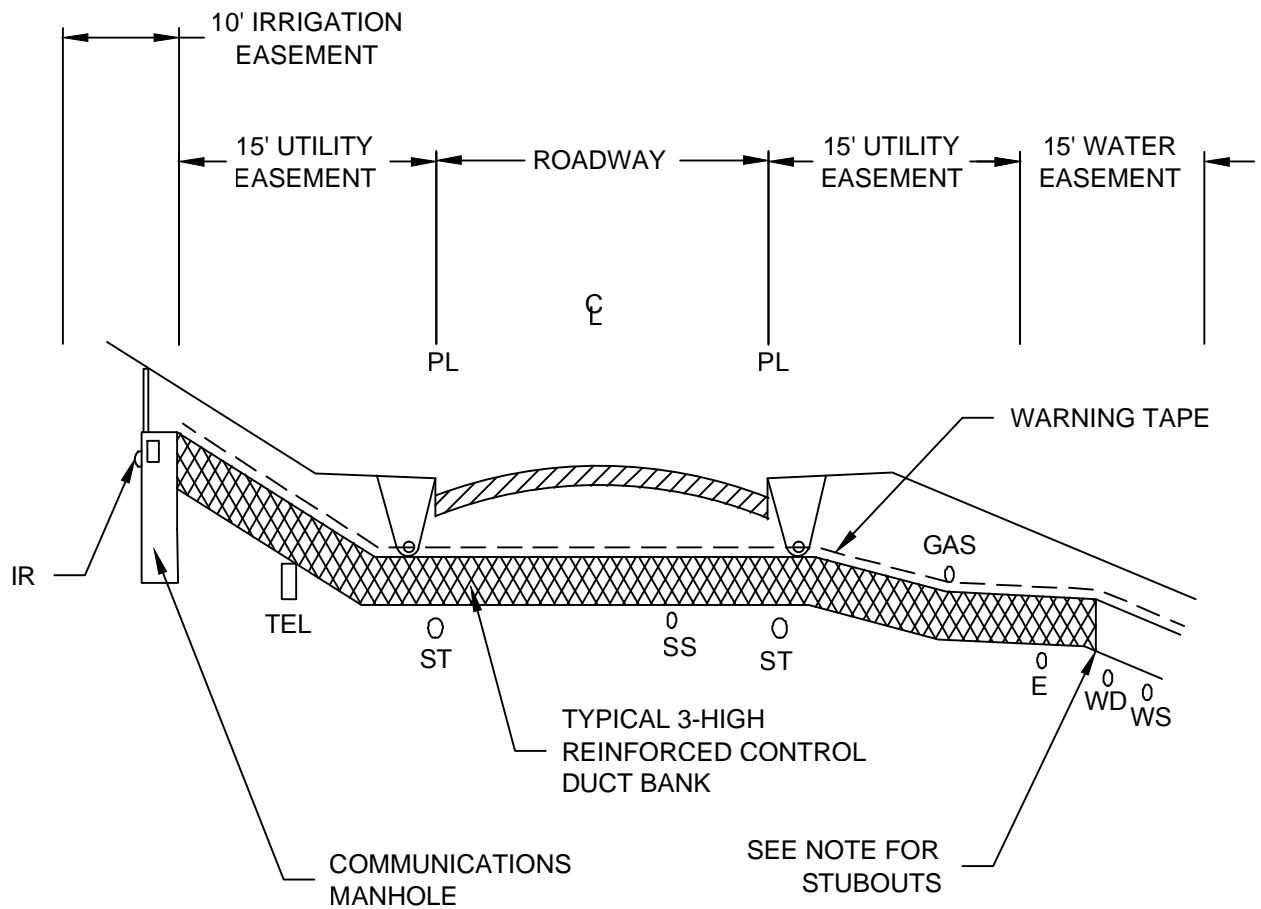


MERIDIAN METROPOLITAN DISTRICT

TYPICAL CONTROL CONDUIT MANHOLE

DAS-2

\\TECHCENTER\projects\2006\06-24\dwg\BLOCKS\Utility Details\DAS-2 Typical Control Conduit Manhole.dwg, 9/4/2015 10:57:24 AM, mcsved



DETAIL - TYPICAL STREET CROSSING SECTION

NOTES:

1. END CONCRETE OF CROSSING STUBS AT WATER EASEMENT AND LEAD WARNING TAPE TO GRADE. EXTEND CONDUIT AND REBAR 1-3 FEET BEYOND CONCRETE.

REV. DATE

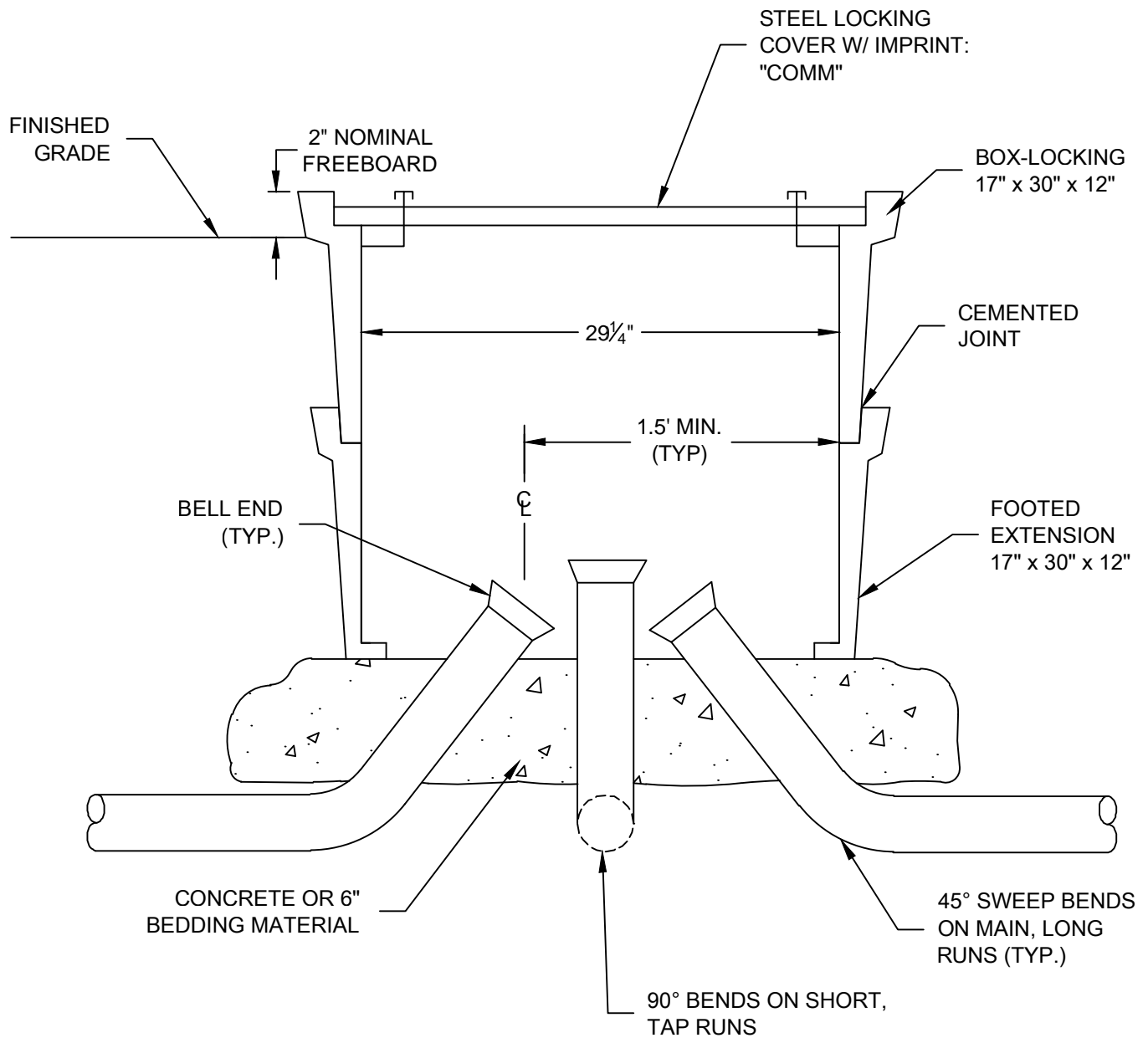
06/12



MERIDIAN METROPOLITAN DISTRICT

CONTROL CONDUIT TYPICAL STREET CROSSING

DAS-3

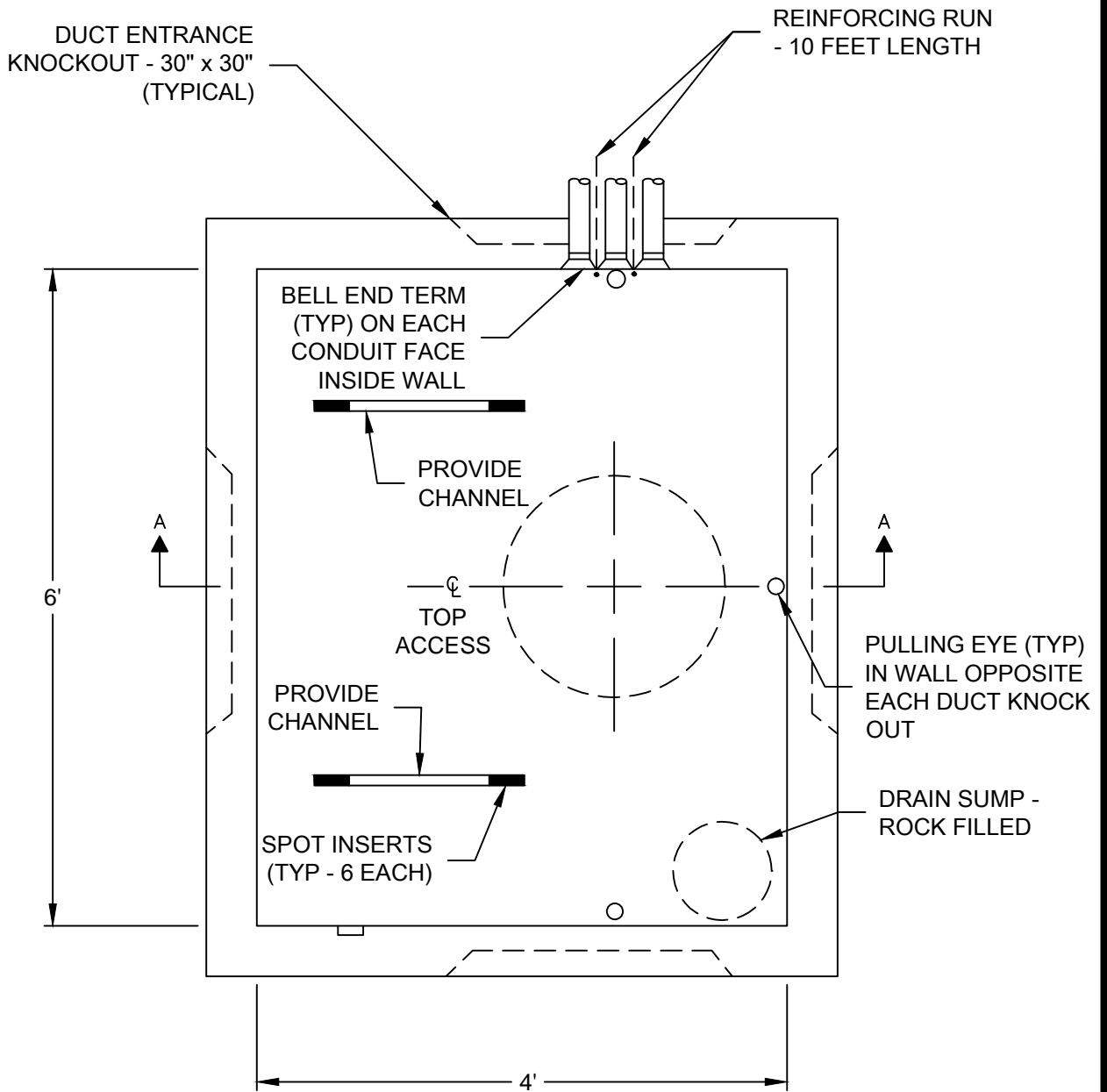


NOTES:

1. ASSEMBLY SHALL BE RATED FOR AASHTO H-10 LOADING. BOX OF REINFORCED PLASTIC MORTAR, CARLON "COM, SOLITE" OR EQUAL.

REV. DATE		MERIDIAN METROPOLITAN DISTRICT	DAS-4	
06/12				CONTROL CONDUIT PULL BOX ARRANGEMENT

I:\TECHNICAL\projects\2008\06-24\MD\BLOC\BUIL\Drawings\4-4 Control Conduit Pull Box Arrangement.dwg, 11/13/2012 2:24:14 AM, mperaz, 1:1



PLAN - TYPICAL MANHOLE
INSTALLATION FOR CONTROL DUCT BANKS

REV. DATE

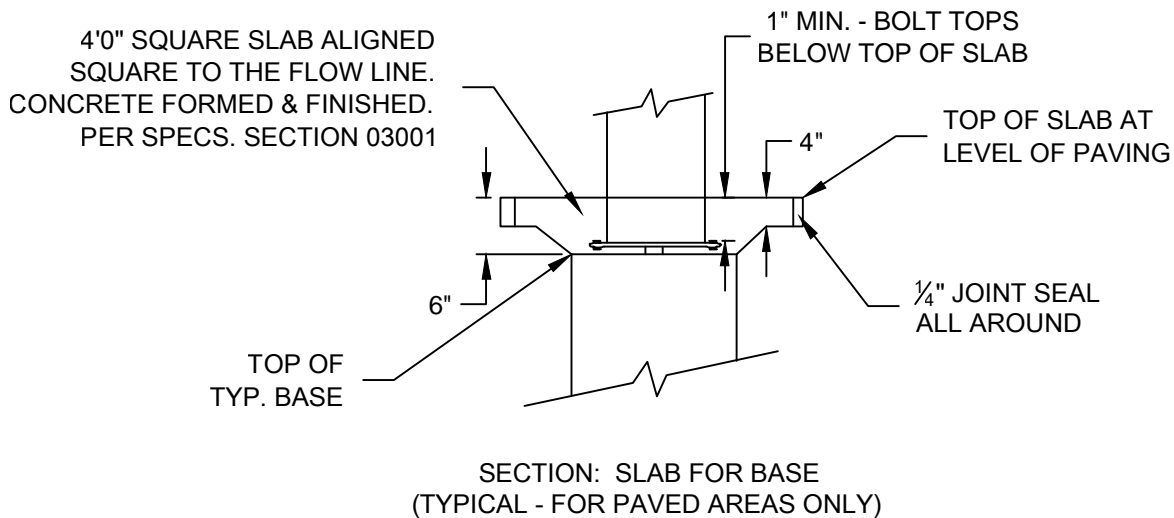
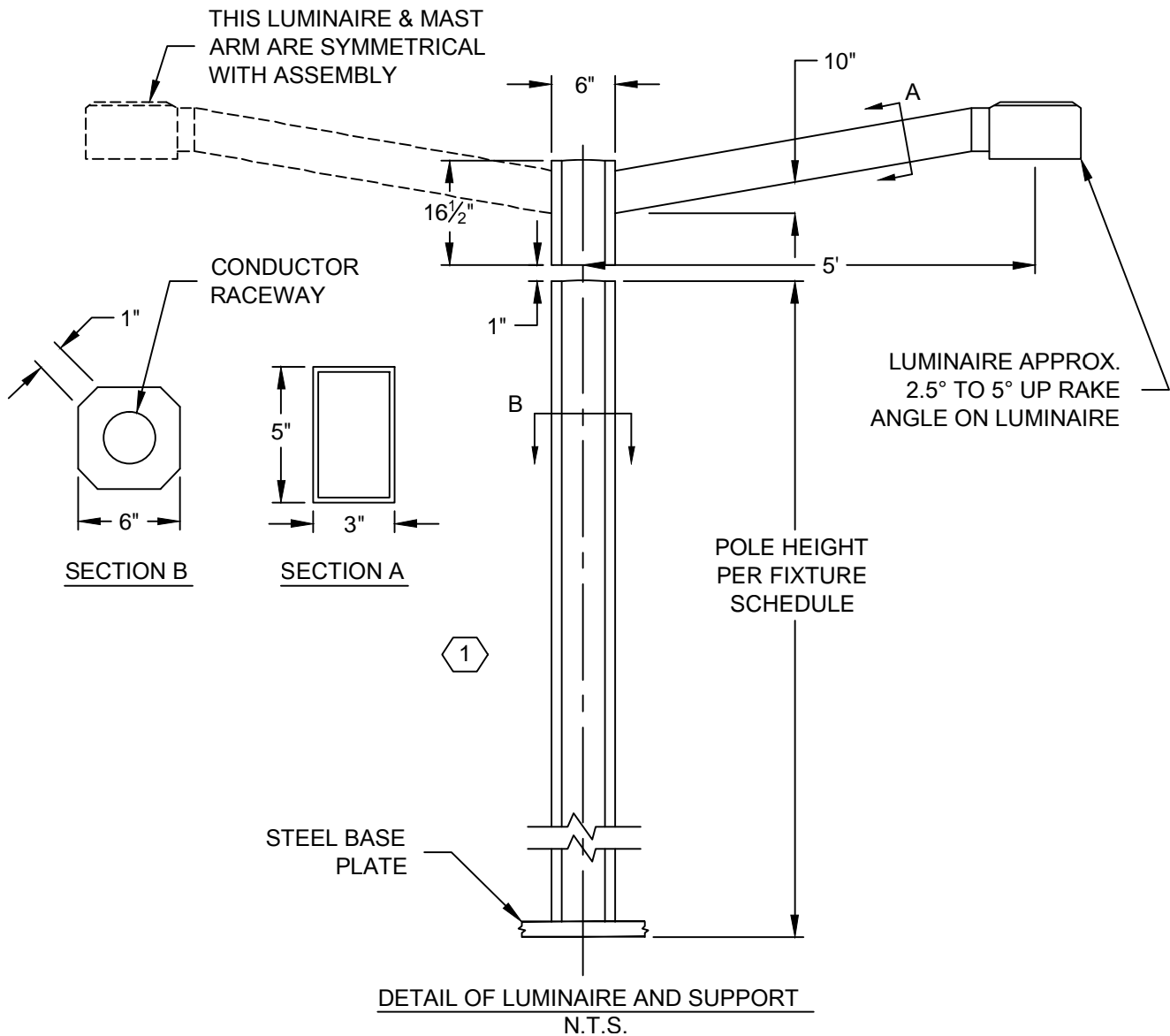
06/12



MERIDIAN METROPOLITAN DISTRICT

TYPICAL MANHOLE INSTALLATION
FOR CONTROL DUCT BANKS

DAS-5



REV. DATE

06/12



MERIDIAN METROPOLITAN DISTRICT

STREET LIGHTING

STL-1

CONSTRUCTION NOTES: FOR STREET LIGHT ASSEMBLY ONLY

- ① THE POLE DIMENSIONS SHOWN ARE FOR A CENTRECOM 25 FOOT POLE. THE ACTUAL POLE DIMENSIONS WILL VARY TO STANDARD POLE DIMENSIONS OF SPECIFIED MANUFACTURER.
- ② PROVIDE 3 TIES @ 3" ON CENTER @ TOP OF PIER.
- ③ PRECAST CONCRETE POLE UP TO 30 FT. REFERENCE POLE MANUFACTURER FOR BOLT SIZE, LENGTH, AND LOCATION.
- ④ PROVIDE 36" - 3 PIER WITH 12 #6 VERTICAL AND #4 TIES @ 18" ON CENTER.
- ⑤ PROVIDE GROUT CAP TO COVER ALL EXPOSED METAL PARTS

AESTHETIC SPECIFICATION:

CONCRETE POLES:

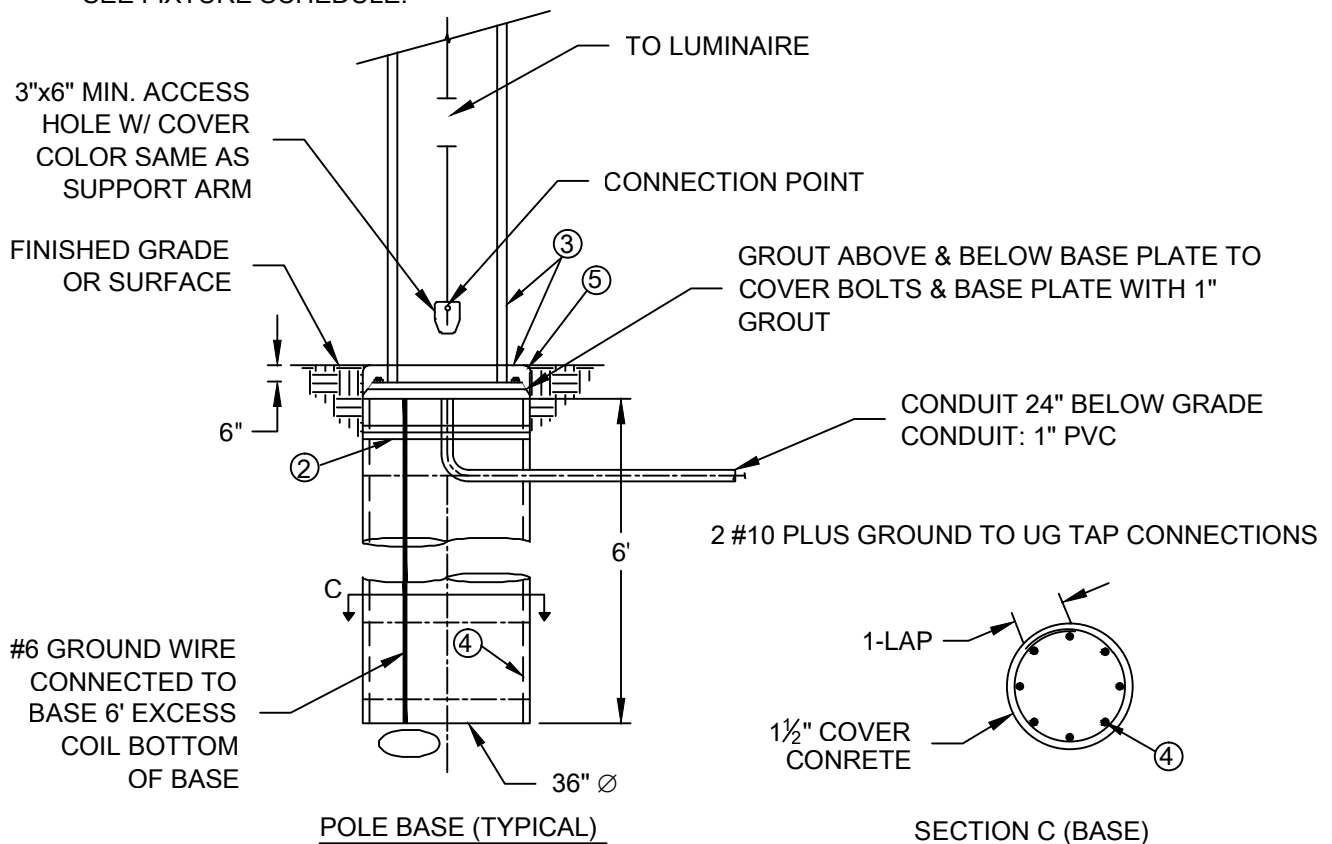
- STRENGTH: REFER TO SPECS FOR CALCULATIONS TO BE SUBMITTED.
 - MATERIAL: REINFORCED CONCRETE WITH INTERNAL RACEWAY.
 - FORM: SQUARE TAPERED WITH 1" BEVELED CORNERS
 - MOUNTING: TENON ON TOP OF POLE.
 - FINISH: EXPOSED AGGREGATE: PEBBLE TEXTURE, SAND BLASTED OR ACID ETCHED.
 - COLOR: AGGREGATE - SONORA GOLD; CONCRETE - BUFF/SAND BEIGE (REF. CENTRECOM 333)
 - PROTECTIVE COATING: URETHANE
- NOTE: ALSO APPLICABLE TO LANDSCAPE POLES FURNISHED.

LUMINAIRE SUPPORT ARM:

- STEEL OR ALUMINUM (RECTANGULAR)
- PRIME PAINTED FINISH: BAKED ON ENAMEL FINISH OR DURANOTIC FINISH.
- COLOR: (LIGHT AMBER BRONZE) SPEC. REF. KAISER ALUMINUM - KAZCOLOR CHART.
- PROTECTIVE FINISH: URETHANE (PAINTED ONLY)

LUMINAIRE:

- SEE FIXTURE SCHEDULE.



REV. DATE

06/12



MERIDIAN METROPOLITAN DISTRICT

STREET LIGHTING

STL-2



SPECIFICATIONS/DATA

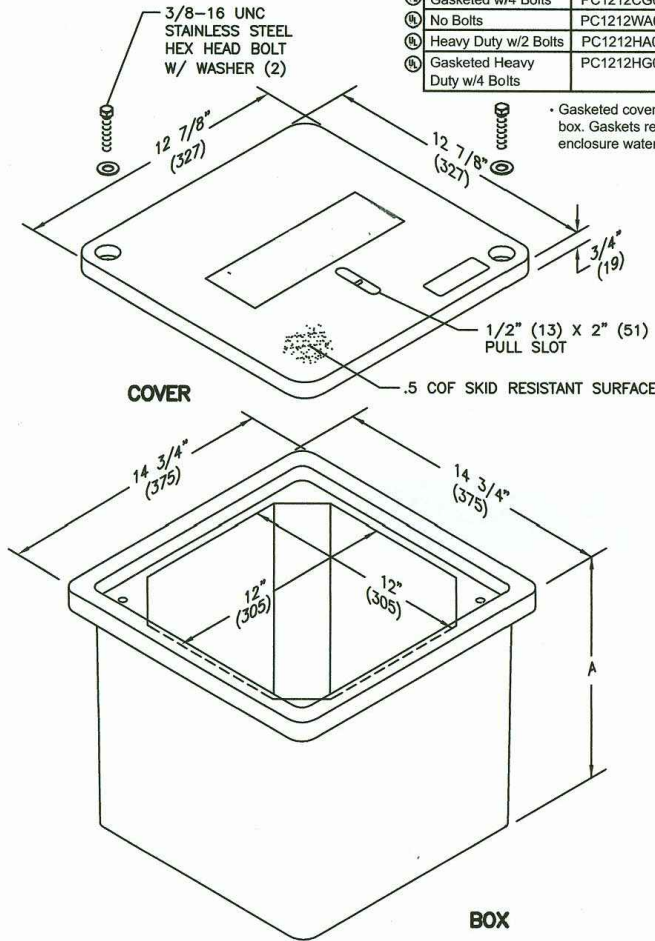
12" x 12" PC Style (Stackable) Assembly

Covers (Blank unless logo is specified)

DESCRIPTION	PART NO.	WEIGHT #	DESIGN/TEST LOAD #	ANSI TIER*
W/2 Bolts	PC1212CA00	12 (5.4 kg)	8,000 / 12,000	8
Gasketed w/4 Bolts	PC1212CG00	12 (5.4 kg)	8,000 / 12,000	8
No Bolts	PC1212WA00	12 (5.4 kg)	8,000 / 12,000	8
Heavy Duty w/2 Bolts	PC1212HA00	12 (5.4 kg)	15,000 / 22,500	15
Gasketed Heavy Duty w/4 Bolts	PC1212HG00	12 (5.4 kg)	15,000 / 22,500	15

* Gasketed covers and bolt grommets must be used with a gasketed box. Gaskets reduce the inflow of fluids but do not make the enclosure water tight.

ENCLOSURE DRAWINGS



Boxes (Stackable with self-aligning, replaceable EZ-Nut)

DESCRIPTION	PART NO.	WEIGHT #	DIMENSION A	DESIGN/TEST LOAD #	ANSI TIER*
Open Bottom	PC1212BA12	36 (16 kg)	12 3/4" (324 mm)	15,000 / 22,500	15
Open Bottom w/Gasket	PC1212BG12	36 (16 kg)	12 3/4" (324 mm)	15,000 / 22,500	15
Solid Bottom	PC1212DA12	41 (19 kg)	13 1/4" (337 mm)	15,000 / 22,500	15
Solid Bottom w/Gasket	PC1212DG12	41 (19 kg)	13 1/4" (337 mm)	15,000 / 22,500	15

Dimensions & weights in parentheses are metric equivalent.
* Loadings comply with ANSI/SCTE 77 (see page 9).



APRIL 2008

REV. DATE

DECEMBER 2015



MERIDIAN METROPOLITAN DISTRICT

STREET LIGHTING

STL-3