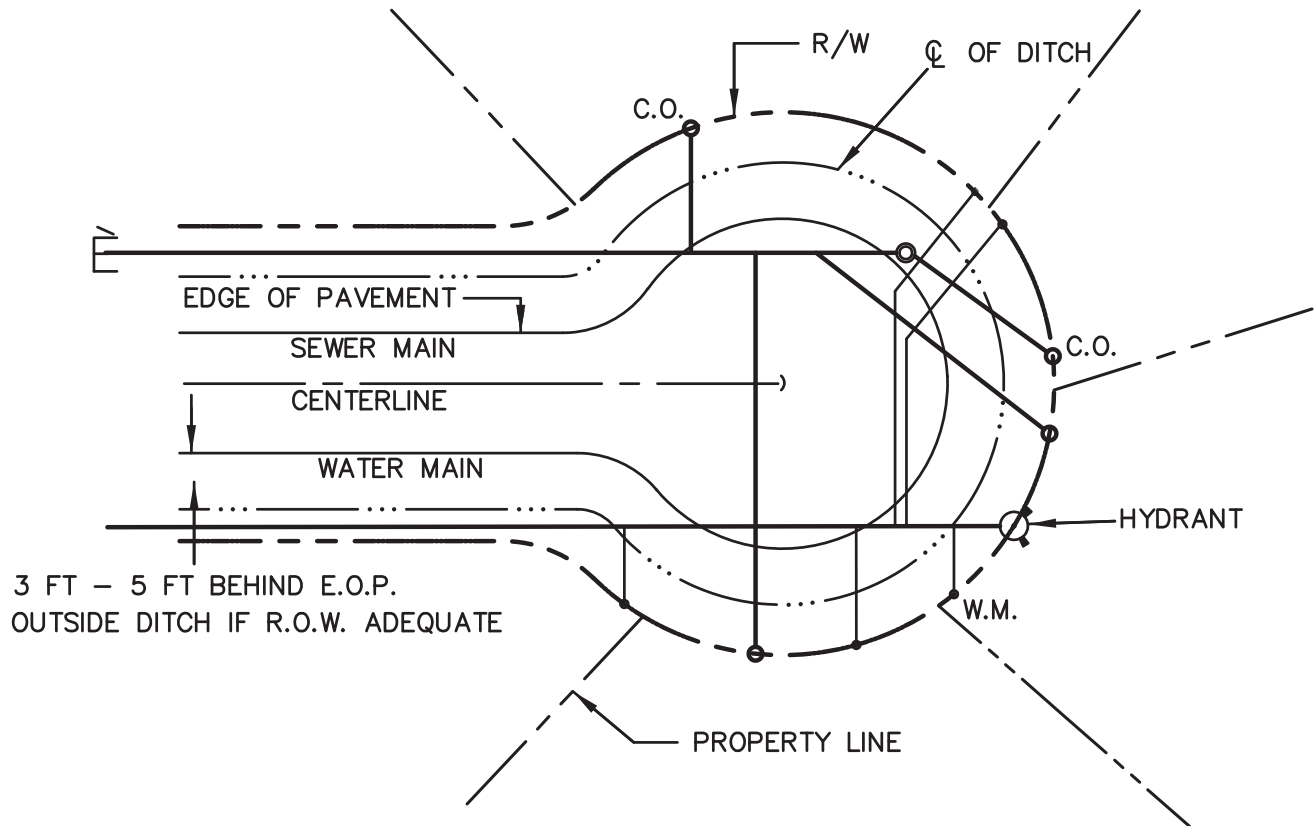


NOTES:

1. INSTALL SEWER LATERALS WITH TYPICAL 10 FOOT CLEARANCE TO WATER SERVICE LINES. SEE DETAIL "LATERAL SEWER CONNECTION"
2. IN THE EVENT THAT THE WATER SERVICES AND BOXES CANNOT BE ARRANGED AS REFLECTED IN THIS DETAIL, AT LEAST 10 FEET HORIZONTAL SEPARATION IS REQUIRED BETWEEN THE WATER METER BOX/SERVICE LINE AND HYDRANT.
3. INSTALL WATER AND SEWER CONNECTIONS AT 10 FEET APART TYPICALLY AT THE CENTER OF THE LOT BEING SERVED.
4. PROVIDE WATER AND SEWER SERVICE TO ALL LOTS IMMEDIATELY ADJACENT TO THE CONSTRUCTION.
5. WITH VDOT APPROVAL OR PRIVATE RIGHT-OF-WAY UTILITIES MAY BE LOCATED UNDER PAVEMENT

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Typical Utility Installation Curb and Gutter	DRWG. NO. G1
REVISIONS August 2018			

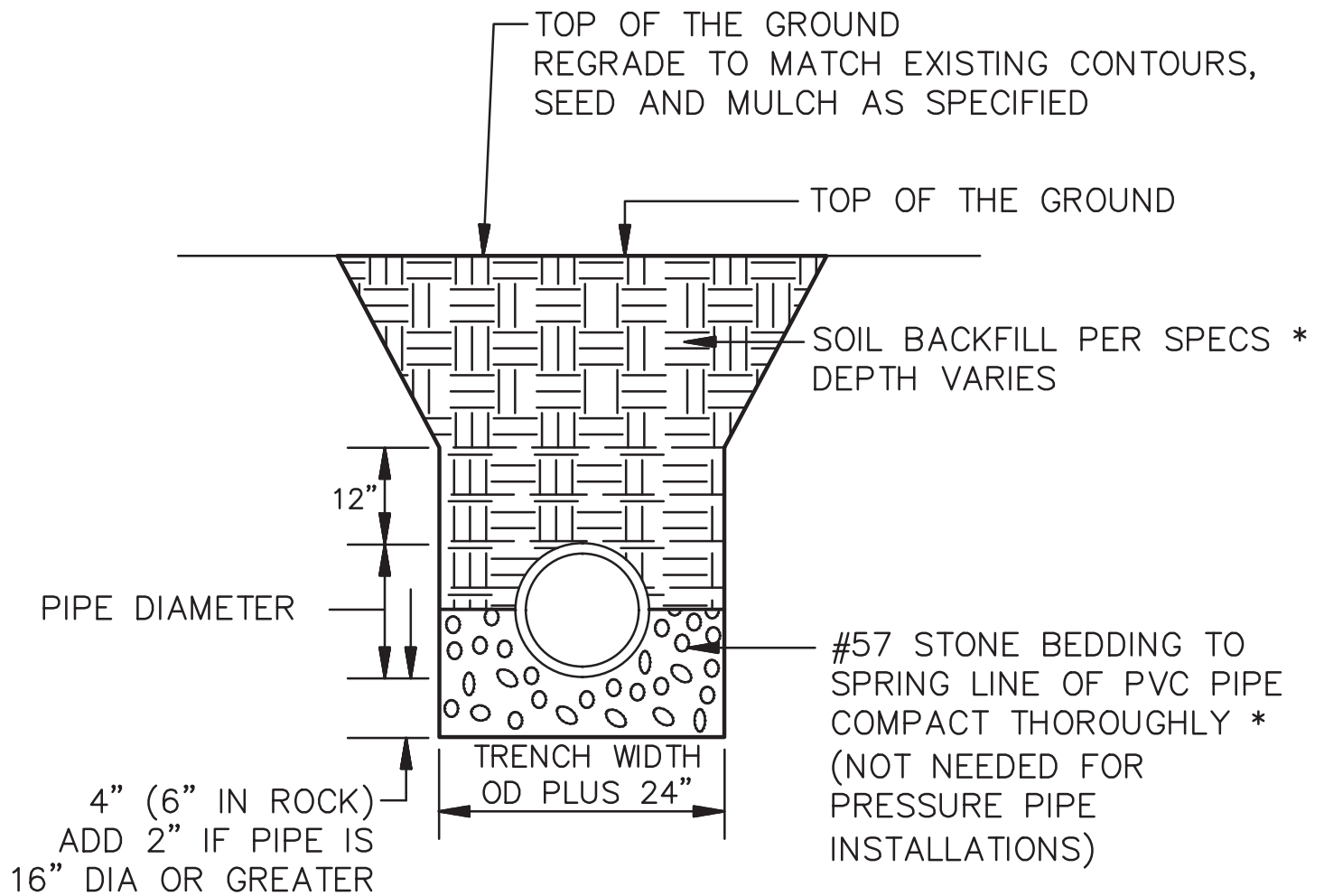


NOTES:

1. HYDRANT IS TO BE PLACED BETWEEN THE DITCH AND EDGE OF PAVEMENT ON LEVEL GROUND. IF THIS IS NOT POSSIBLE, THE UTILITY CONSTRUCTION INSPECTOR MUST BE CONSULTED. HYDRANT SHOULD BE 1' IN FRONT OF PROPERTY PIN OR BEYOND DITCH, MINIMUM 3.5' COVER UNDER DITCH.
2. IN THE EVENT THAT THE WATER SERVICES AND BOXES CANNOT BE ARRANGED AS REFLECTED IN THIS DETAIL, AT LEAST 10 FEET HORIZONTAL SEPARATION IS REQUIRED BETWEEN THE WATER METER BOX/SERVICE LINE AND HYDRANT.
3. INSTALL SEWER LATERALS WITH TYPICAL 10 FOOT CLEARANCE TO WATER SERVICE LINES. SEE DETAIL "LATERAL SEWER CONNECTION".
4. INSTALL WATER AND SEWER CONNECTIONS AT 10 FEET APART TYPICALLY AT THE CENTER OF THE LOT BEING SERVED.
5. PROVIDE WATER AND SEWER SERVICE TO ALL LOTS IMMEDIATELY ADJACENT TO THE CONSTRUCTION.
6. WATER SERVICES TO BE IN A PVC CONDUIT AT ROAD CROSSINGS. CONNECTION POINTS SHALL BE GLUED OR INTERDUCT.

Not to Scale

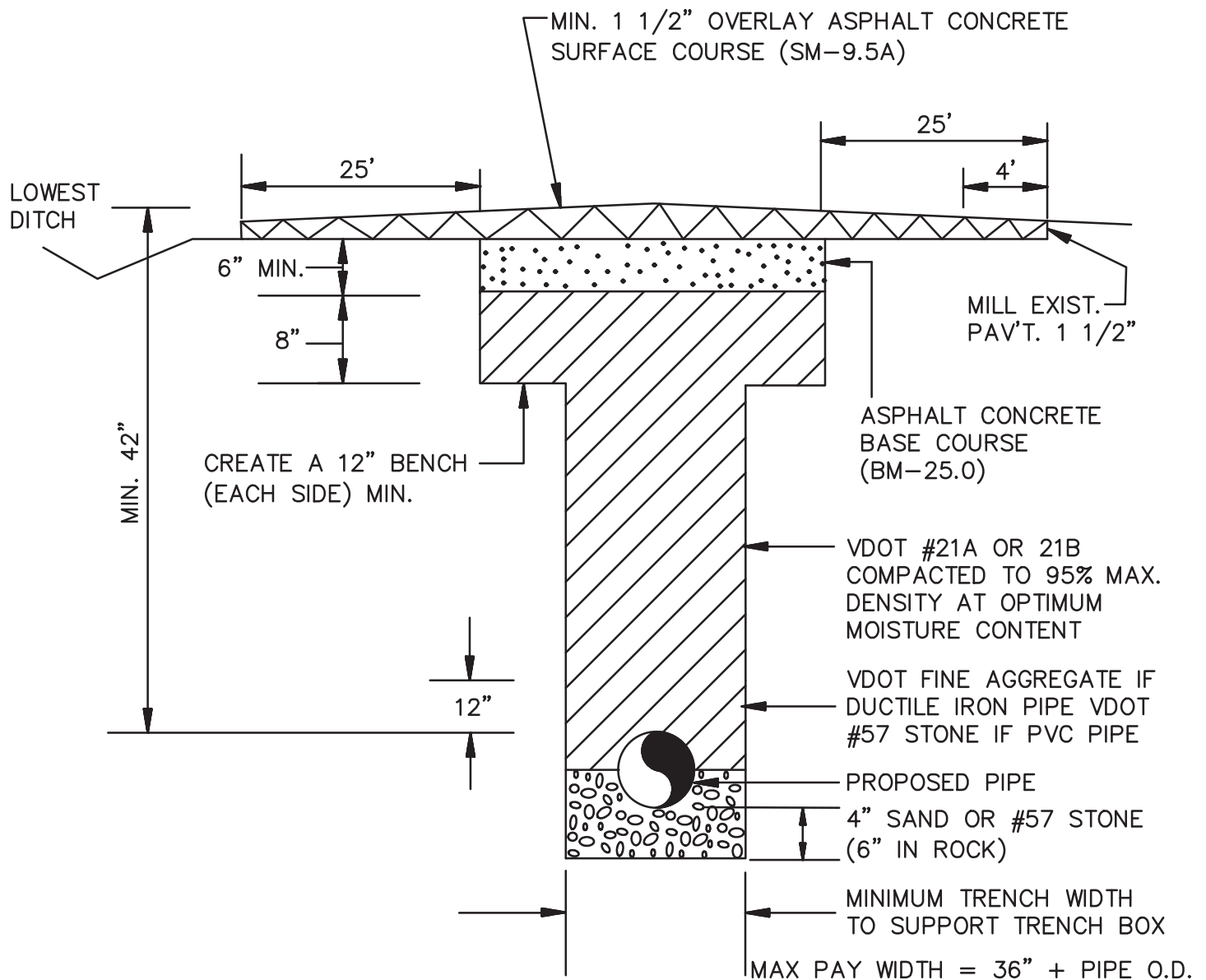
DATE April 2013	Spotsylvania County Department of Utilities	Typical Utility Installation Ditch	DRWG. NO.
REVISIONS August 2018			G2



\* COMPACT TO 95% OF THEORETICAL DENSITY IF WITHIN 10 FT.  
OF ROAD SHOULDER, PAVEMENT OR STRUCTURES, AND 85%  
ELSEWHERE.

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	PVC or DI Pipe Trench Unpaved Areas	DRWG. NO. G3
REVISIONS March 2017			

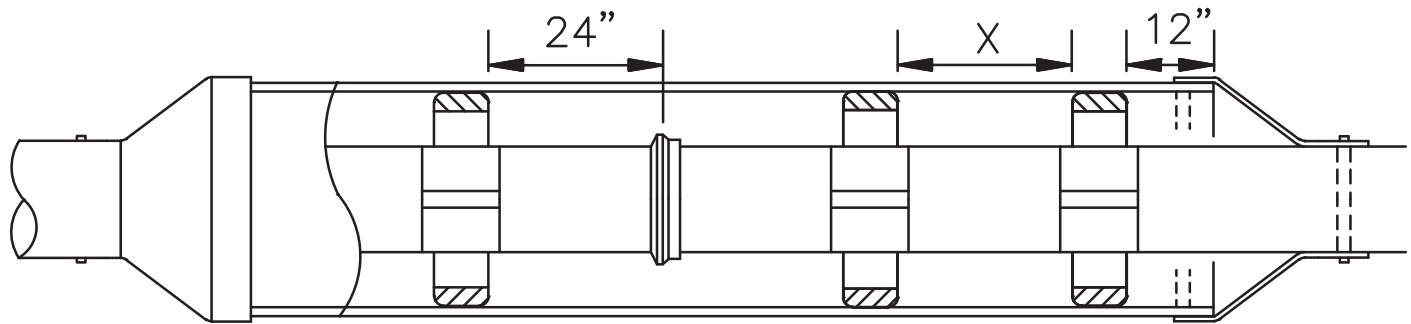


NOTES:

- A. RESTORATION SHOWN. FOR NEW PAVEMENT, INSTALL PIPE AS ABOVE, AND CONSTRUCT PAVEMENT SEPARATELY AS A SINGLE UNIT.
- B. FOR PARALLEL WORK, A COPY OF A DENSITY TEST RESULTS TAKEN EVERY 6 INCHES OF FILL MUST BE FURNISHED BY THE CONTRACTOR TO VDOT. THE TEST RESULTS MUST VERIFY THAT TESTS WERE TAKEN AT A MINIMUM SPACING OF EVERY 100 FEET ALONG THE TRENCH.
- C. COMPACT BEDDING AND BACKFILL TO 95% OF THEORETICAL DENSITY.
- D. RE-STRIPE PAVEMENT TO MATCH PRE-CONSTRUCTION CONDITIONS

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Pipe Trench Existing Asphalt Surfaces and Roadways	DRWG. NO.  G4
REVISIONS			

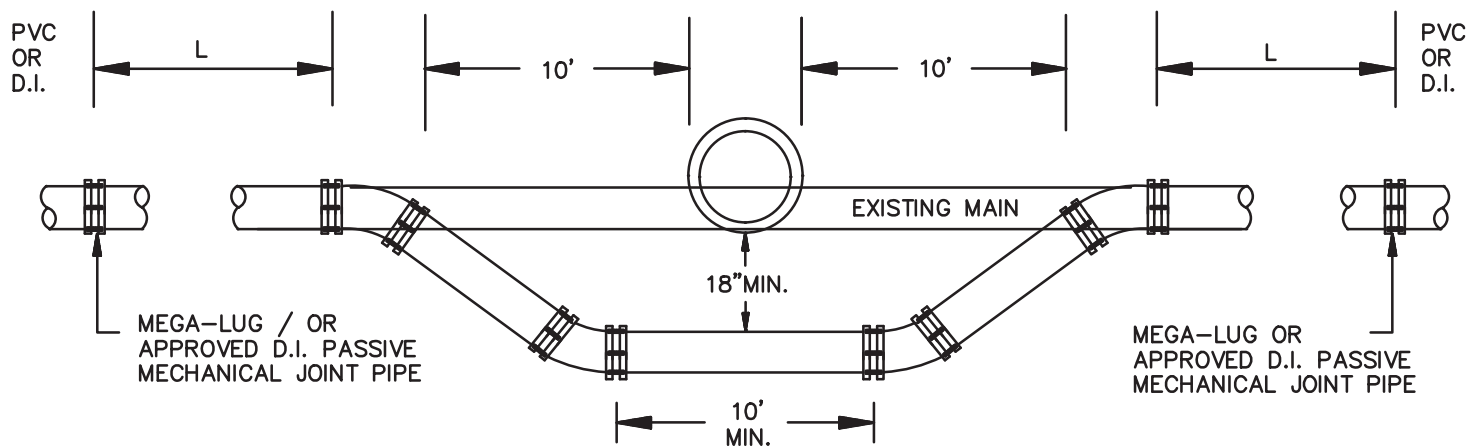


NOTES:

1. STEEL CASING PIPE SHALL BE ASTM 1-139 GRADE B, MINIMUM THICKNESS 0.375" FOR UP TO 24" CASING AND 0.625" FOR 24" THRU 42" CASING. GREATER THICKNESS MAY BE REQUIRED FOR LONG CASINGS, OR BY VDOT OR A.R.E.A. (RR). DESIGN MUST INCLUDE APPROPRIATE CORROSION CONTROL MEASURES.
2. CARRIER PIPE SHALL BE MECHANICAL JOINT DUCTILE IRON (MIN PRESSURE CLASS 350), RESTRAINED AT EACH JOINT FOR SEWER MAINS, DUCTILE IRON PIPE MUST EXTEND FROM MANHOLE TO MANHOLE. EXTEND RESTRAINED JOINT DUCTILE IRON PIPE MINIMUM FOUR PIPE LENGTHS BEYOND CASING.
3. FOR SEWER MAINS, INCREASE MIN. SLOPE THRU CASING BY 50% FROM MANHOLE TO MANHOLE.
4. DRAWINGS MUST SHOW SIZE AND LOCATION OF BORING PITS AND DIRECTION OF BORE.
5. CARRIER PIPE SHALL BE CENTERED WITHIN CASING BY AN APPROVED CASING SPACER MANUFACTURED FOR THE APPLICATION.
6. CASING PIPE SHALL BE SEALED BY USE OF WRAPAROUND END SEALS.
7. THREE CASING SPACERS SHALL BE ATTACHED TO EACH JOINT OF CARRIER PIPE WITH ONE AT THE CENTER AND ONE NOT MORE THAN 24" FROM EACH END.
8. ONE CASING SPACER SHALL BE LOCATED NOT MORE THAN 12" FROM EACH END OF CASING PIPE.
9. WHEN INSTALLING CARRIER PIPE, CONTRACTOR SHALL PUSH SO THAT PIPE JOINTS ARE ALWAYS BEING COMPRESSED.

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Pipe Encased in Steel Casing Pipe	DRWG. NO. G5
REVISIONS March 2017			

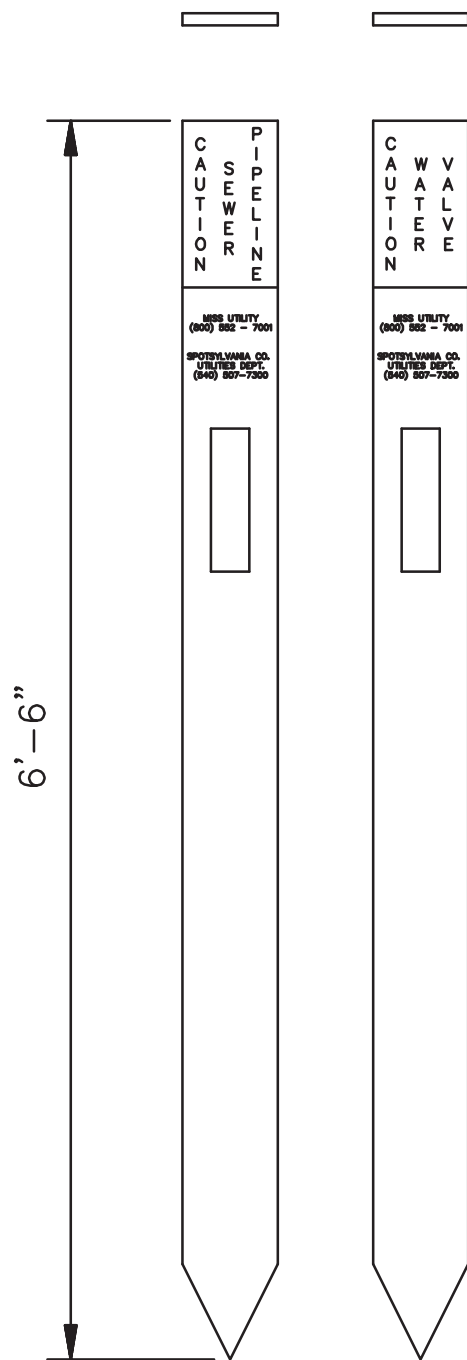


LOWERED SECTION TO BE OF DUCTILE IRON MECHANICAL RESTRAINED JOINT PIPE WITH RESTRAINED JOINTS AT ANY INCLUDED JOINTS. THE ENGINEER SHALL CALCULATE LENGTH OF RESTRAINED SECTION AND DETAIL ON PROFILE SECTION.

MIN. 4" OF # 57 STONE BELOW & ABOVE PVC PIPE  
 MIN. 4" OF FINE AGGREGATE BELOW & ABOVE D.I. PIPE

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Pipe Offsets	DRWG. NO. G6
REVISIONS			



CAUTION WITH TYPE OF  
UTILITY GREEN FOR SEWER  
AND BLUE FOR WATER

BOTH PHONE NUMBERS FOR  
MISS UTILITY (800) 552-7001  
SPOTSYLVANIA UTILITIES  
(540) 507-7300

REFLECTIVE TAPE

NOTE:  
MARKERS ARE REQUIRED  
ON ALL 12" OR LARGER  
WATER LINE VALVES, ALL  
OFFSITE SEWER MANHOLES  
AND ALL OFFSITE WATER  
LINE VALVES.

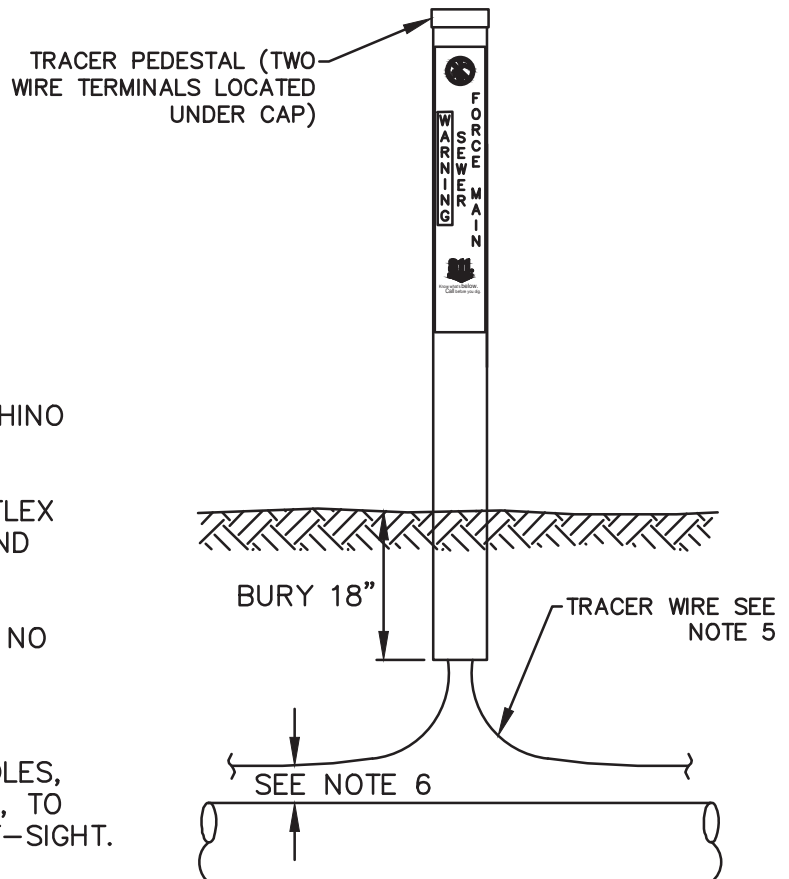
Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Utilities Markers	DRWG. NO.  G7
REVISIONS March 2017			

UTILITY	TYPE OF PIPE	POST	DECALS (3 PER POST)
WATER	IRON	78" BLUE MARKER	SD-7443K
	NON-METALLIC	54" BLUE TRACER PEDESTAL AND 78" BLUE MARKER	SD-7443K
GRAVITY SEWER	ALL TYPES	78" GREEN MARKER	SD-7442K
PRESSURIZED SEWER	IRON	78" GREEN MARKER	SD-7441K
	NON-METALLIC	54" BLUE TRACER PEDESTAL AND 78" GREEN MARKER	SD-7441K

NOTES:

1. MARKER POSTS TO BE TRIVIEW BY RHINO MARKING AND PROTECTION SYSTEMS.
2. TRACER PEDESTALS TO BE TRIVIEW FLEX TEST STATION BY RHINO MARKING AND PROTECTION SYSTEMS.
3. TRACER PEDESTALS TO BE LOCATED NO MORE THAN 1000' APART.
4. MARKER POSTS TO BE SPACED AT INTERVALS OF 300'-500', AT MANHOLES, VALVES, AND CHANGES IN DIRECTION, TO ACCOMPLISH A CONTINUOUS LINE-OF-SIGHT.
5. TRACER WIRE TO BE #12 SOLID COPPER WITH 45 MIL POLYETHYLENE INSULATION. NO SPLICES.
6. TYPICALLY 4"-12". FOR PIPES 12" DIA. AND LARGER, AFFIX WIRE TO PIPE ON CENTER LINE.

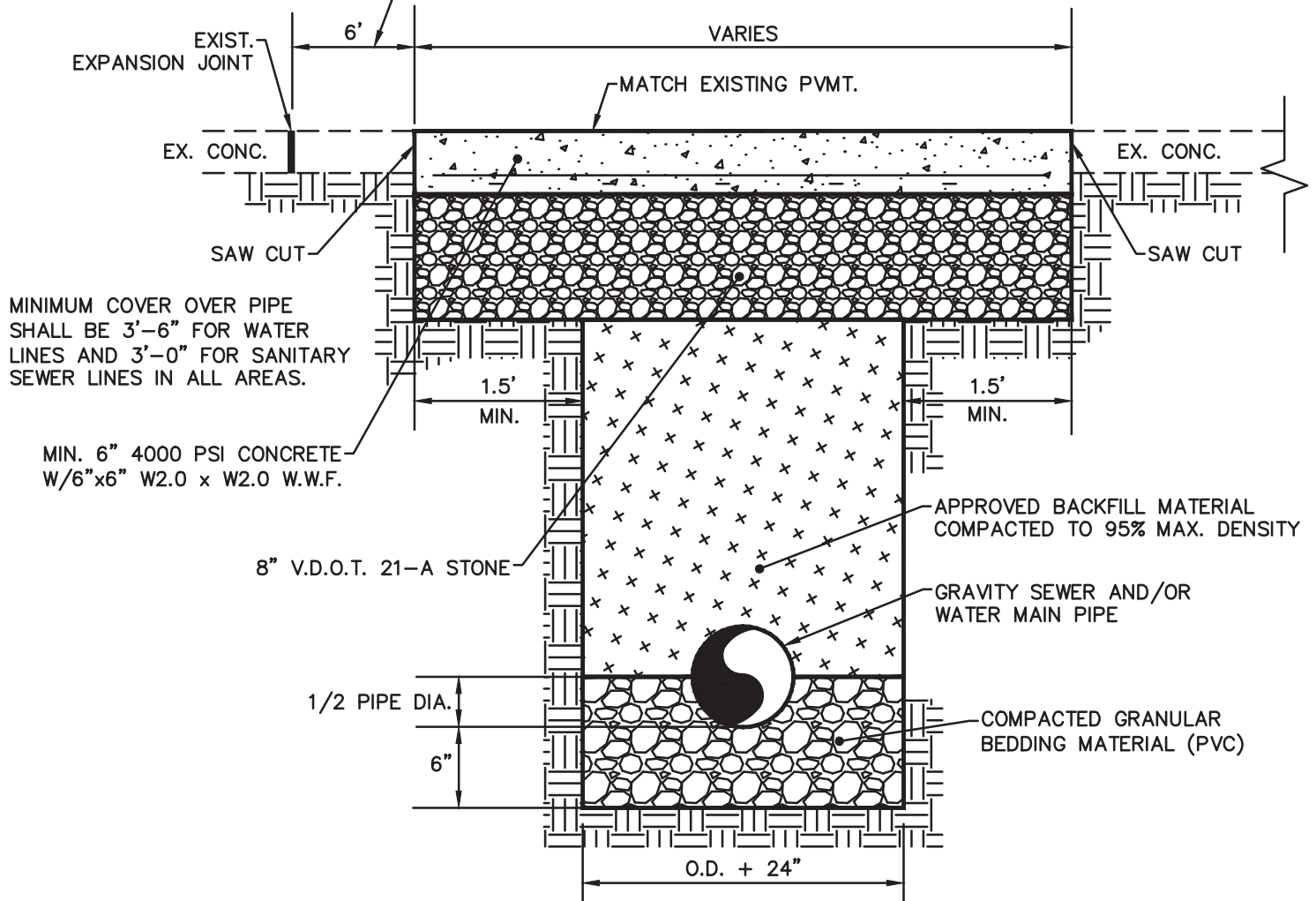


Not to Scale

DATE March 2017	Spotsylvania County Department of Utilities	Marker Posts and Tracer Pedestals	DRWG. NO.  G8
REVISIONS			

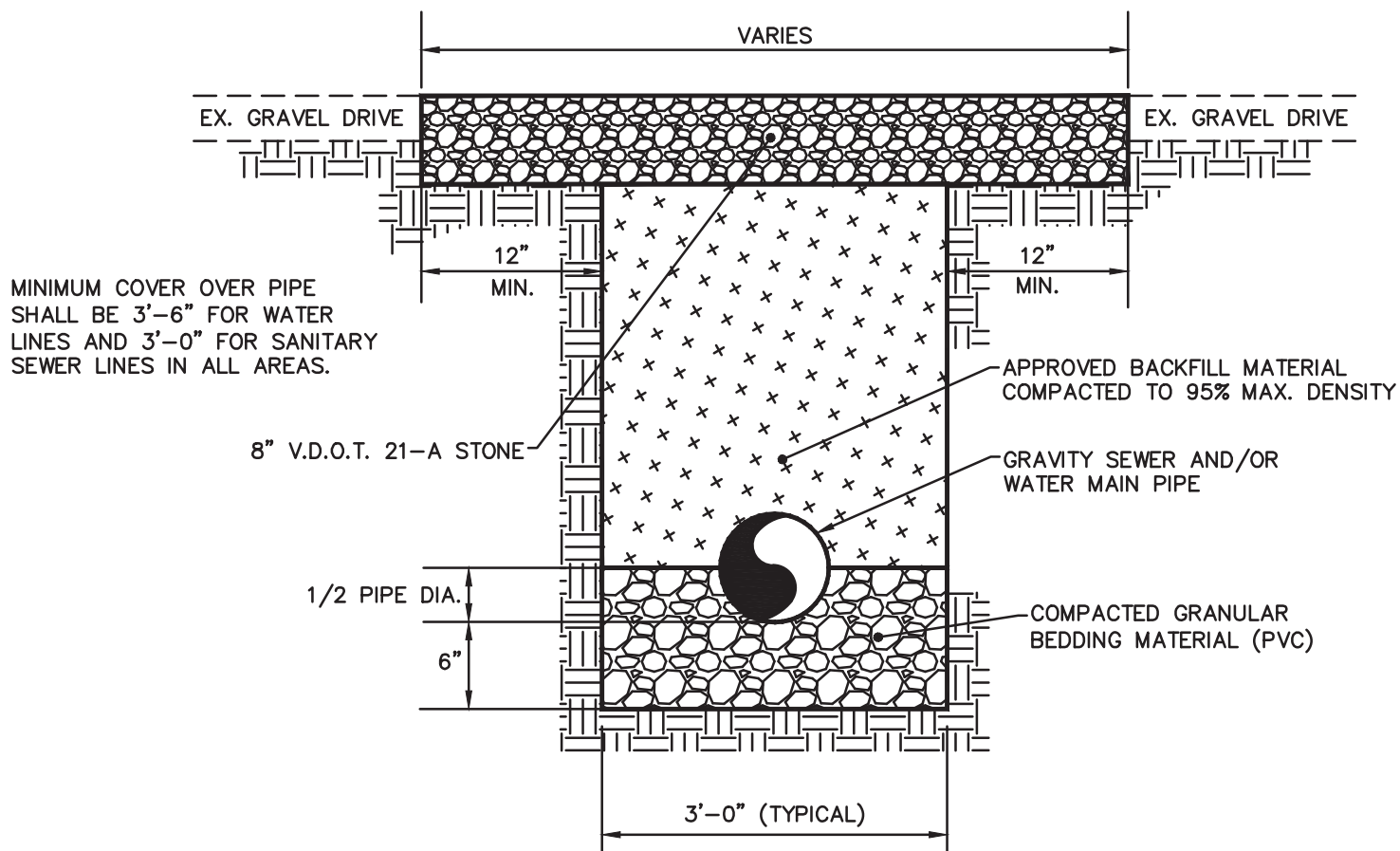


NOTE: REMOVE EXISTING CONCRETE TO EXPANSION JOINT WHEN LESS THAN 6 FEET. EXTEND CONCRETE, BASE AND WWF TO EXPANSION JOINT (REPLACE EXPANSION JOINT AS REQUIRED) TYPICAL BOTH SIDES.



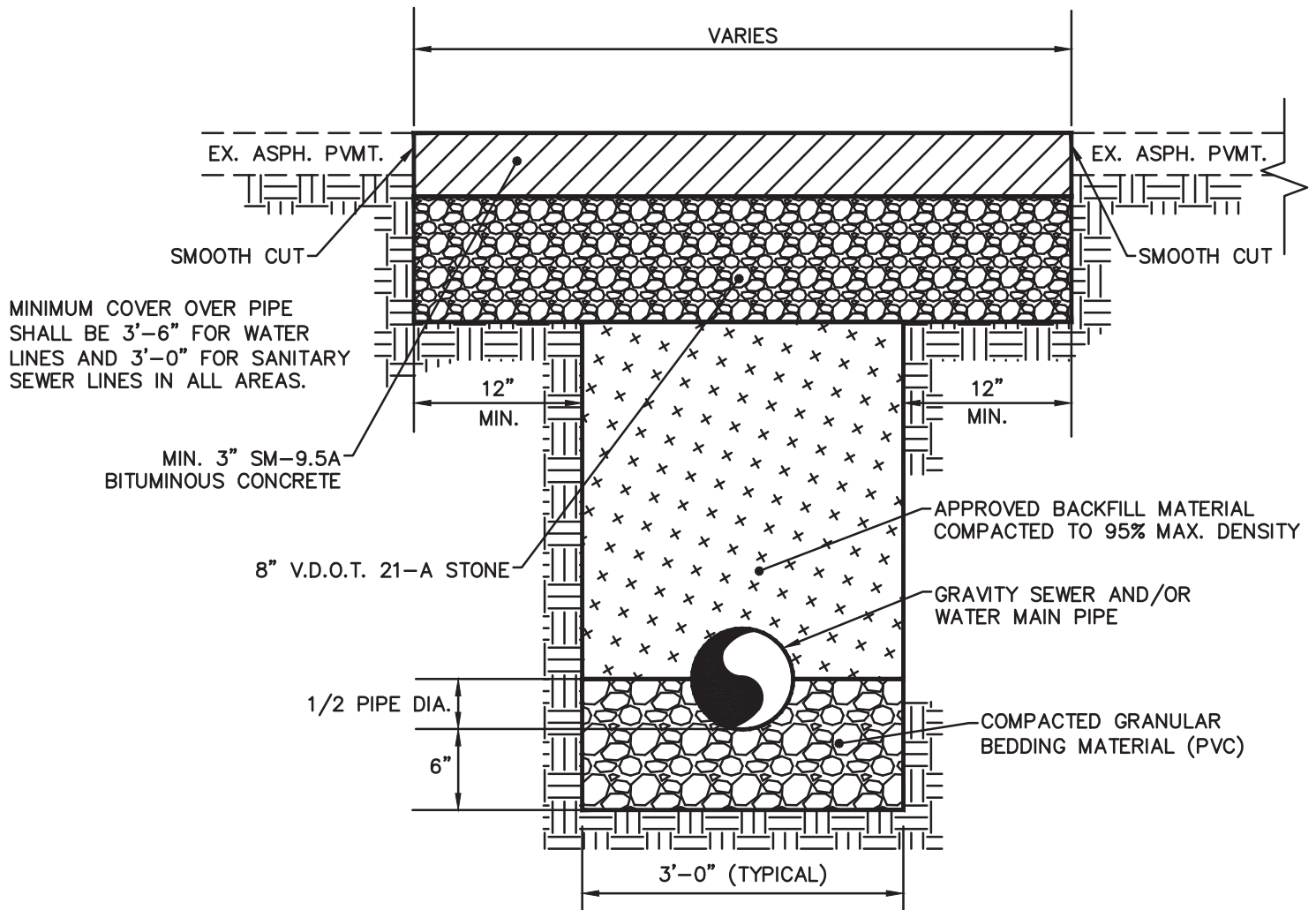
Not to Scale

DATE March 2017	Spotsylvania County Department of Utilities	Concrete Pavement Replacement (Driveways, Parking Areas, etc.)	DRWG. NO.  G9
REVISIONS			



Not to Scale

DATE March 2017	Spotsylvania County Department of Utilities	Gravel Driveway Replacement (Driveways, Parking Areas, etc.)	DRWG. NO.  G10
REVISIONS			



Not to Scale

# Asphalt Pavement Replacement (Driveways, Parking Areas, etc.)

DATE  
March 2017

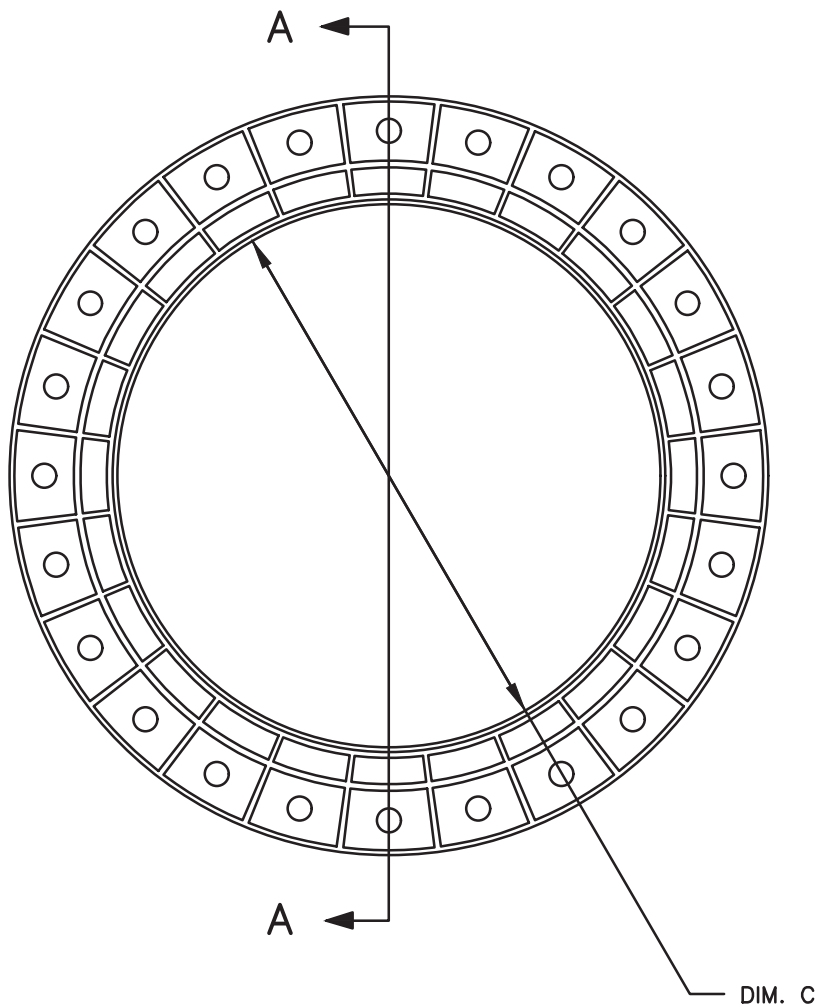
REVISIONS

Spotsylvania County  
Department of Utilities

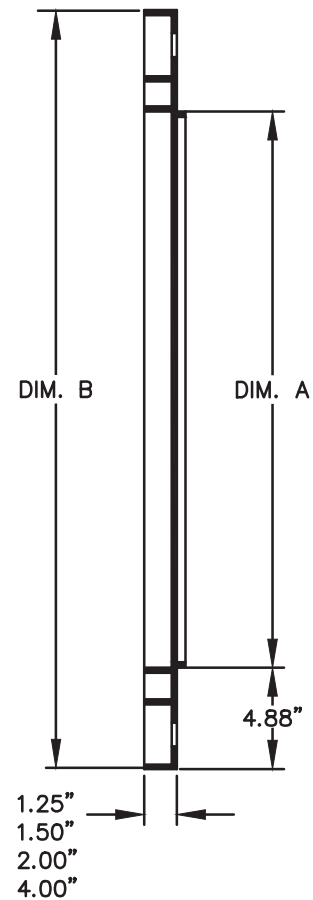
DRWG. NO.

G11

DATE April 2013	Spotsylvania County Department of Utilities	Standard Manhole	DRWG. NO.  S1
REVISIONS March 2017			



PLAN VIEW



SECTION "A-A"

DIMENSION SCHEDULE

<u>CONE SIZE</u>	<u>DIM. A</u>	<u>DIM. B</u>	<u>DIM. C</u>
24"	23.75"	33.50"	23.25"
27"	26.75"	36.50"	26.25"
30"	29.75"	39.50"	29.25"
36"	35.75"	45.50"	35.25"

DESCRIPTION:

PLASTIC INJECTION MOLDED ADJUSTING RING

MOLDED FROM HIGH DENSITY POLYETHYLENE AS DEFINED IN ASTM SPECIFICATION #D1248-84

ACTUAL RESIN PROPERTIES WILL VARY ALLOWING FOR THE UTILIZATION OF 100% REGRIND MATERIAL

THE PERCENT OF POST CONSUMER WASTE TO INDUSTRIAL WASTE WILL VARY WITH AVAILABILITY AND PROPERTY RETENTION NEEDS

COLOR, SHADE AND UNIFORMITY WILL VARY WITH THE MIX OF THE POST CONSUMER AND INDUSTRIAL WASTE MATERIALS

DIMENSIONS SHOWN ARE NOMINAL – ACTUAL SIZE WILL VARY WITHIN ALLOWABLE TOLERANCE AND REQUIRED FIT

Not to Scale

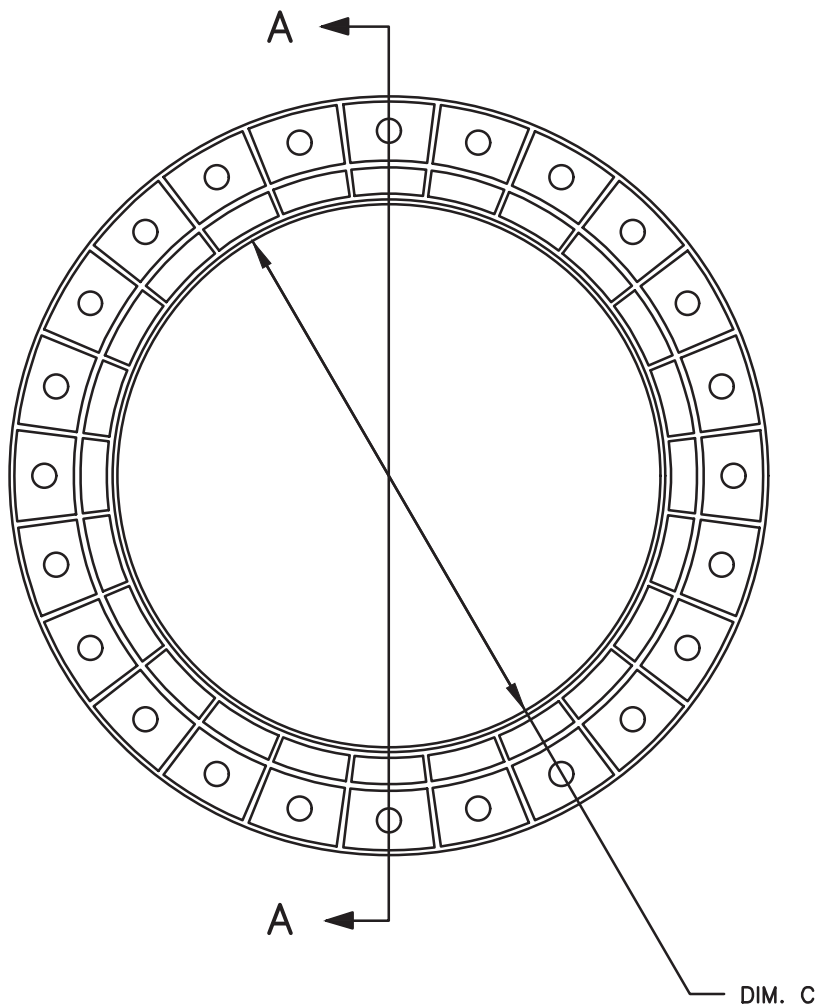
DATE  
Oct. 2005

REVISIONS  
March 2017

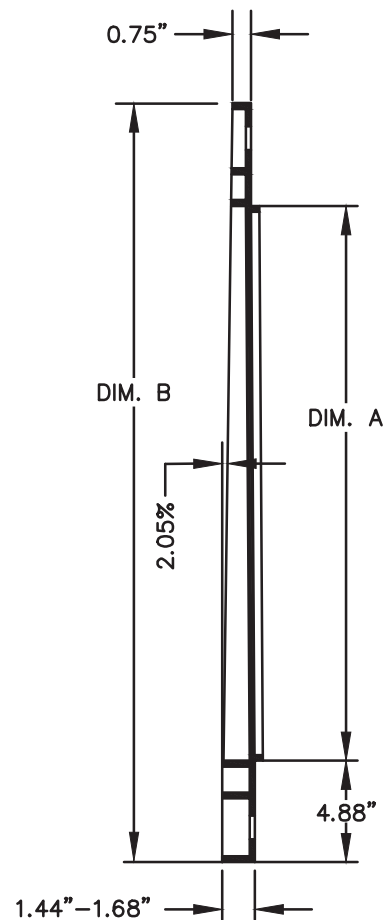
Spotsylvania County  
Department of Utilities

Polyethylene Manhole  
Adjustment Ring – Flat

DRWG. NO.  
S1-A



PLAN VIEW



SECTION "A-A"

DIMENSION SCHEDULE

<u>CONE SIZE</u>	<u>DIM. A</u>	<u>DIM. B</u>	<u>DIM. C</u>
24"	23.75"	33.50"	23.25"
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DESCRIPTION:

PLASTIC INJECTION MOLDED ADJUSTING RING

MOLDED FROM HIGH DENSITY POLYETHYLENE AS DEFINED IN ASTM SPECIFICATION #D1248-84

ACTUAL RESIN PROPERTIES WILL VARY ALLOWING FOR THE UTILIZATION OF 100% REGRIND MATERIAL

THE PERCENT OF POST CONSUMER WASTE TO INDUSTRIAL WASTE WILL VARY WITH AVAILABILITY AND PROPERTY RETENTION NEEDS

COLOR, SHADE AND UNIFORMITY WILL VARY WITH THE MIX OF THE POST CONSUMER AND INDUSTRIAL WASTE MATERIALS

DIMENSIONS SHOWN ARE NOMINAL – ACTUAL SIZE WILL VARY WITHIN ALLOWABLE TOLERANCE AND REQUIRED FIT

Not to Scale

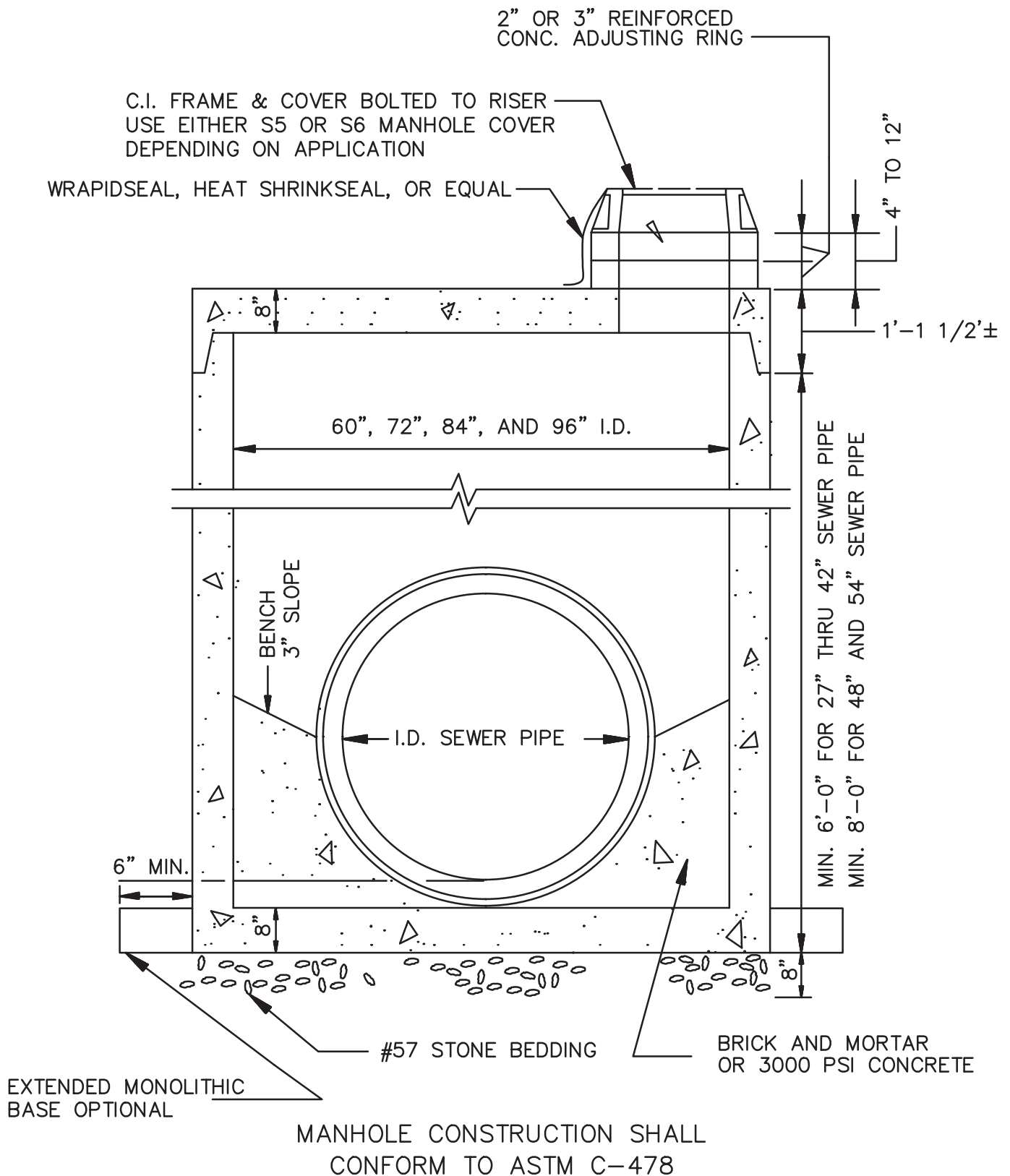
DATE  
Oct. 2005

Spotsylvania County  
Department of Utilities

Polyethylene Manhole  
Adjustment Ring – Wedge

DRWG. NO.  
S1-B

REVISIONS  
March 2017



Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Deep Manhole 18' or Deeper	DRWG. NO. S2
REVISIONS March 2017			



C.I. FRAME & COVER  
BOLTED TO RISER

4" MIN. \_\_\_\_\_  
12" MAX. \_\_\_\_\_

- 2" OR 3" REINFORCED CONC.  
ADJUSTING RINGS

- SEE DETAIL "A"

### STANDARD PRECAST MANHOLE WITH P.V.C. LINING

### P.V.C. LINING IN "FLATTOP" TYPE MANHOLE TOP

DETAIL "A"

INVERT AND GROUT  
SHALL BE DONE  
WITH SULFATE RE-  
SISTING CEMENT

## BENCH

EXTENDED  
MONOLITHIC BASE  
OPTIONAL \_\_\_\_\_

8" OF STONE BEDDING

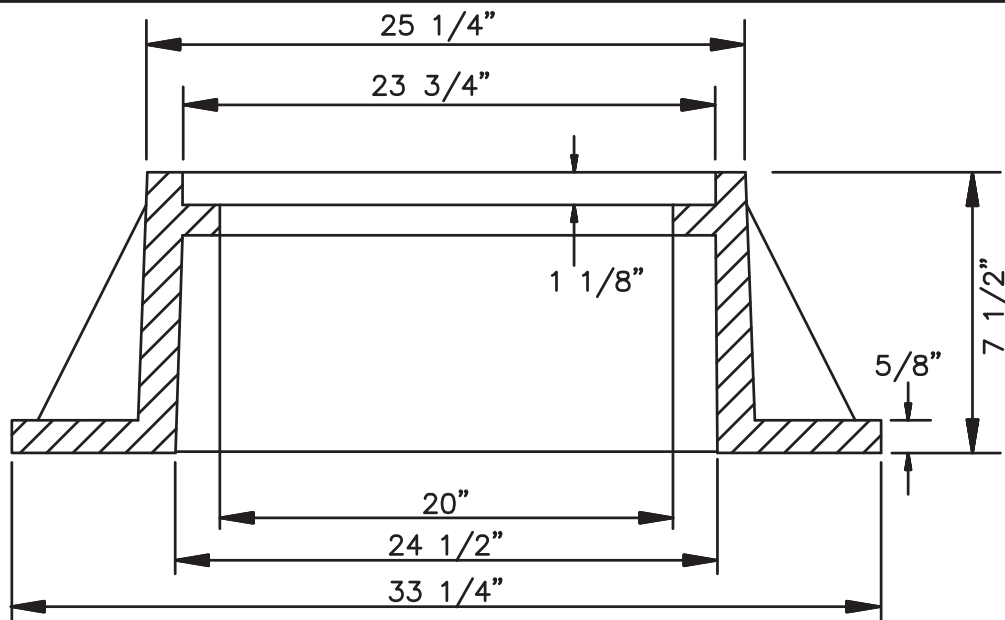
- SUPPORT PIPE ON  
#57 STONE  
BEDDING

Not to Scale

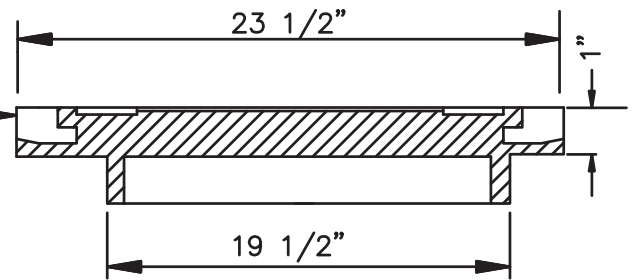
DATE April 2013	Spotsylvania County Department of Utilities	Acid Resistant Manhole	DRWG. NO.  S3
REVISIONS			



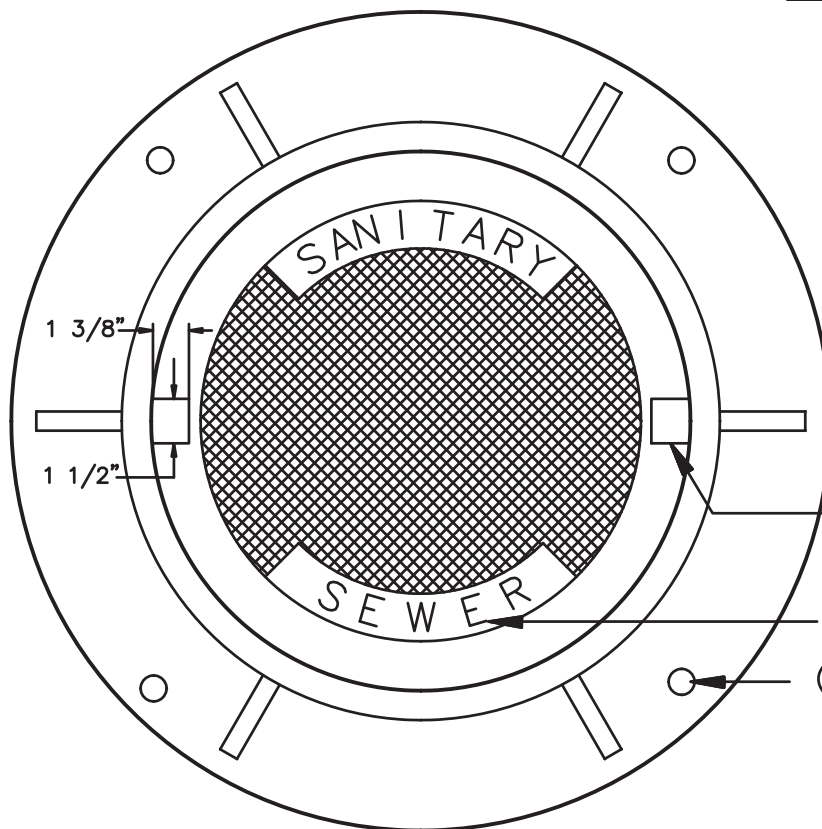




FRAME SECTION



COVER SECTION



PLAN VIEW

Not to Scale

(2) CLOSED PICKHOLES

(2) CLOSED PICKHOLES

2" LETTERS (RECESSED FLUSH)

(4) 1" DIA. HOLES @ 32 3/4" DIA. BOLT CIRCLE

NOTE: FRAME AND COVER SHALL  
BE CAST IRON ASTM A-48  
CLASS 35  
SEATING SURFACE BETWEEN FRAME  
AND COVER SHALL BE MACHINED.

DATE  
April 2013

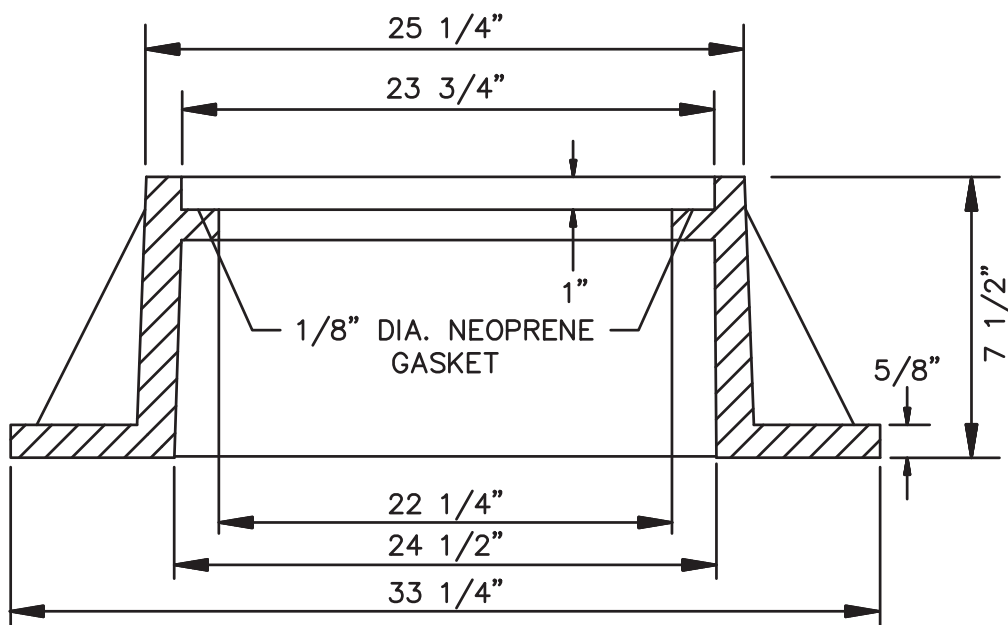
REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

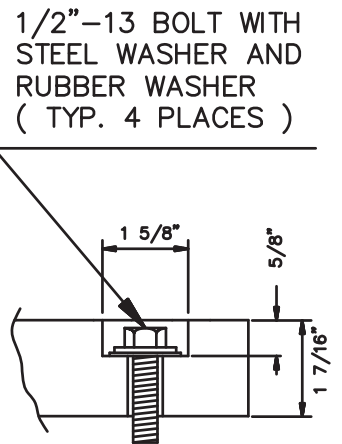
Manhole Frame and Cover

DRWG. NO.

S5

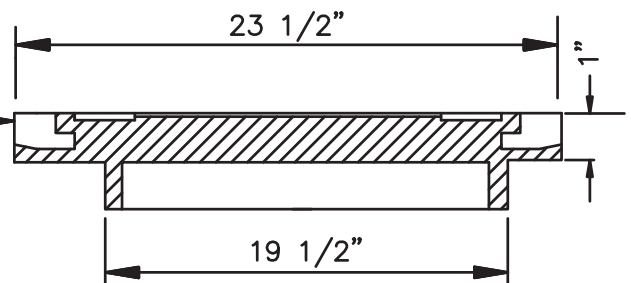


FRAME SECTION

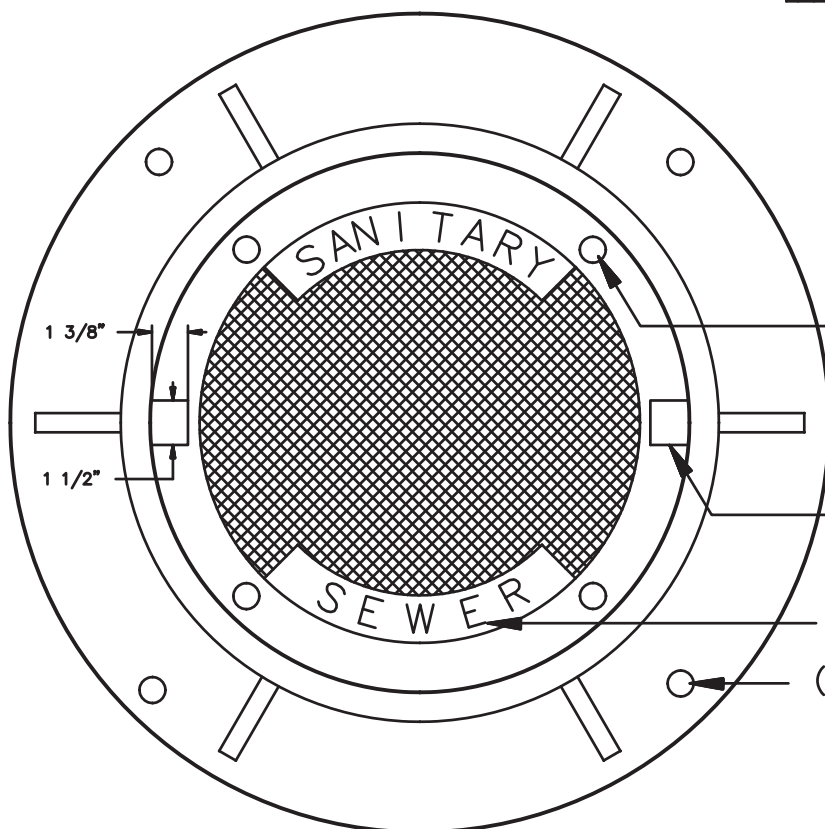


BOLT DETAIL

(2) CLOSED PICKHOLES



COVER SECTION



PLAN VIEW

Not to Scale

(4) 1/2" x 1 1/2" HEX SS  
CAP SCREW W/ 1/2" ZINC  
PLATED WASHERS

(2) CLOSED PICKHOLES

2" LETTERS (RECESSED FLUSH)

(4) 1" DIA. HOLES @ 32 3/4" DIA.  
BOLT CIRCLE

NOTE: FRAME AND COVER SHALL  
BE CAST IRON ASTM A-48  
CLASS 35  
SEATING SURFACE BETWEEN FRAME  
AND COVER SHALL BE MACHINED.

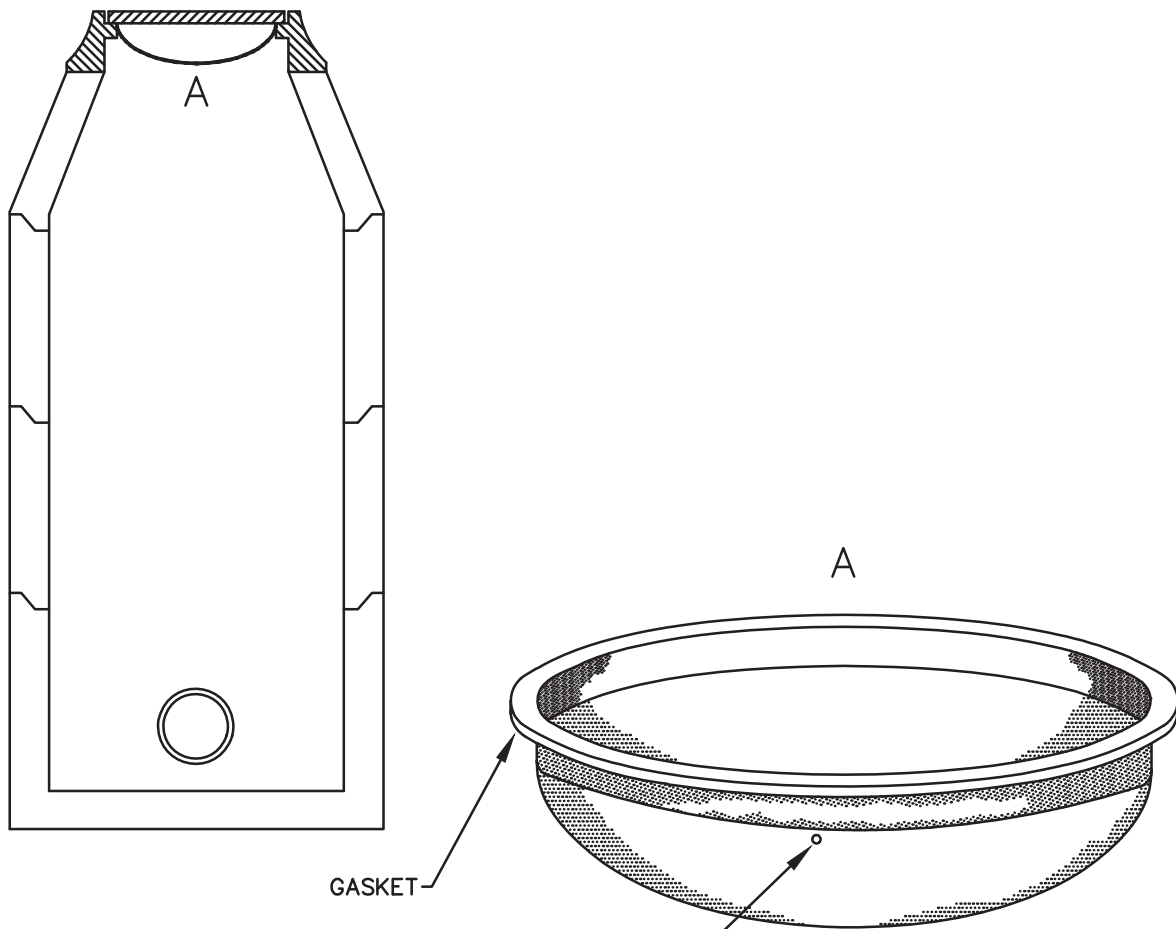
DATE  
April 2013

REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

Bolt Down (Vandal Proof)  
Manhole Frame and Cover

DRWG. NO.  
S6



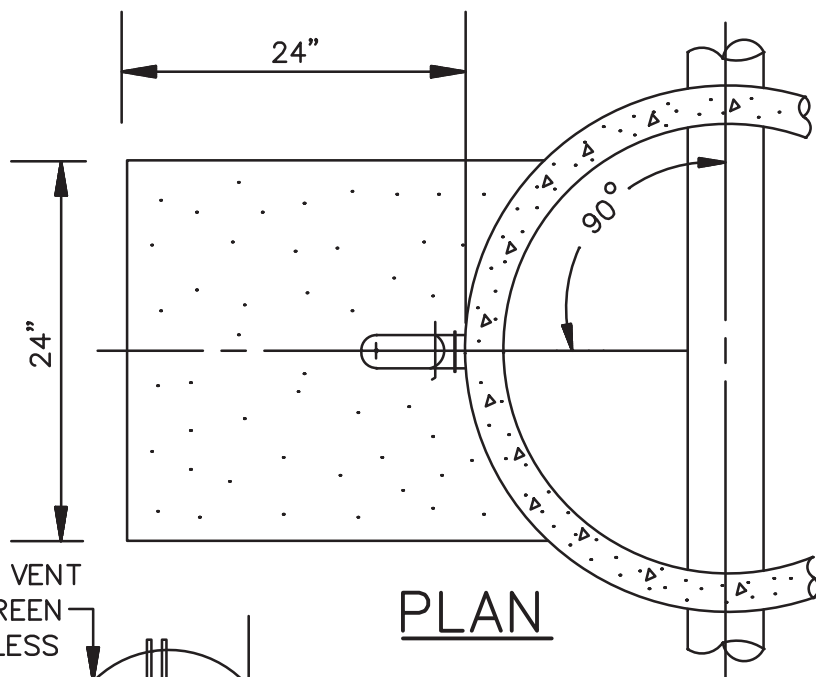
1/8" DIAMETER HOLE (FOR PRESSURE RELIEF) LOCATE HOLE  
NEAR TOP OF INSERT

#### NOTES:

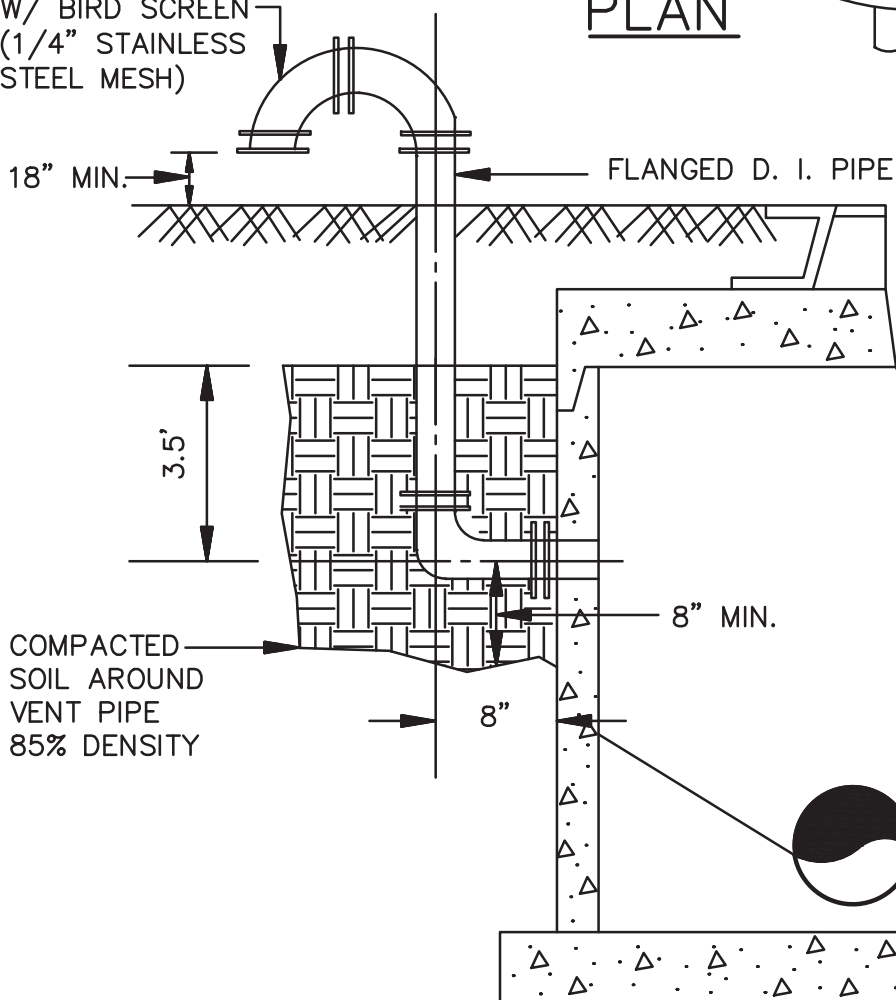
1. THE MANHOLE INSERT WILL BE MADE OF NON-CORRODIBLE MATERIALS AND WILL NOT BE DAMAGED BY SEWER GASES OR ROAD OIL.
2. THE INSERT SHALL HAVE TWO NYLON STRAPS FOR LIFTING THE INSERT. THE STRAPS SHALL BE ATTACHED TO THE INSERT WITH STAINLESS STEEL RIVETS.
3. THE BOWL SHALL BE  $\pm 1/8"$  THICK AND SHALL BE BETWEEN 6" AND 8" DEEP.
4. THE INSERT SHALL HAVE A GASKET TO SEAL BETWEEN THE INSERT AND THE LOOP OF THE MANHOLE FRAME.

Not to Scale

DATE April 2005	Spotsylvania County	Waterproof Manhole Insert	DRWG. NO.  S6-A
REVISIONS March 2017	Department of Utilities		



2", 4" & 6" VENT  
W/ BIRD SCREEN  
(1/4" STAINLESS  
STEEL MESH)



NOTE: ALL VENT PIPE AND  
FITTINGS SHALL BE  
ASPHALT COATED 1 MIL  
THICK PER AWWA C151.

NOTE: WHERE MANHOLE IS  
LOCATED IN FLOOD PLAIN,  
AIR VENT SHALL BE SET AT  
LEAST 12" ABOVE 100 YEAR  
FLOOD ELEVATION.

SECTION

Not to Scale

DATE  
April 2013

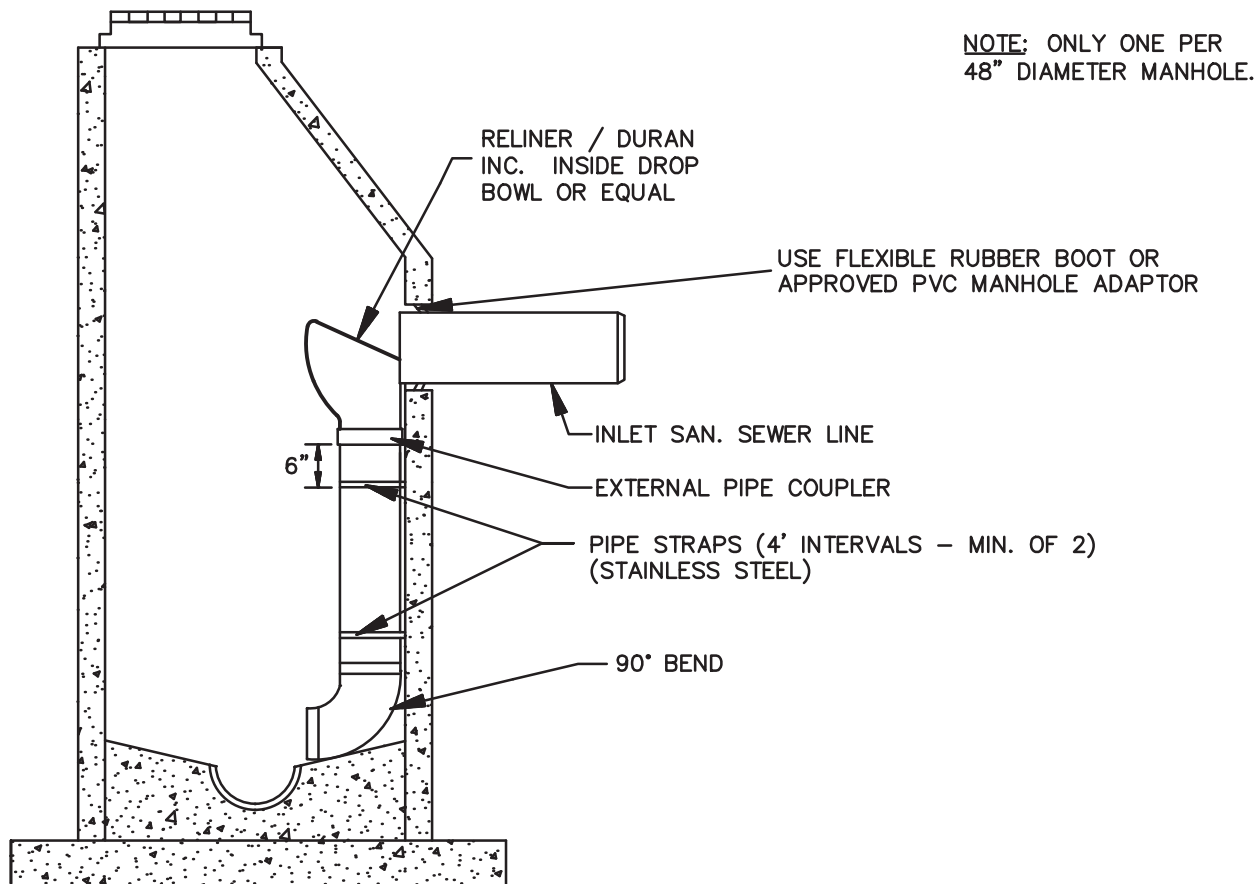
REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

Manhole Air Vent

DRWG. NO.

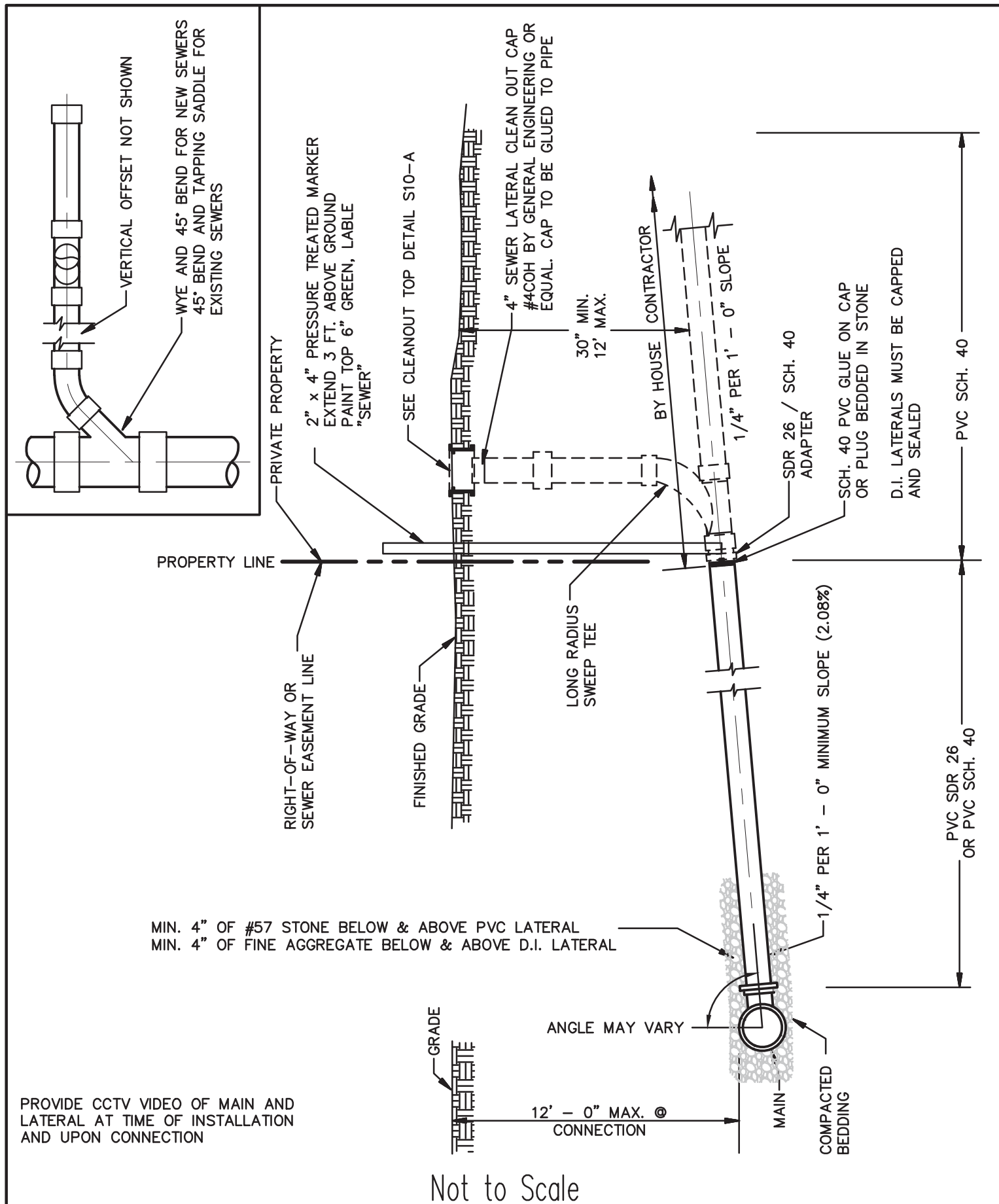
S7



- (A) CHAMFER ON ALL PIPE SIZES TO BE AT A 15 DEGREE ANGLE.
- (B) HEIGHT OF VERTICAL STACK WILL BE DETERMINED BY ENGINEER, BUT WILL NOT BE LESS THAN TWO FEET.
- (C) DROP STACK TO BE 8" OR THE SAME AS THE MAIN LINE SDR 26/35 P.V.C. PIPE CONNECTED TO DROP FITTING WITH STANDARD GASKETED JOINT.
- (D) VERTICAL STACK WILL BE STRAPPED TO MANHOLE AT PIPE JOINTS. STRAPS, BOLTS AND ANCHORS SHALL BE STAINLESS STEEL OR APPROVED MATERIAL NONCORROSIVE TO SEWER GASES.
- (E) SHAPE INVERT AS NEEDED TO PROVIDE SMOOTH TRANSITION FROM DROP CONNECTION DISCHARGE POINT TO SPRING LINE OF MANHOLE INVERT.
- (F) ELBOW AT BOTTOM OF THE STACK WILL BE A 90 DEGREE BEND POSITIONED IN THE DIRECTION OF THE FLOW IN MANHOLE WITH BENCH CONSTRUCTED TO CONFORM TO MANHOLE BENCH.

Not to Scale

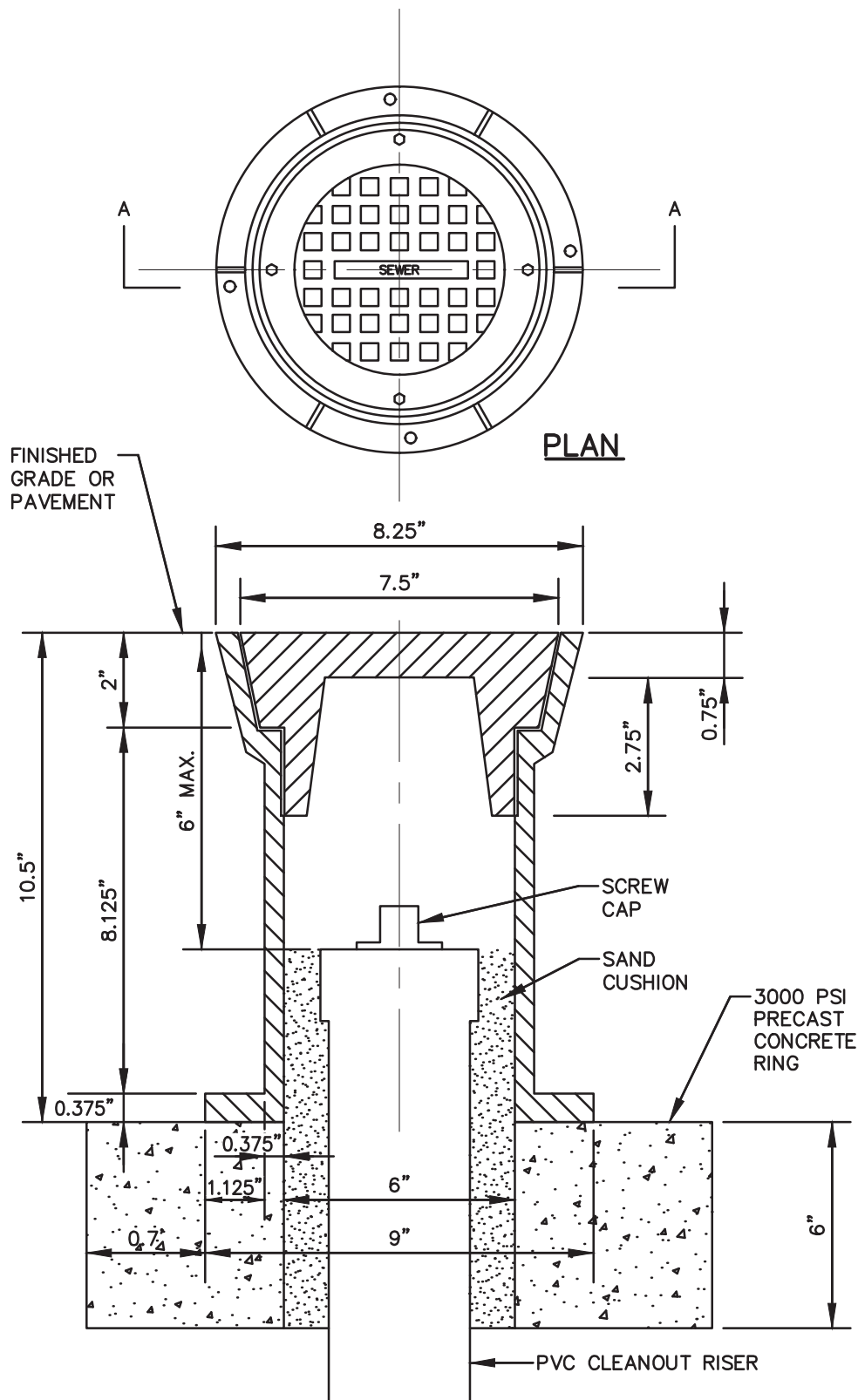
DATE April 2013	Spotsylvania County Department of Utilities	Drop Manhole Interior	DRWG. NO.  S8
REVISIONS March 2017			



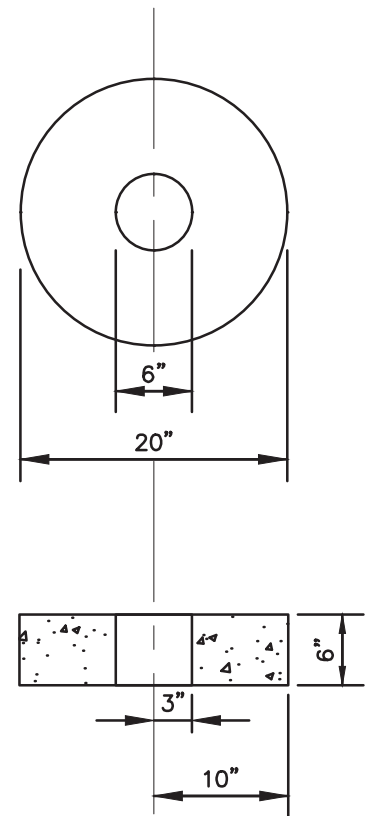
PROVIDE CCTV VIDEO OF MAIN AND  
LATERAL AT TIME OF INSTALLATION  
AND UPON CONNECTION

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Lateral Service Connection	DRWG. NO.  S10
REVISIONS August 2018			



CONCRETE RING



NOTE: CONCRETE RING NOT REQUIRED IN GRASS AREAS.

Not to Scale

DATE  
April 2013

REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

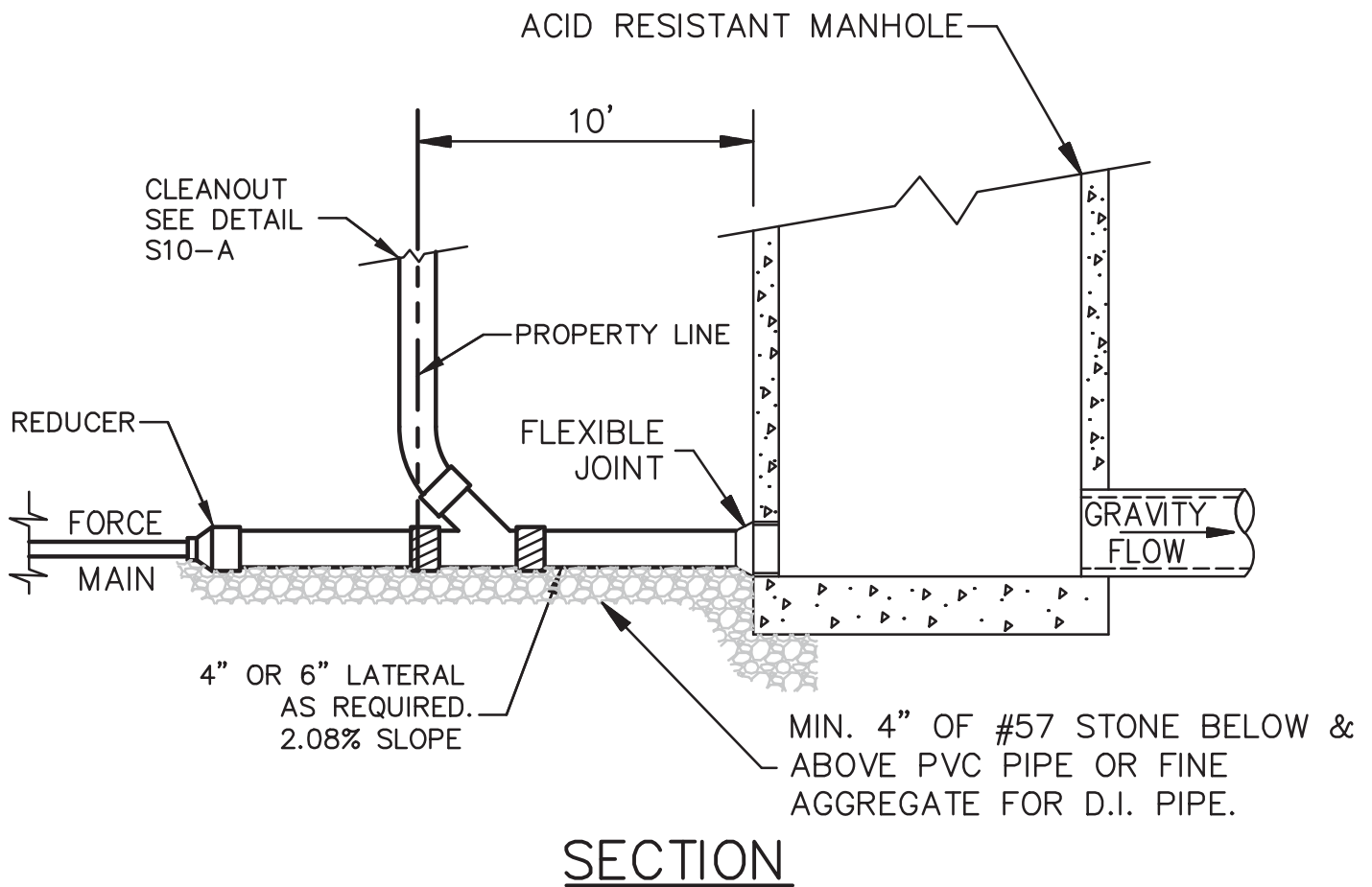
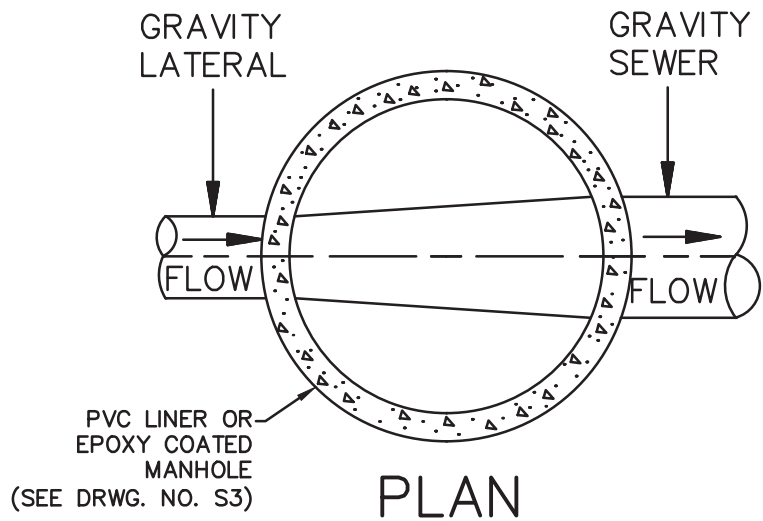
Cleanout Cover

DRWG. NO.

S10-A



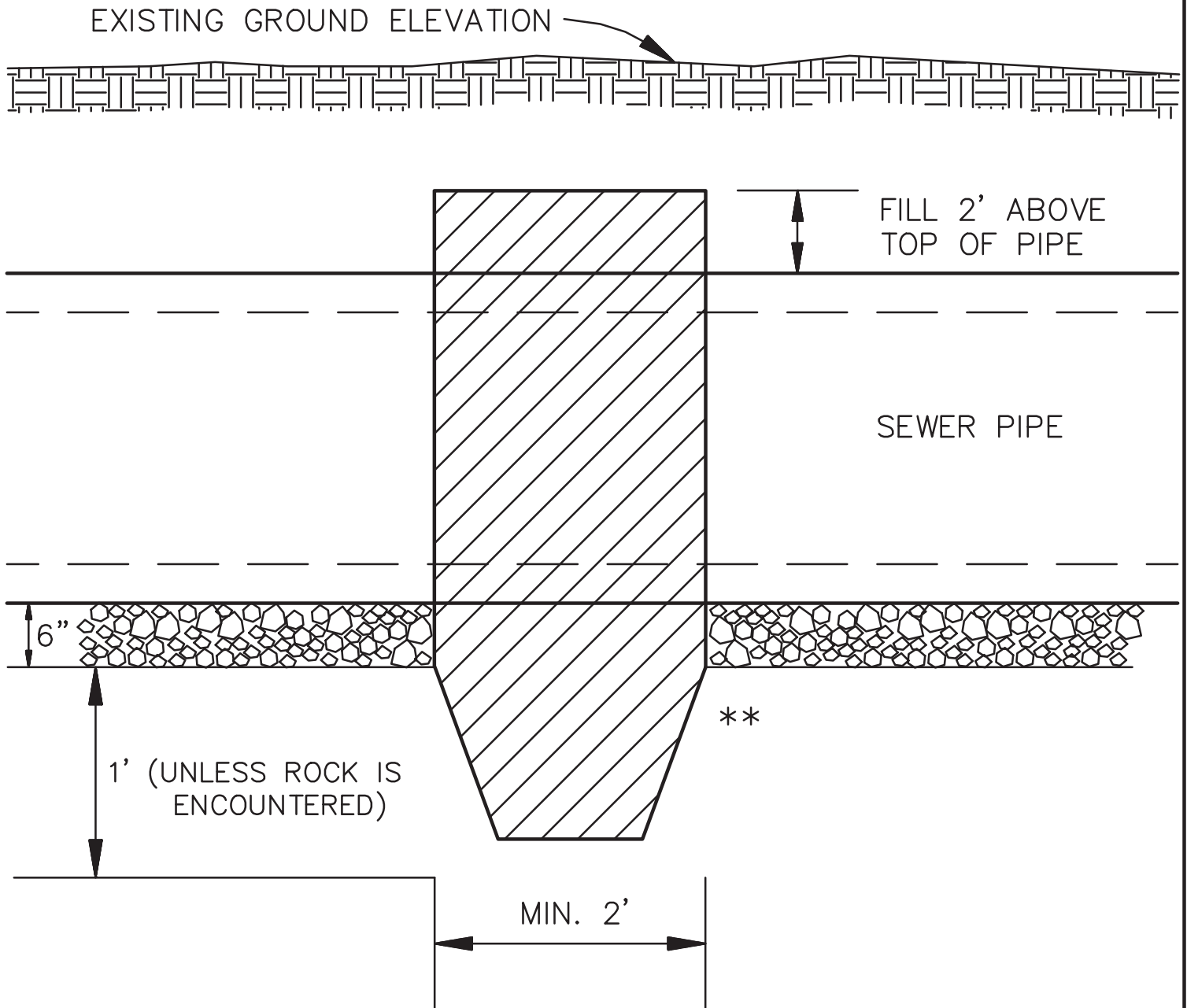
FORCE MAIN DIAMETER	GRAVITY SEWER DIAMETER
1 1/2"-3"	6"
4"	8"
6"	8"
8"	10"
10"	12"
12"	15"



NOTE: PROVIDE MANHOLE VENT.

Not to Scale

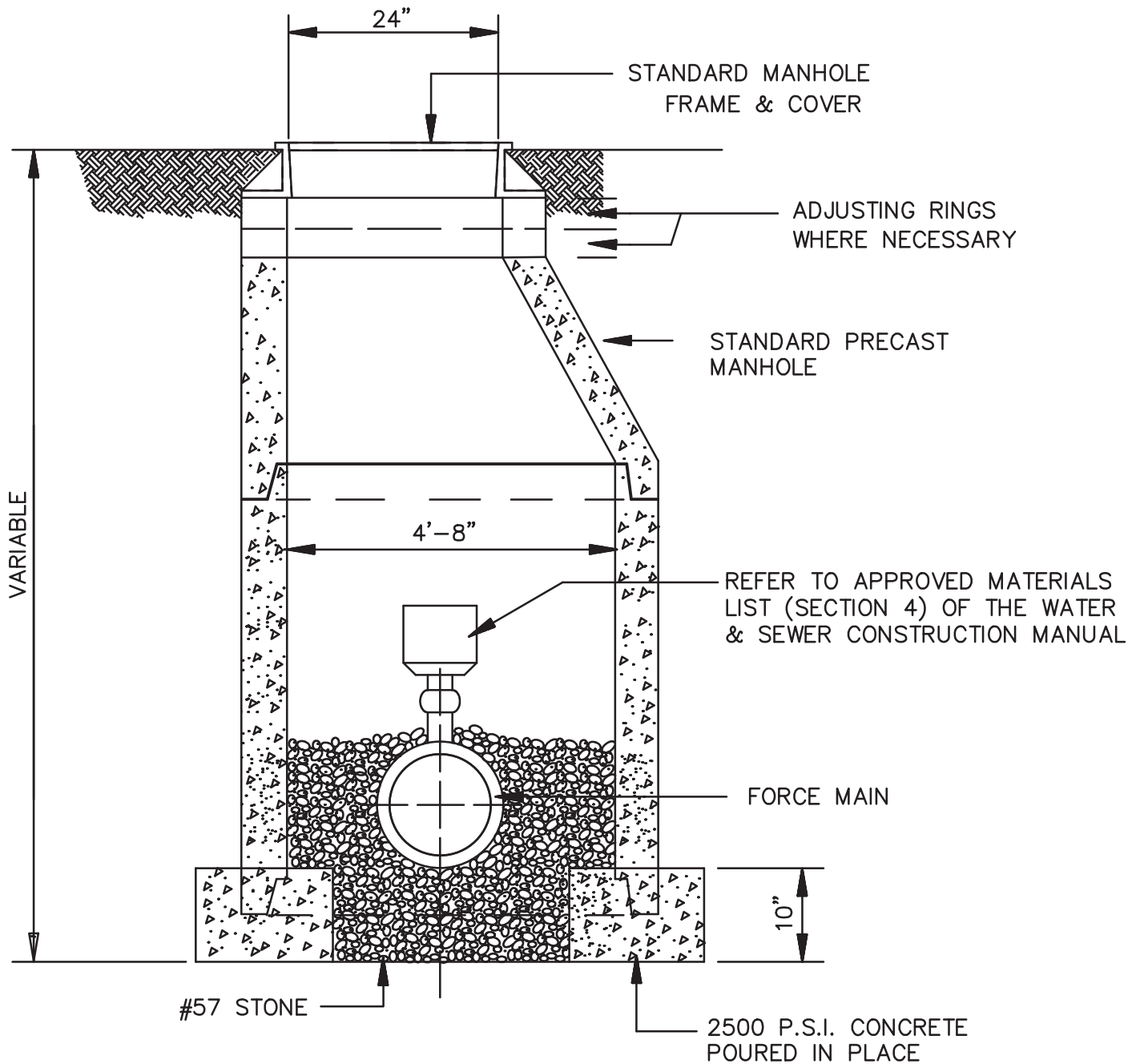
DATE April 2013	Spotsylvania County Department of Utilities	Force Main Discharge	DRWG. NO. S11
REVISIONS August 2018			



\*\* CLAY DAM (MIN. IMPERVIOUSNESS= $10^{-3}$  CM/SEC)  
 \*ALTERNATE MATERIALS INCLUDE SOIL MIXED  
 WITH CEMENT AND CONCRETE.  
 (MATERIALS TO BE APPROVED BY ENGINEER  
 PRIOR TO PLACING.)

Not to Scale

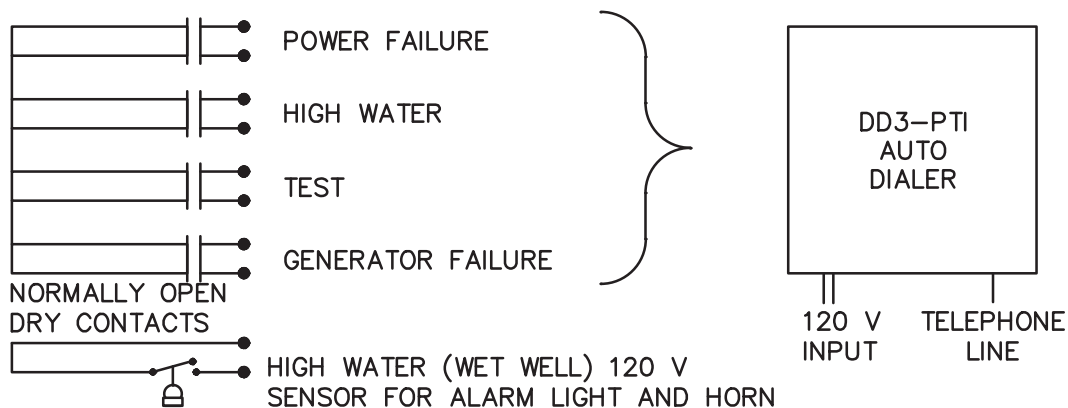
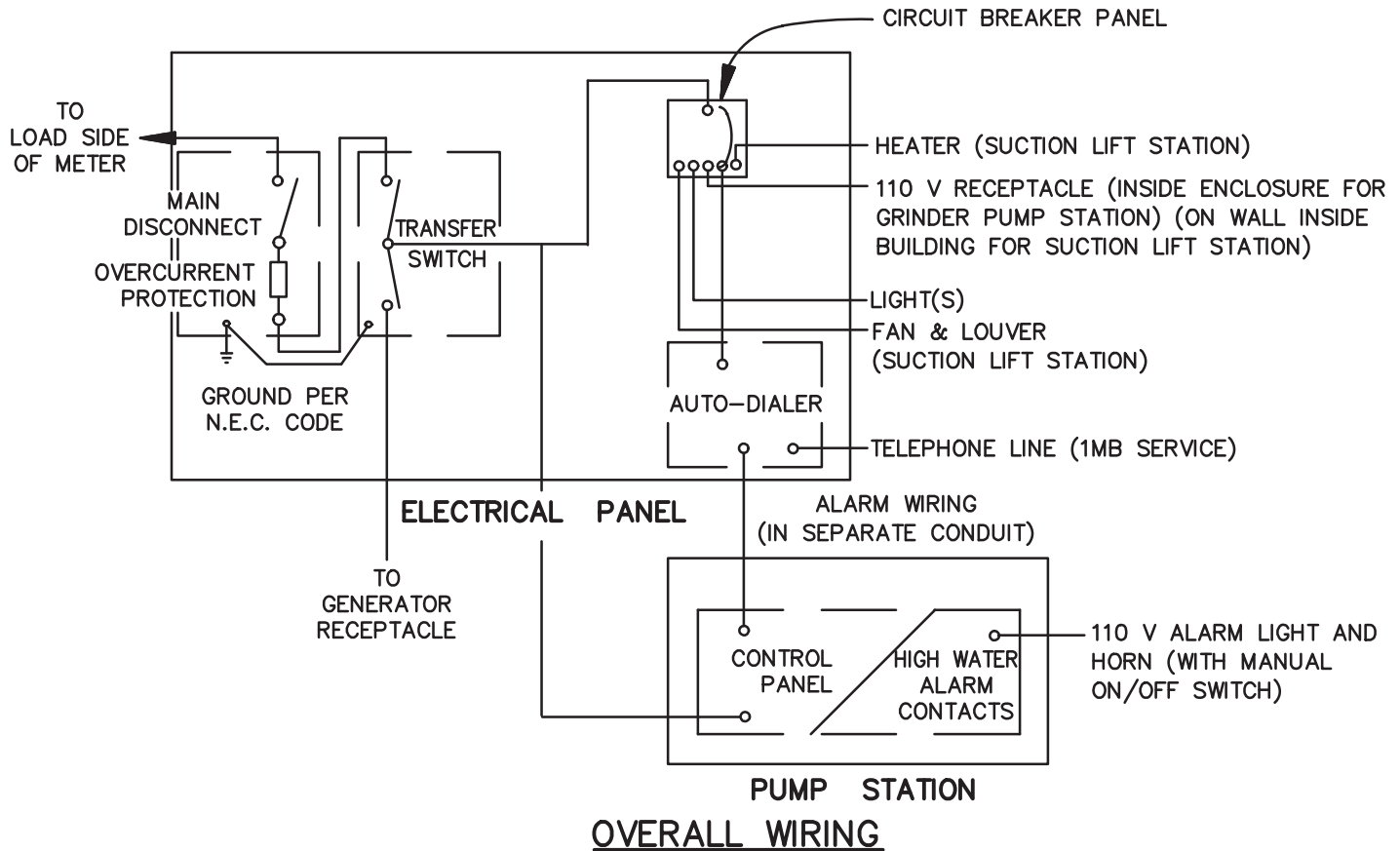
DATE April 2013	Spotsylvania County Department of Utilities	Clay Dam	DRWG. NO.  S12
REVISIONS			



Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Sewer Air Release/Vacuum Valve Setting	DRWG. NO. S14
REVISIONS			

SEE DETAILS:  
S16, S17, S18 & S19

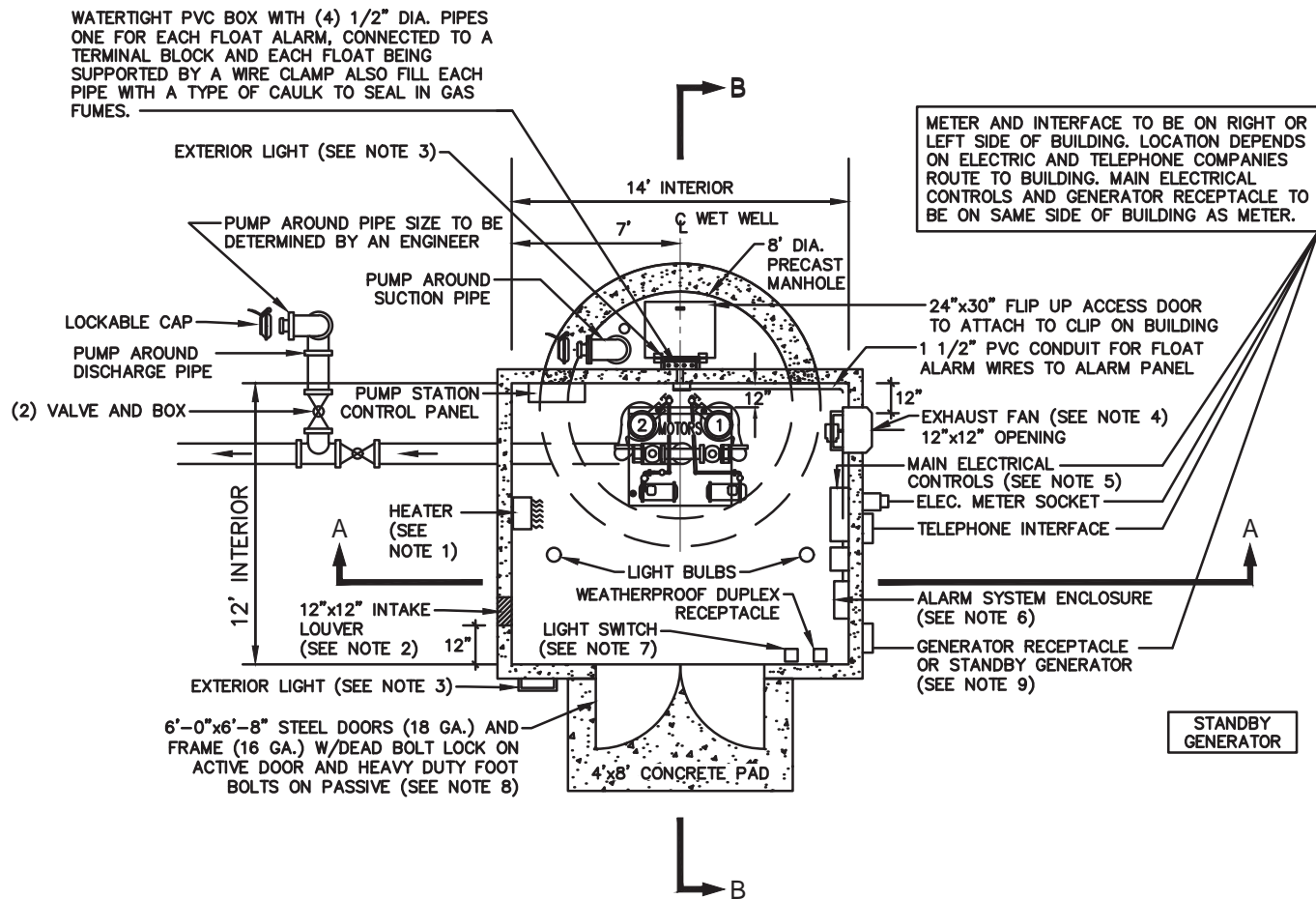


**AUTO DIALING ALARM**

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Sewer Pump Station Typical Wiring Diagrams	DRWG. NO. S15
REVISIONS March 2017			

SEE DETAILS:  
S15, S17, S18, & S19



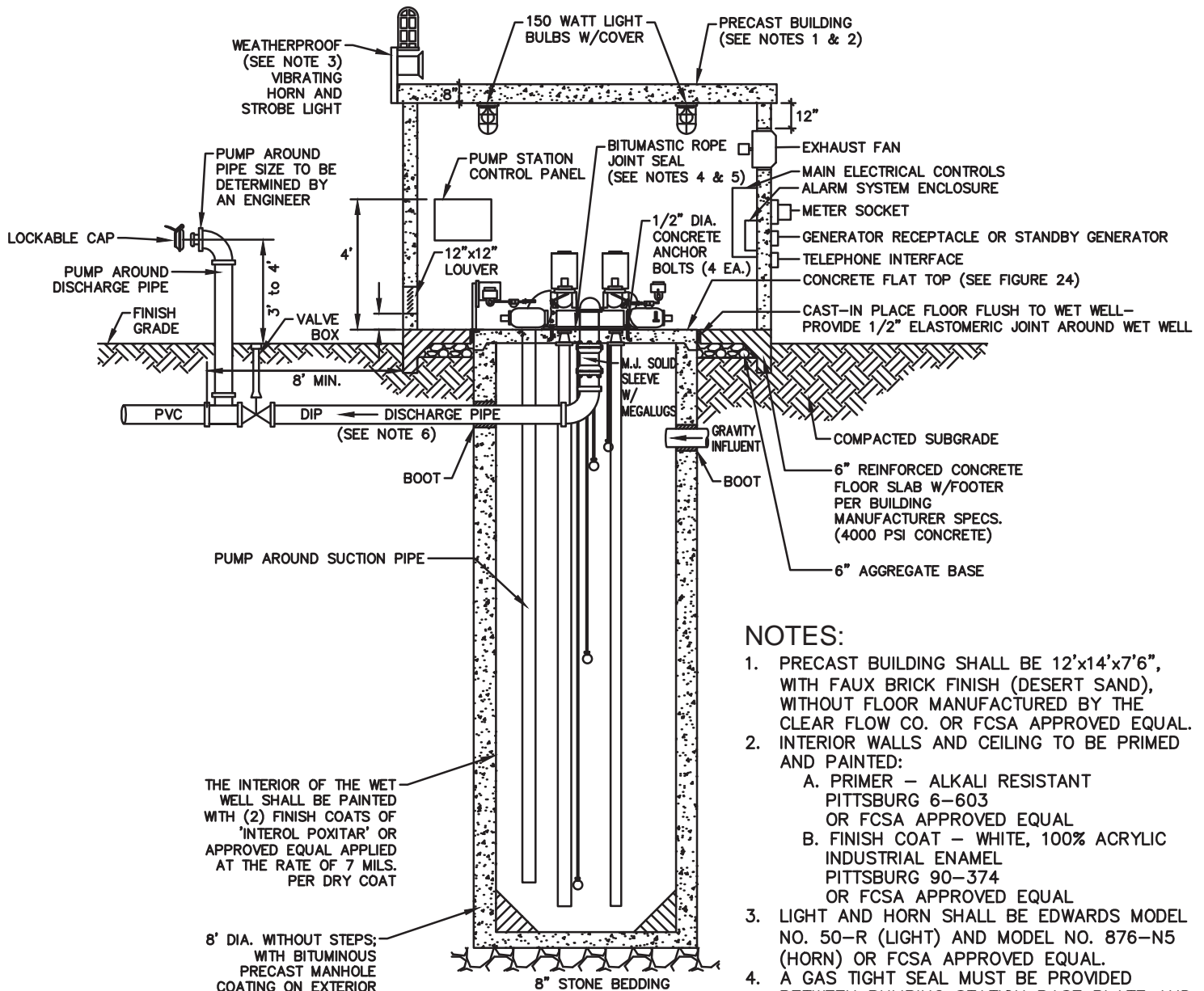
NOTES:

1. HEATER SHALL BE MARKEL MODEL F3422, OR FCSA APPROVED EQUAL. PROVIDE WITH INTEGRAL THERMOSTAT AND SURFACE MOUNT ACCESSORIES.
2. LOUVER SHALL BE RUSKIN MODEL L7445 (12"x12") OR FCSA APPROVED EQUAL. ELECTRIC OPERATOR FOR LOUVER SHALL BE INTERLOCKED WITH EXHAUST FAN.
3. EXTERIOR LIGHT SHALL BE AMERICAN ELECTRIC, MODEL E52-70C, OR FCSA APPROVED EQUAL.
4. EXHAUST FAN SHALL BE CHELSEA WDC CATALOG NO. WDC80XB-01, OR FCSA APPROVED EQUAL, CONTROLLED BY REMOTE WALL MOUNTED SWITCH. PROVIDE FAN WITH MOTORIZED DAMPER IN CONJUNCTION WITH FAN OPERATION.
5. MAIN DISCONNECT, DOUBLE THROW SWITCH. CIRCUIT BREAKER PANEL.
6. ALARM SYSTEM SHALL BE ADAS DIALOG AUTODIALER.
7. SWITCH TO OPERATE LIGHTS AND FAN SIMULTANEOUSLY/
8. LOCKSET TO BE KWIK SET 880-26D SINGLE CYLINDER WITH THUMB LATCH DEADBOLT.
9. GENERATOR RECEPTACLE SHALL BE RUSSELLSTOLL SCB7334-72, OR STANDBY GENERATOR. ALSO IF PUMP STATION EXCEEDS 500 GPM A STANDBY GENERATOR IS REQUIRED.

Not to Scale

DATE Oct. 2005	Spotsylvania County Department of Utilities	Sewer Pump Station Plan View	DRWG. NO.  S16
REVISIONS March 2017			

SEE DETAILS:  
S15, S16, S18 & S19



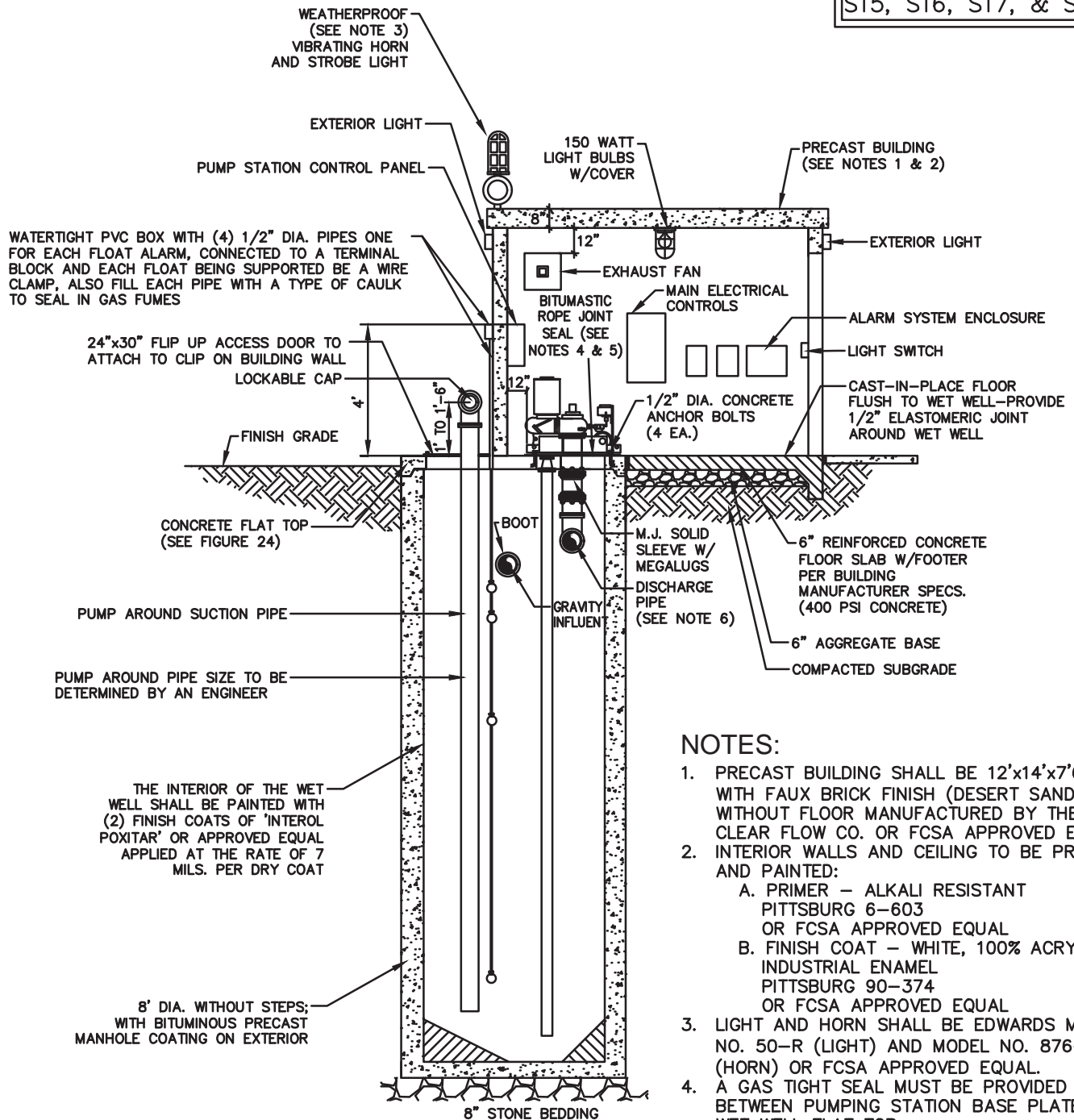
#### NOTES:

1. PRECAST BUILDING SHALL BE 12'x14'x7'6", WITH FAUX BRICK FINISH (DESERT SAND), WITHOUT FLOOR MANUFACTURED BY THE CLEAR FLOW CO. OR FCSA APPROVED EQUAL.
2. INTERIOR WALLS AND CEILING TO BE PRIMED AND PAINTED:
  - A. PRIMER — ALKALI RESISTANT PITTSBURG 6-603 OR FCSA APPROVED EQUAL
  - B. FINISH COAT — WHITE, 100% ACRYLIC INDUSTRIAL ENAMEL PITTSBURG 90-374 OR FCSA APPROVED EQUAL
3. LIGHT AND HORN SHALL BE EDWARDS MODEL NO. 50-R (LIGHT) AND MODEL NO. 876-N5 (HORN) OR FCSA APPROVED EQUAL.
4. A GAS TIGHT SEAL MUST BE PROVIDED BETWEEN PUMPING STATION BASE PLATE AND WET WELL FLAT TOP.
5. A HYDROGEN SULFIDE INHIBITOR MUST BE APPLIED TO PUMPING STATION BASE PLATE BOTTOM AND ALL EXPOSED PIPES AND FITTINGS.
6. FORCE MAIN DISCHARGE MUST NOT RUN UNDER THE WALL WITH ELECTRICAL PANELS, FRONT CONCRETE SLAB OR THROUGH THE ACCESS DOOR AREA.
7. PROVIDE POSITIVE DRAINING FLOOR DRAIN INSIDE BUILDING. CONNECT TO PUBLIC SEWER SYSTEM IF POSSIBLE.
8. YARD HYDRANT INSTALLATION REQUIRED WHEN PUBLIC WATER IS AVAILABLE.

Not to Scale

DATE Oct. 2005	Spotsylvania County Department of Utilities	Sewer Pump Station Cross Section View "A-A"	DRWG. NO. S17
REVISIONS March 2017			

SEE DETAILS:  
S15, S16, S17, & S19



#### NOTES:

1. PRECAST BUILDING SHALL BE 12'x14'x7'6", WITH FAUX BRICK FINISH (DESERT SAND), WITHOUT FLOOR MANUFACTURED BY THE CLEAR FLOW CO. OR FCSEA APPROVED EQUAL.
2. INTERIOR WALLS AND CEILING TO BE PRIMED AND PAINTED:
  - A. PRIMER - ALKALI RESISTANT PITTSBURG 6-603 OR FCSEA APPROVED EQUAL
  - B. FINISH COAT - WHITE, 100% ACRYLIC INDUSTRIAL ENAMEL PITTSBURG 90-374 OR FCSEA APPROVED EQUAL
3. LIGHT AND HORN SHALL BE EDWARDS MODEL NO. 50-R (LIGHT) AND MODEL NO. 876-N5 (HORN) OR FCSEA APPROVED EQUAL.
4. A GAS TIGHT SEAL MUST BE PROVIDED BETWEEN PUMPING STATION BASE PLATE AND WET WELL FLAT TOP.
5. A HYDROGEN SULFIDE INHIBITER MUST BE APPLIED TO PUMPING STATION BASE PLATE BOTTOM AND ALL EXPOSED PIPES AND FITTINGS.
6. FORCE MAIN DISCHARGE MUST NOT RUN UNDER THE WALL WITH ELECTRICAL PANELS, FRONT CONCRETE SLAB OR THROUGH THE ACCESS DOOR AREA.
7. PROVIDE POSITIVE DRAINING FLOOR DRAIN INSIDE BUILDING. CONNECT TO PUBLIC SEWER SYSTEM IF POSSIBLE.
8. YARD HYDRANT INSTALLATION REQUIRED WHEN PUBLIC WATER IS AVAILABLE.

Not to Scale

## Sewer Pump Station Cross Section View "B-B"

DRWG. NO.  
S18

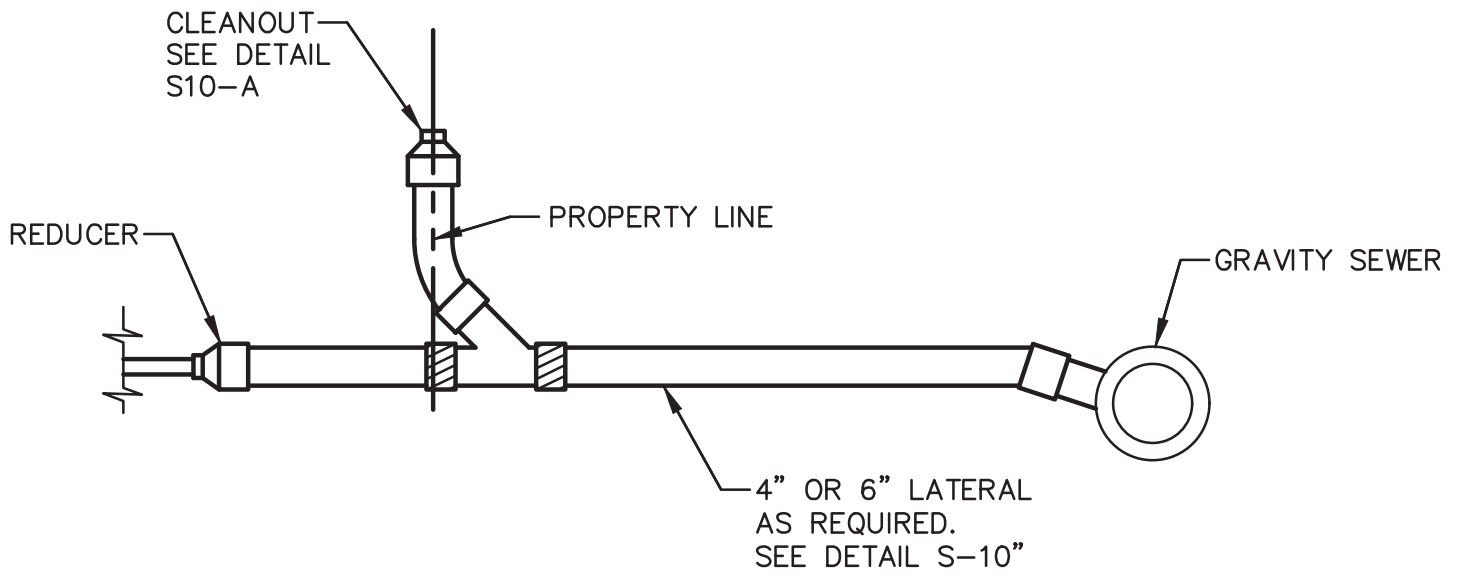
DATE  
Oct. 2005

REVISIONS  
March 2017

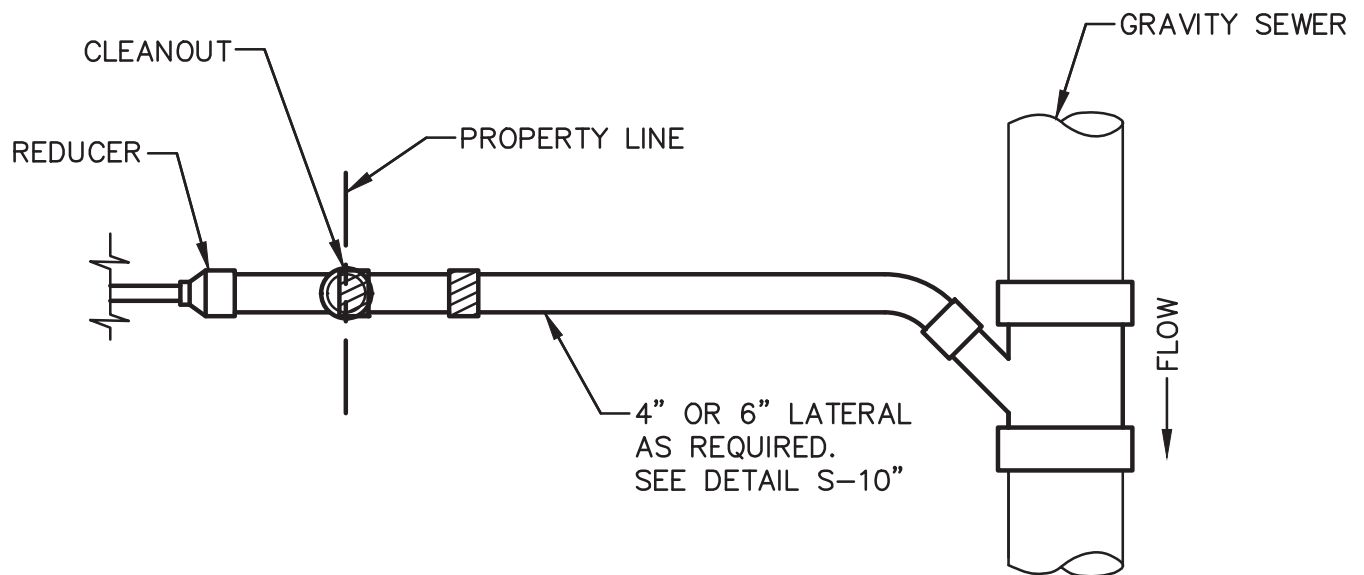
Spotsylvania County  
Department of Utilities

DRWG. NO.  
S19





SECTION VIEW



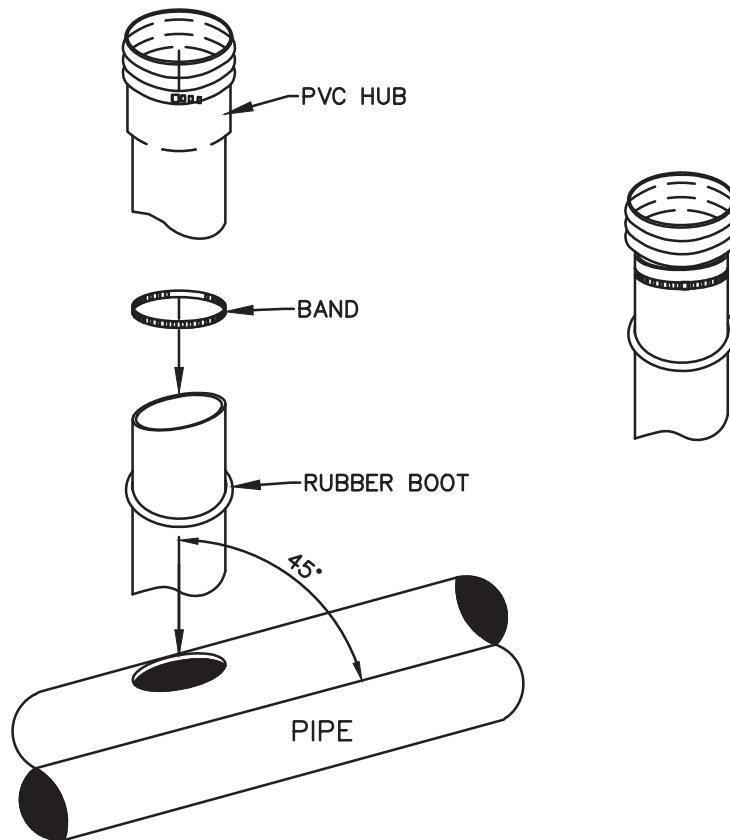
PLAN VIEW

NOTE:  
PLACE CLEANOUT AT PROPERTY  
LINE OR EDGE OF EASEMENT

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Low Pressure House Sewer Connection to Gravity Sewer	DRWG. NO.  S20
REVISIONS March 2017			

NOTE:  
THIS METHOD OF CONNECTION SHALL NOT  
TAKE PRECEDENT OVER USING TEES. THE  
APPLICATION SHOWN HERE IS FOR  
TAPPING EXISTING MAINS ONLY.



INSTALLATION NOTES:

INSERT-A-TEE CAN BE CONNECTED TO PVC, PERMALOC, SPIROLITE, SLIP LINER, DUCTILE IRON, THIN WALL MAIN LINES, CONCRETE (MAINLINES AND MANHOLES), CLAY, AND ALL THICK WALLED MAIN LINES.

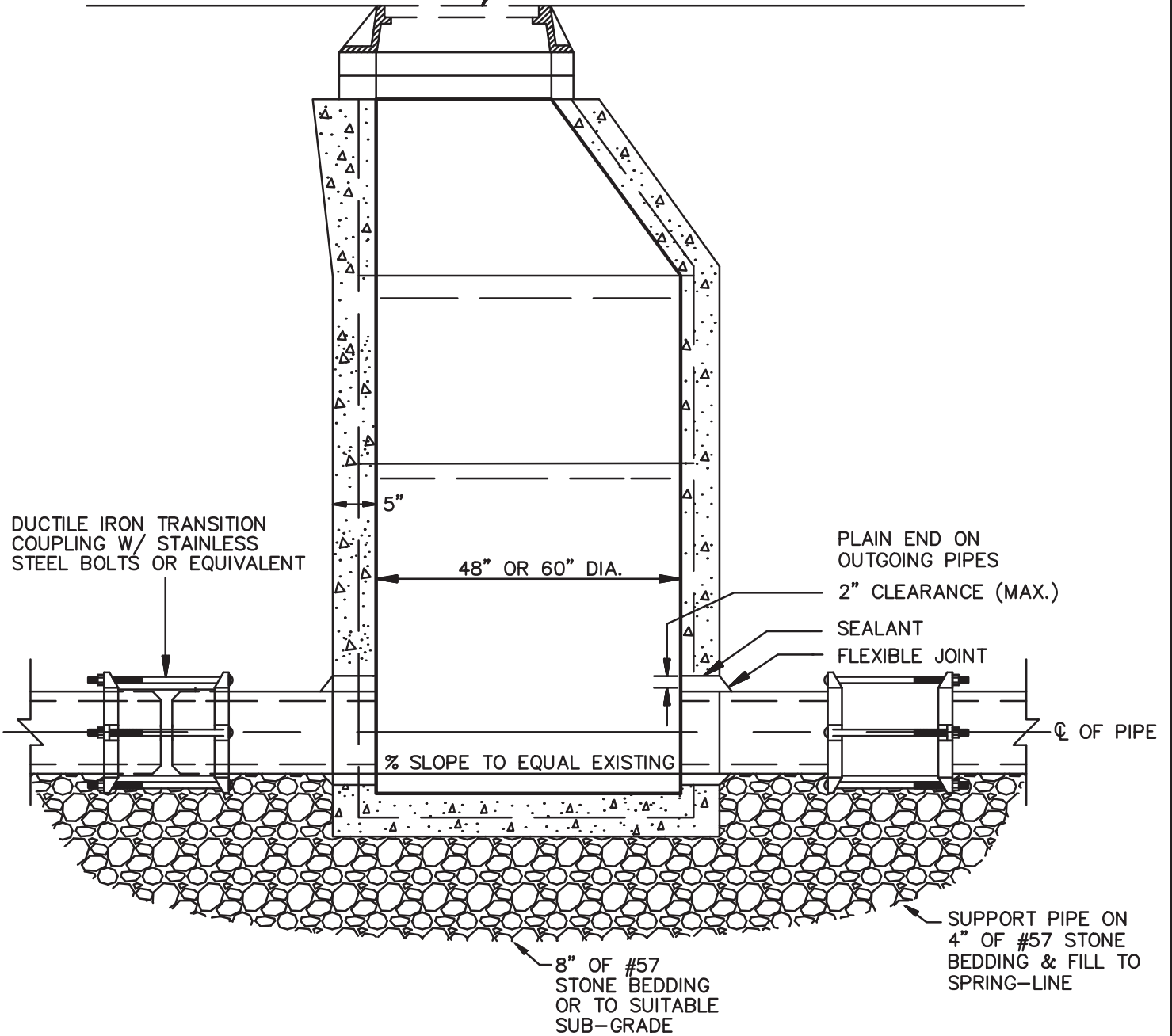
INSERT-A-TEE ASSEMBLY IS A THREE PIECE CONNECTION THAT IS COMPRESSION-FIT INTO THE CORED WALL OF THE MAIN LINE

ASSEMBLY CONSISTS OF SERVICE CONNECTIONS OF 4" THROUGH 12", AND FITS ALL MAIN LINE DIAMETERS, 6" OR LARGER.

Not to Scale

DATE March 2017	Spotsylvania County Department of Utilities	Insert-a-Tee	DRWG. NO.  S21
REVISIONS			

REFER TO STANDARD  
MANHOLE DETAILS S1 & S2



NOTE: INVERT NEEDS TO BE  
PRE-POURED TO ALLOW FOR  
EXISTING FLOW

Not to Scale

NOTE: STONE BEDDING SHALL  
EXTEND TO THE OUTER BOUNDARY  
OF ALL UNDISTURBED AREAS  
SURROUNDING THE MANHOLE.

DATE  
FEBRUARY 2018

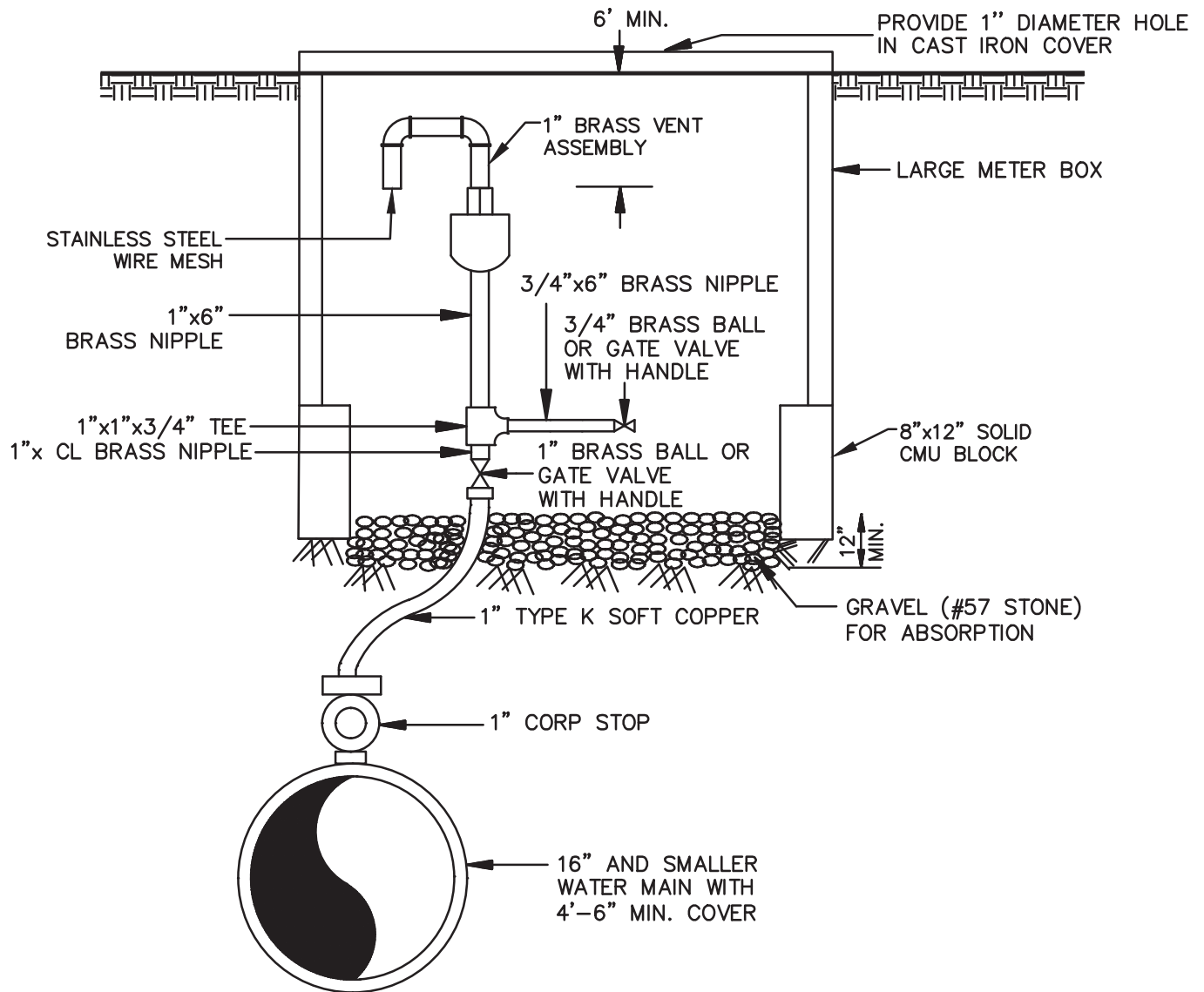
REVISIONS  
FEBRUARY 2018

Spotsylvania County  
Department of Utilities

Cut-In Manhole

DRWG. NO.

S26



NOTE:

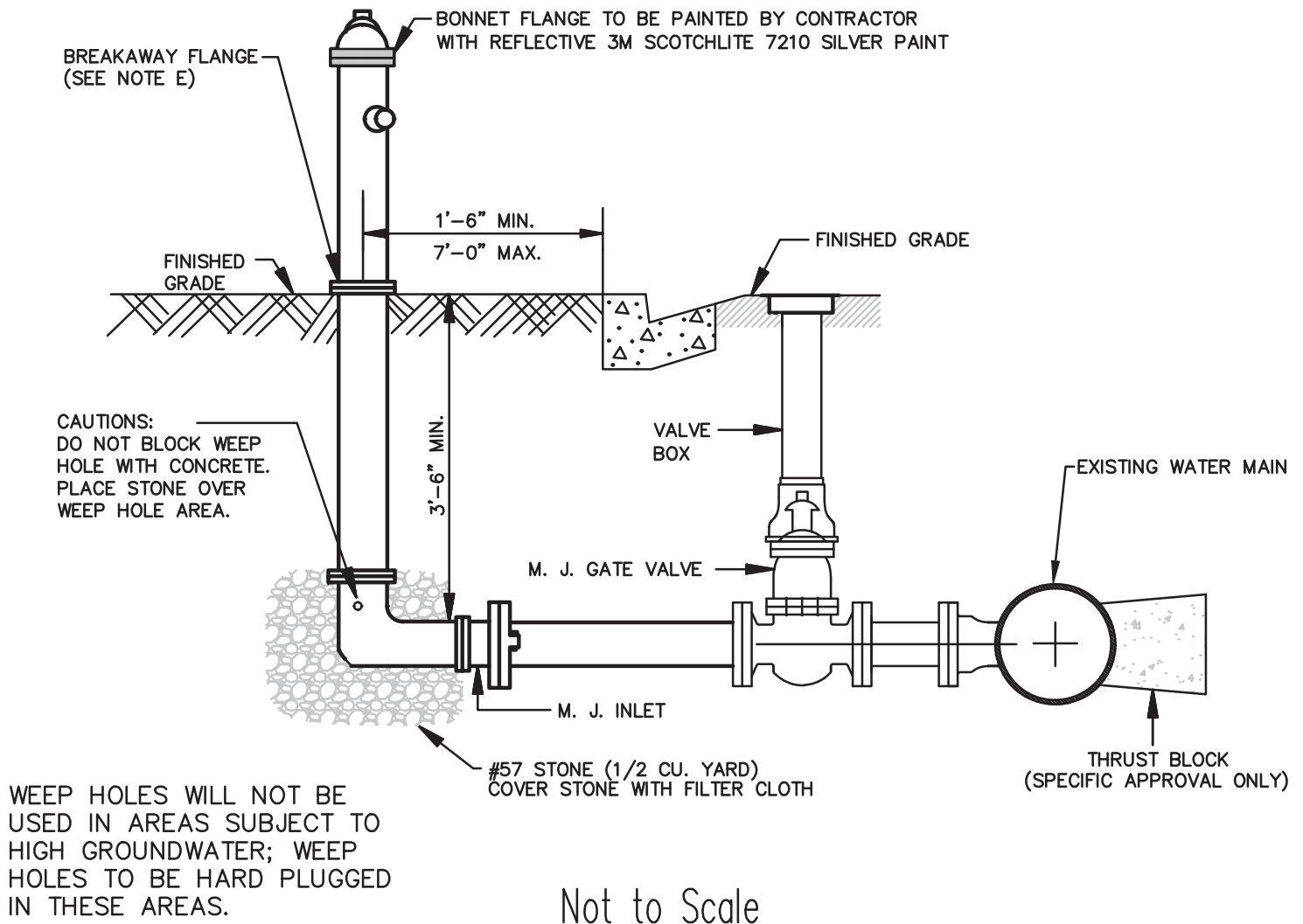
1. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO DESIGN THE PUBLIC WATER SYSTEM TO MINIMIZE THE NUMBER OF AIR RELEASE VALVES BY ELIMINATING HIGH POINTS WHERE REASONABLY FEASIBLE AND TO PROPERLY SIZE THE AIR RELEASE VALVE TAKING INTO CONSIDERATION ALL THE DESIGN FACTORS.
2. ORIFICE SIZE SHALL BE NOTED ON PLANS.
3. ALL COPPER FITTINGS WILL BE FLARE OR COMPRESSION TYPE.
4. SADDLE MUST BE USED IF TAP IS MADE IN ASBESTOS CEMENT MAIN.
5. WHERE THE AIR RELEASE VALVE IS REMOTE FROM THE WATER LINE THERE MUST BE CONTINUOUS RISE IN THE COPPER SUPPLY LINE TO THE AIR RELEASE VALVE AND NO TRAP SHALL BE PERMITTED.
6. AIR RELEASE VALVE TO BE PLACED WHERE NOT SUBJECT TO FLOODING.

Not to Scale

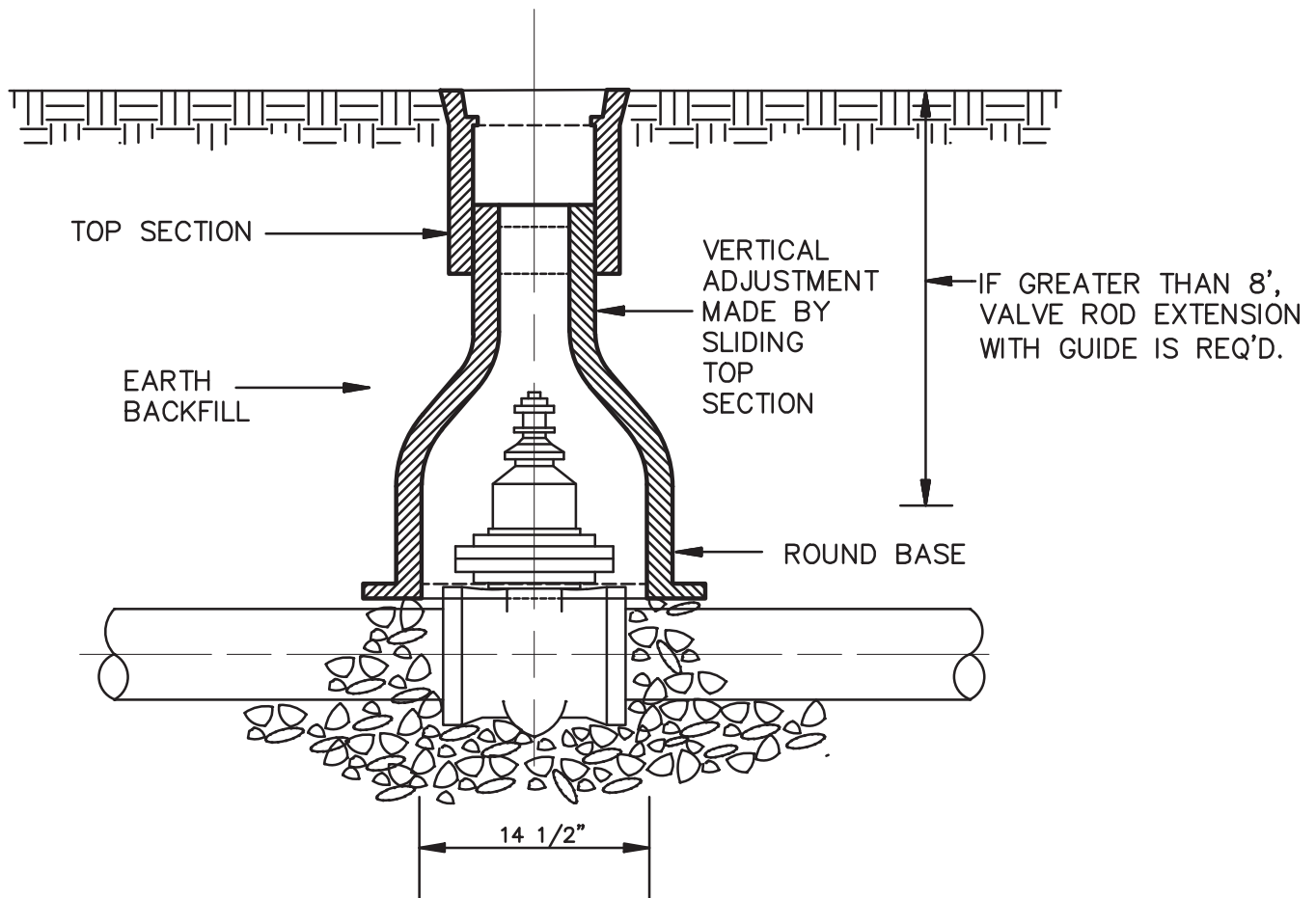
DATE April 2013	Spotsylvania County Department of Utilities	1" Water Air Release Valve	DRWG. NO. W1
REVISIONS March 2017			

NOTES:

- (A) ON ROADWAYS WITHOUT CURB AND GUTTER, VALVE SHOULD BE IN SHOULDER OF ROAD OR BETWEEN PAVEMENT AND DITCH. MINIMUM COVER AT DITCH MUST BE 3'6" OR GREATER.
- (B) ALL PIPE SHALL BE DI & RESTRAINED. PROVIDE THRUST BLOCK BEHIND EXISTING MAIN TEE IF EXISTING MAIN CANNOT BE RESTRAINED USING RESTRAINED JOINT PIPE.
- (C) IF NO HEIGHT ADJUSTMENT IS NEEDED, THE CONNECTOR PIPE MAY BE STRAIGHT PIPE. OTHERWISE, THE CONNECTOR PIPE SHALL BE OF THE OFFSET DESIGN SO THAT THE FIRE HYDRANT CAN BE ADJUSTED TO ENSURE PLACEMENT AT THE PROPER GRADE.
- (D) THE CONNECTOR PIPE SHALL BE CEMENT LINED IN ACCORDANCE WITH AWWA C110-ANSI 214.
- (E) THE CONNECTOR PIPE SHALL BE DUCTILE IRON AWWA C153-ANSO A21.53 AND POSITIONED BETWEEN THE FIRE HYDRANT AND GATE VALVE.
- (F) HYDRANT BREAKAWAY FLANGE SHOULD BE LOCATED NO MORE THAN 6" ABOVE FINISHED GRADE AND NOT BELOW FINISHED GRADE.
- (G) 12" X 12" X 6" DEEP COLLAR AROUND VALVE BOX. PAINT, REFLECTOR BAND, REMOVE SAFETY CHAINS, GREASE NOZZLES WITH "AWWA" APPROVED MATERIAL.



DATE April 2013	Spotsylvania County Department of Utilities	Fire Hydrant	DRWG. NO.  W2
REVISIONS August 2018			



USE TWO PIECE CAST IRON VALVE BOX OF THE APPROPRIATE LENGTH (HEIGHT)

Not to Scale

DATE  
April 2013

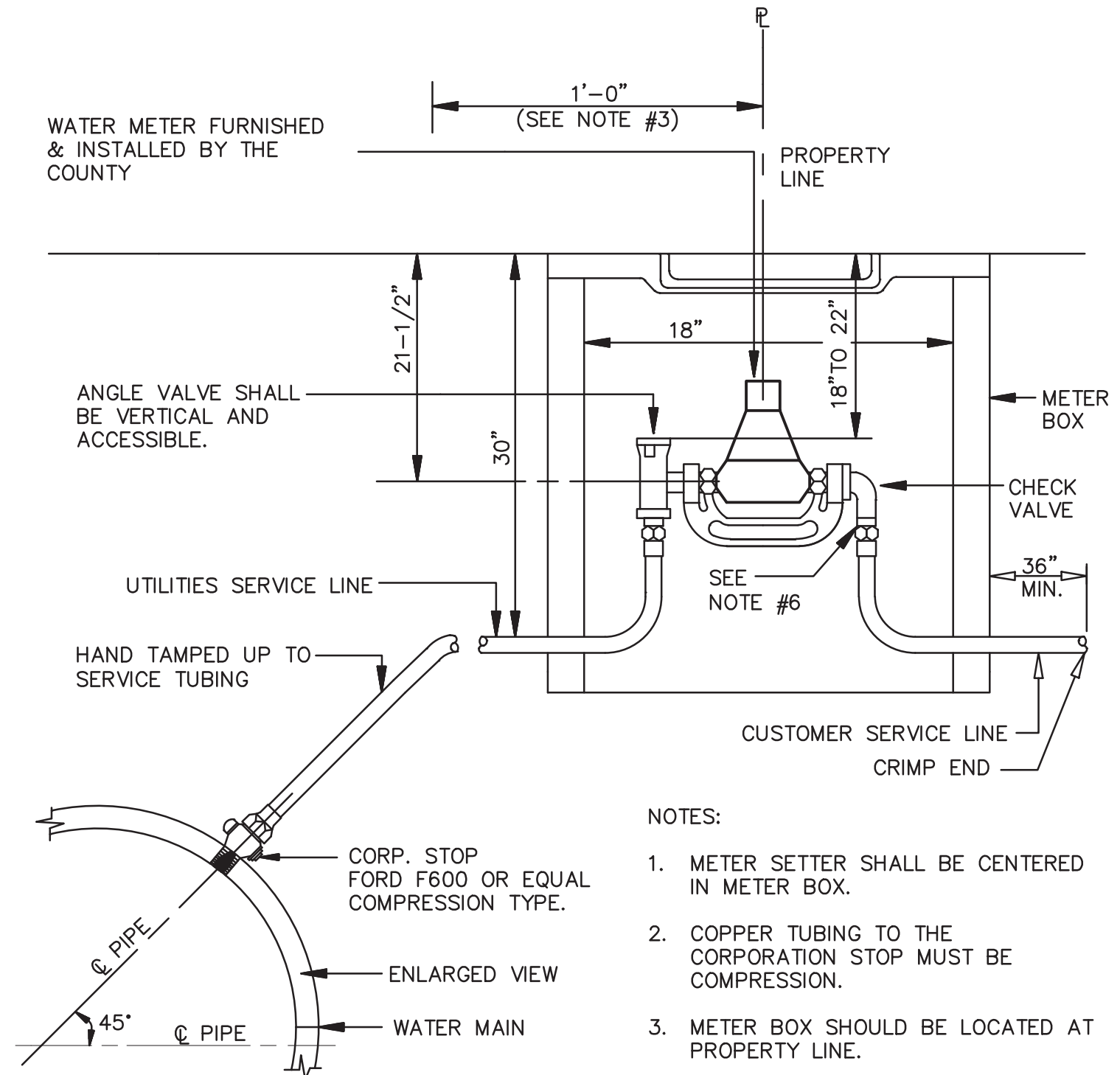
REVISIONS  
August 2018

Spotsylvania County  
Department of Utilities

Valve Box

DRWG. NO.

W3



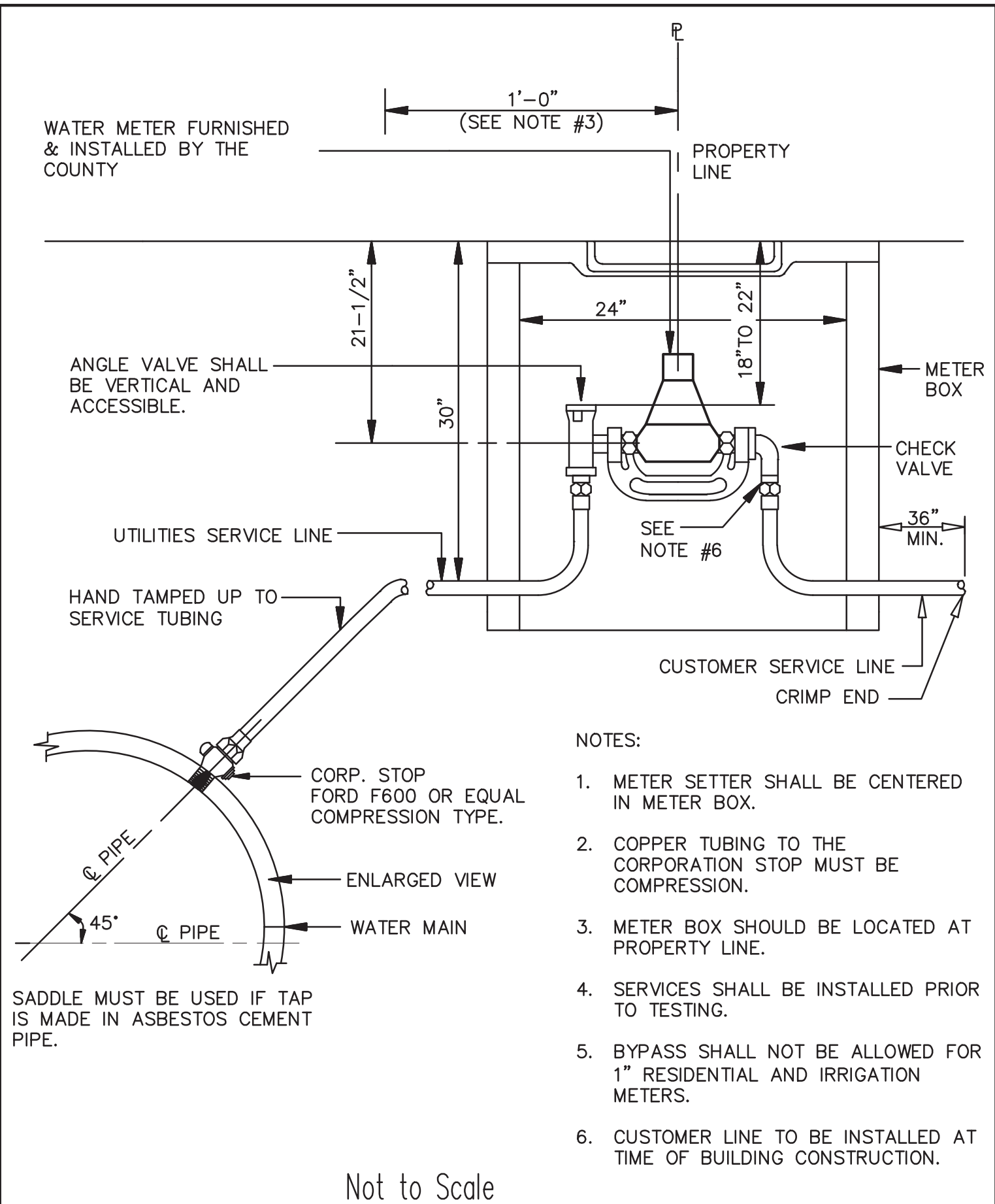
SADDLE MUST BE USED IF TAP IS MADE IN ASBESTOS CEMENT PIPE.

NOTES:

1. METER SETTER SHALL BE CENTERED IN METER BOX.
2. COPPER TUBING TO THE CORPORATION STOP MUST BE COMPRESSION.
3. METER BOX SHOULD BE LOCATED AT PROPERTY LINE.
4. SERVICES SHALL BE INSTALLED PRIOR TO TESTING.
5. BYPASS SHALL NOT BE ALLOWED FOR 1" RESIDENTIAL AND IRRIGATION METERS.
6. CUSTOMER LINE TO BE INSTALLED AT TIME OF BUILDING CONSTRUCTION.

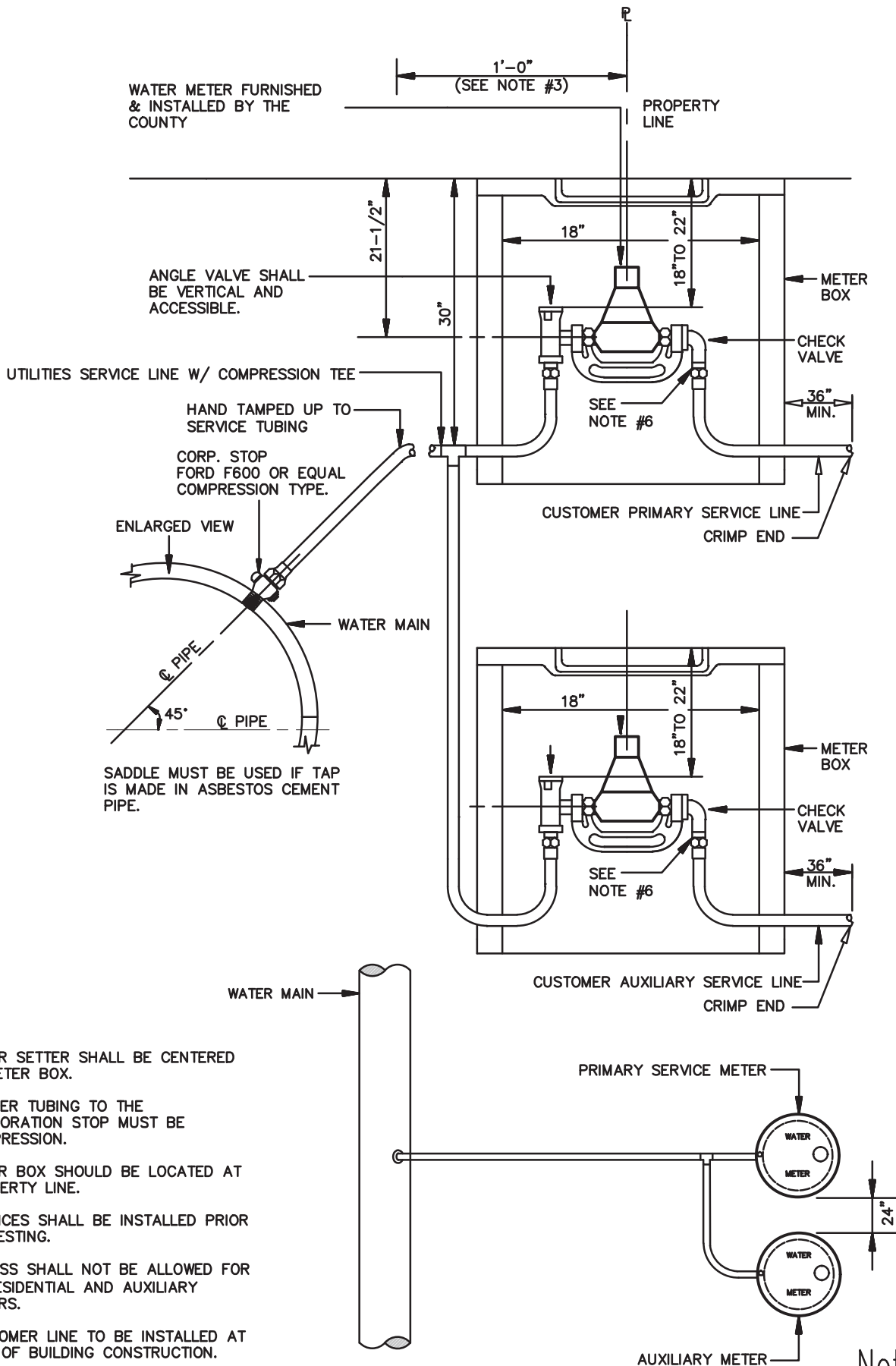
Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Water Meter Setting 5/8" & 3/4"	DRWG. NO. W4
REVISIONS March 2017			



DATE April 2013	Spotsylvania County Department of Utilities	Water Meter Setting 1"	DRWG. NO. W4-A
REVISIONS March 2017			





Not to Scale

DATE  
January 2018

REVISIONS  
January 2018

Spotsylvania County  
Department of Utilities

# Auxiliary Meter Setting 5/8", 3/4" & 1"

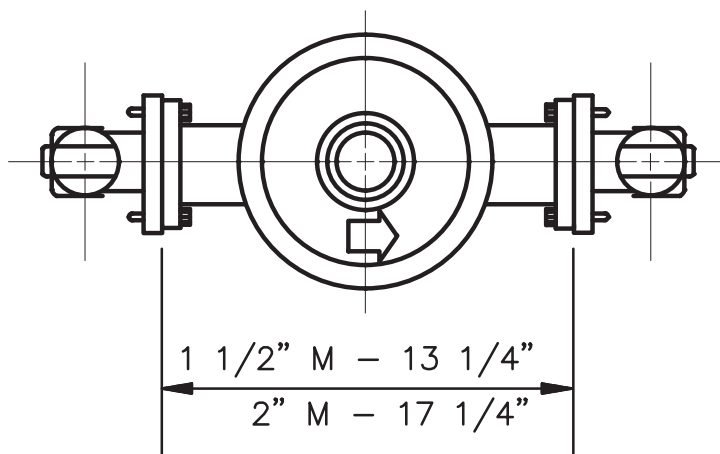
DRWG. NO.  
W4-B

1. CONNECTION AT MAIN SHALL BE 4" TEE AND VALVE OR TAPPING SLEEVE AND VALVE.

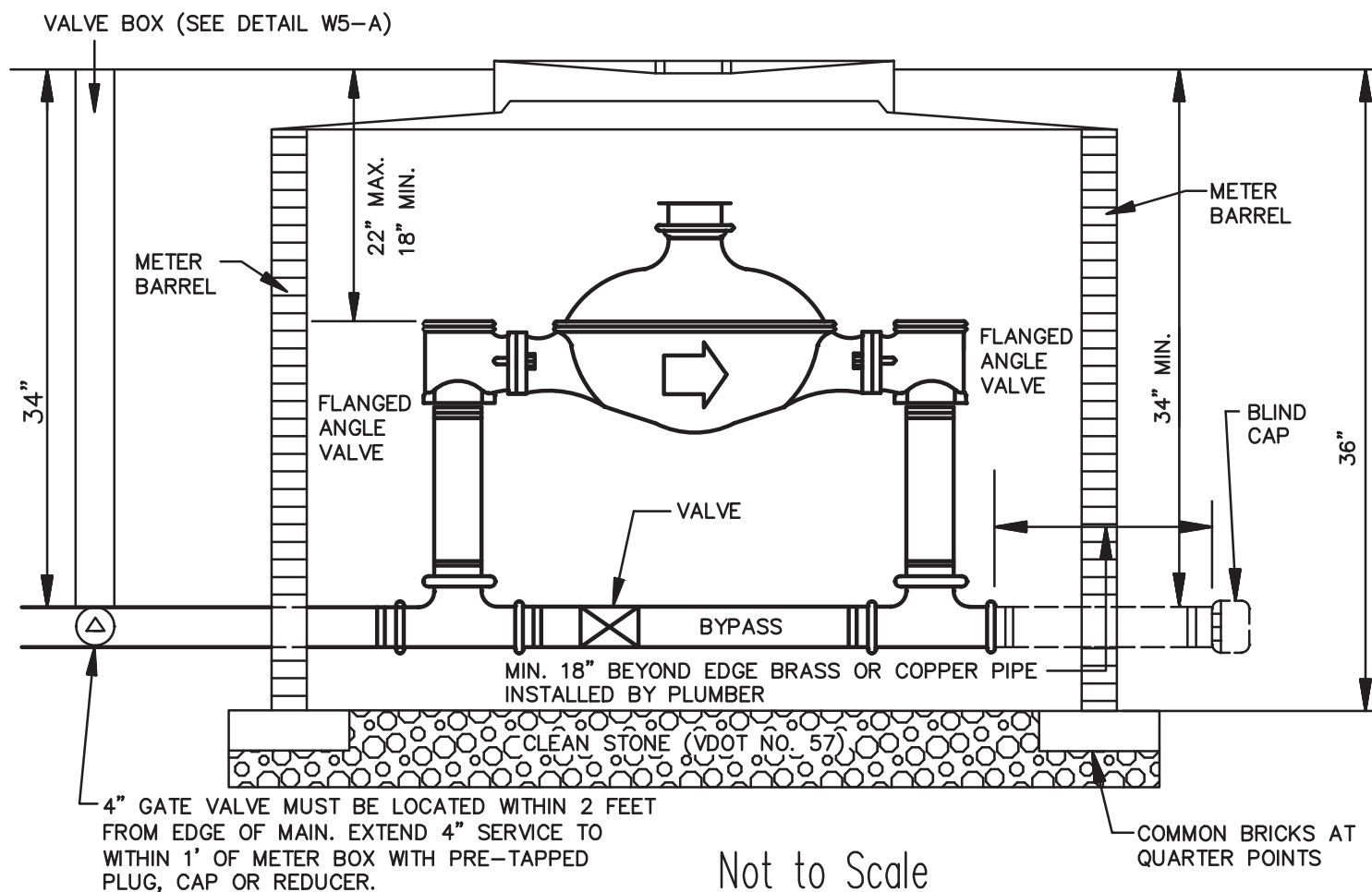
3. TAPPING SLEEVE AND VALVE SHALL BE PLACED AT THE SPRING LINE OF THE WATER MAIN.

4. VAULT : ONE PIECE BARREL, 36" DIAMETER HIGH DENSITY POLYETHYLENE

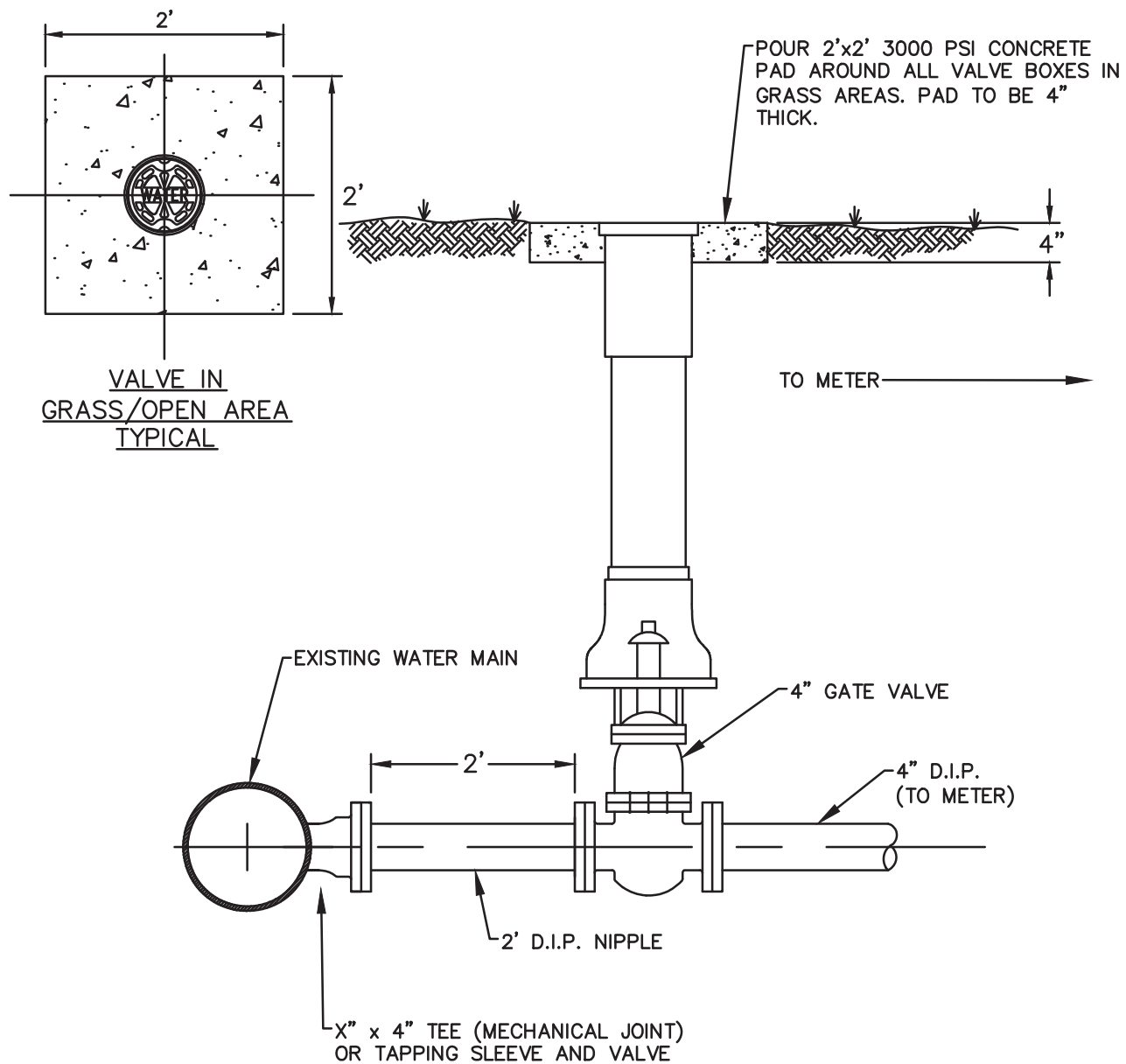
5. CUSTOM SETTER MUST BE INSTALLED BY CONTRACTOR. THE SPACER WILL BE REMOVED BY THE UTILITIES DEPARTMENT WHEN THE METER IS SET. OPTION TO OBTAIN METER FROM UTILITIES AT TIME OF INSTALLATION.



NOTE: BYPASS SHALL BE  
LOCATED ABOVE OR AT  
FLOOR LEVEL OF METER  
BARREL.



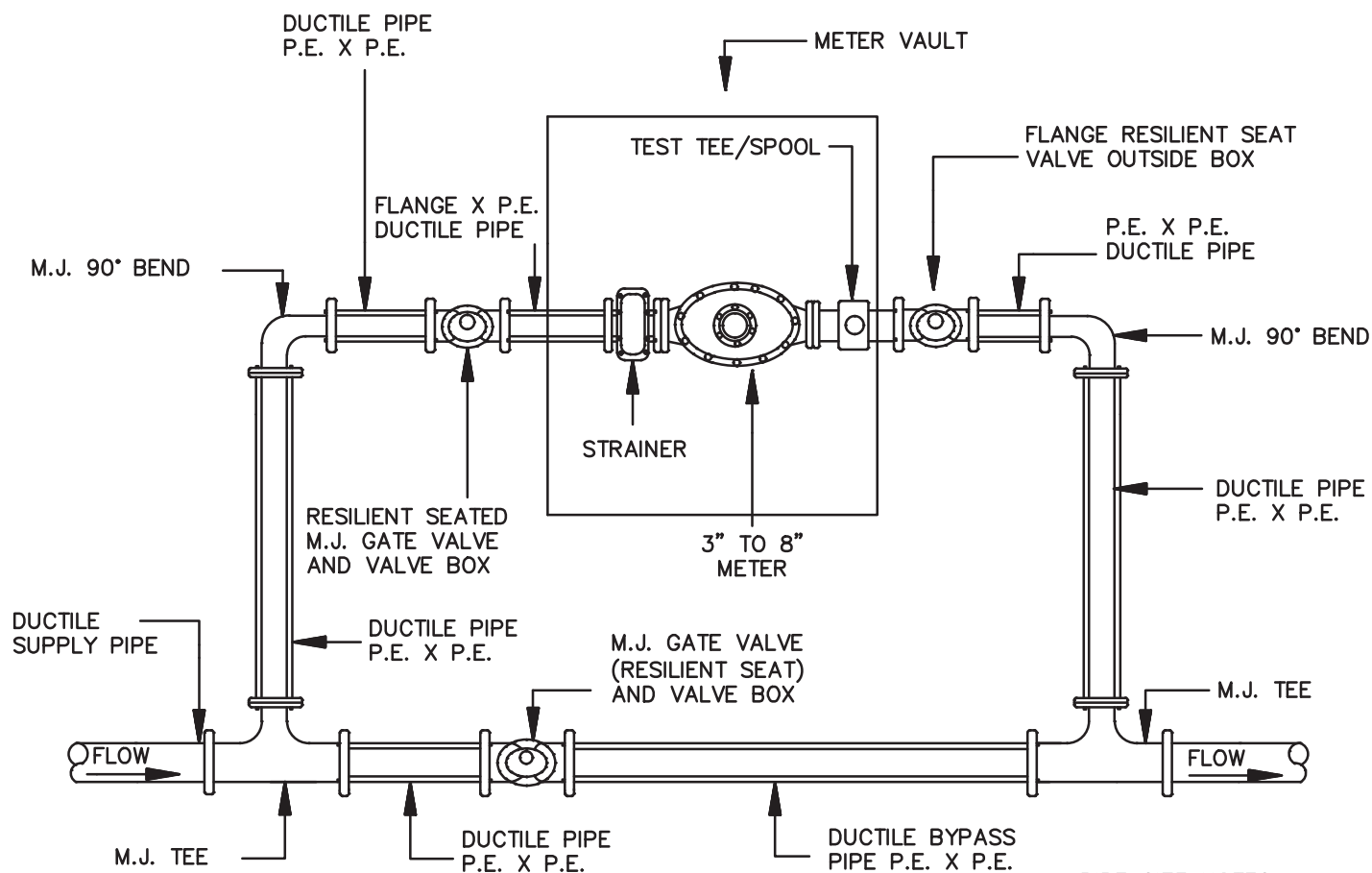
DATE April 2013	Spotsylvania County Department of Utilities	Water Meter Setting 1-1/2" & 2"	DRWG. NO.  W5
REVISIONS May 2018			



NOTE:  
ALL JOINTS FROM THE MAIN TO THE METER SHALL BE RESTRAINED

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	4" D.I.P. Service Connection	DRWG. NO. W5-A
REVISIONS March 2017			



PIPE SIZE NOTES:  
PIPES AND ALL FITTINGS  
TO BE SAME SIZE AS  
METER.

P.E. = PIPE END SIZE

## PLAN VIEW

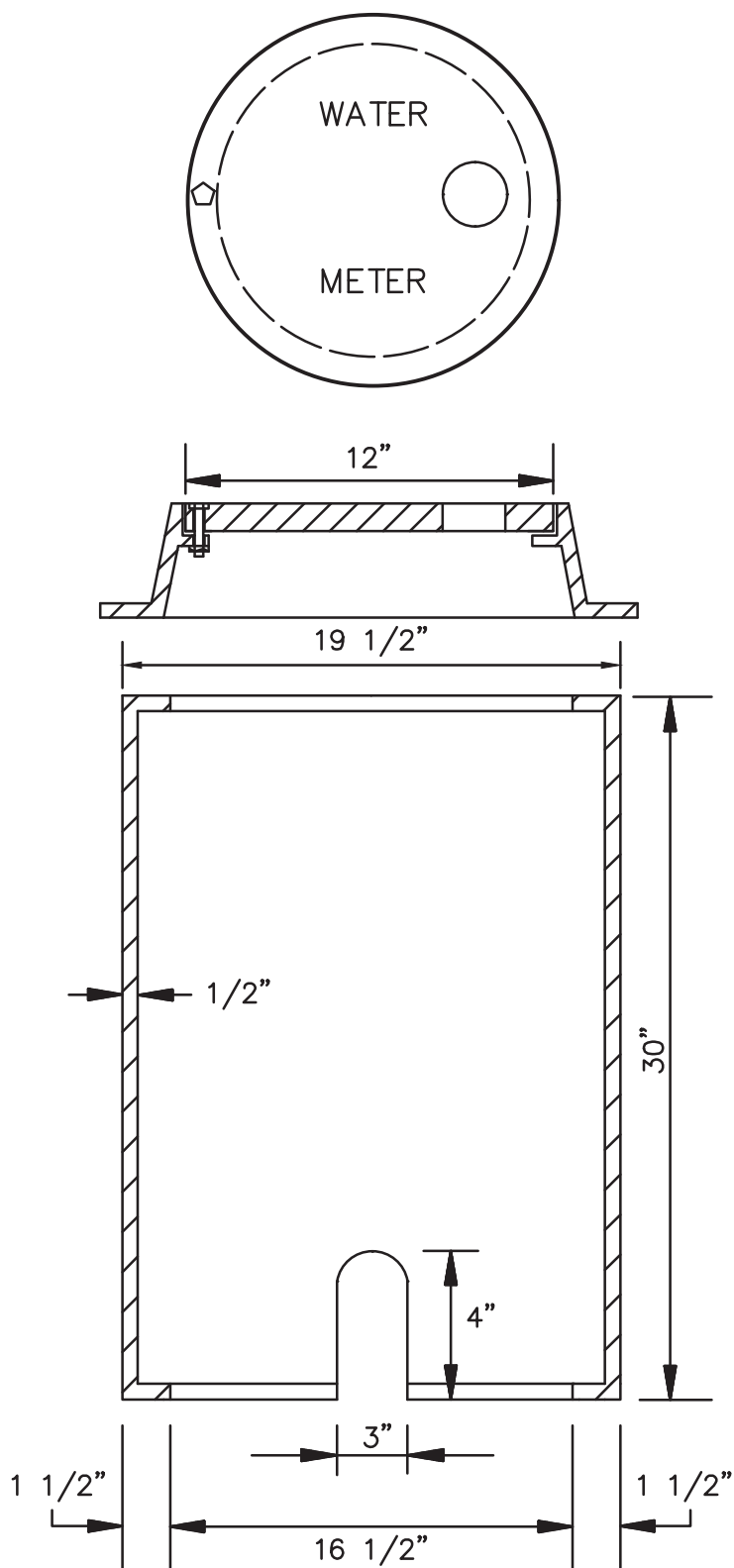
### NOTES:

1. THE CONTRACTOR SHALL NOT INSTALL THE PIPING UNTIL THE METER HAS BEEN PURCHASED FROM THE UTILITIES DEPARTMENT AND ARE ON THE PROJECT, SO THAT THE CORRECT LENGTH OF PIPE IS INSTALLED ACCORDING TO THIS DETAILED CONFIGURATION. STRAINER, METER AND TEST TEE OR SPOOL PROVIDED BY COUNTY.
2. APPROVED JOINT RESTRAINT DEVICES ARE REQUIRED ON ALL MECHANICAL JOINT (M.J.) CONNECTIONS. ALL FITTINGS SHALL BE MECHANICAL JOINT.
3. FOR DETAILS OF VAULT, SEE DRWG. NO. W9.
4. NO CHECK VALVE OR PRV IS ALLOWED ON THE INLET SIDE OF THE METER.
5. CONTRACTOR IS REQUIRED TO COORDINATE WITH THE UTILITY DEPARTMENT OPERATION CENTER, THE PURCHASE AND PICK UP OF A COUNTY APPROVED METER. ALL CONNECTION FEES AND/OR OTHER APPLICABLE CHARGES OR FEES MUST BE PAID TO PICK UP THE WATER METER, TEST TEE AND STRAINER FROM THE UTILITIES DEPARTMENT.

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Water Meter Setting Over 2 Inches	DRWG. NO. W6
REVISIONS March 2017			

NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM



Not to Scale

DATE  
April 2013

REVISIONS  
March 2017

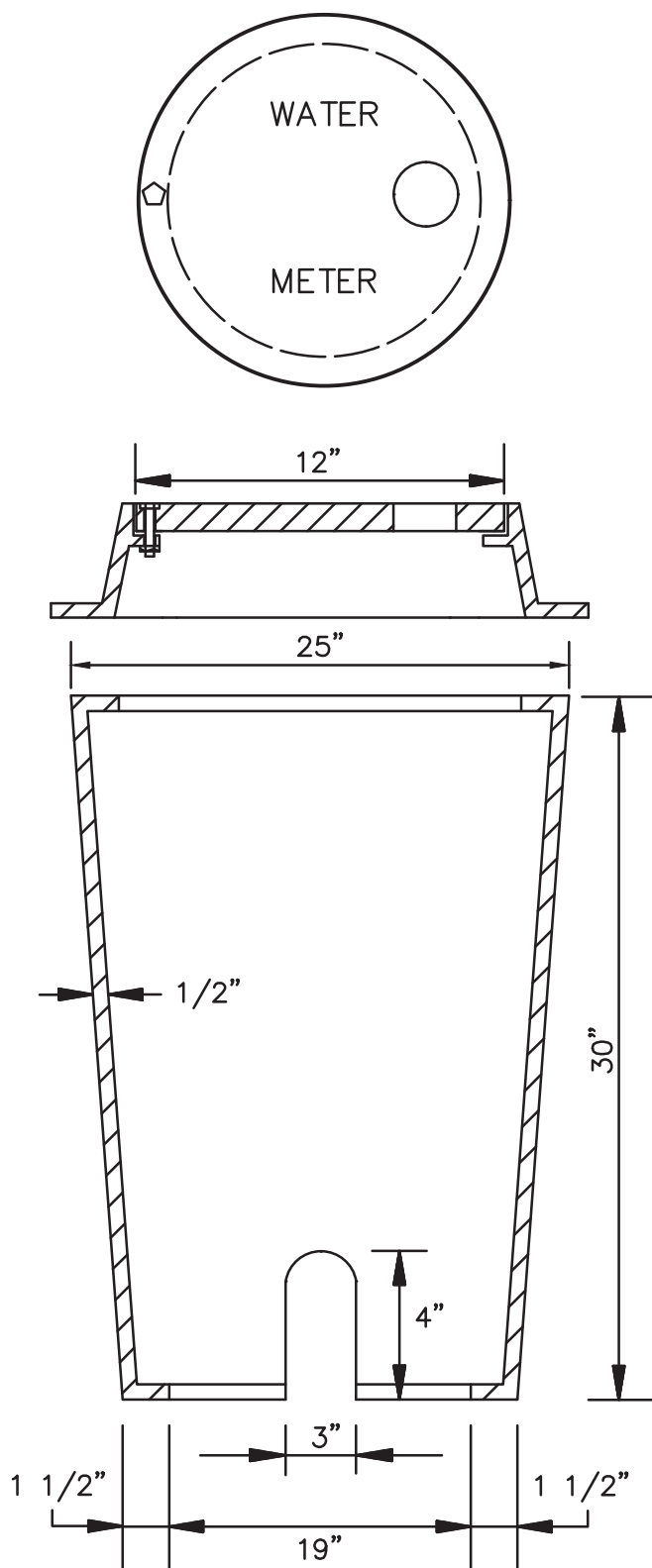
Spotsylvania County  
Department of Utilities

Meter Box 5/8" & 3/4"

DRWG. NO.

W7

NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM



Not to Scale

DATE  
April 2013

REVISIONS  
March 2017

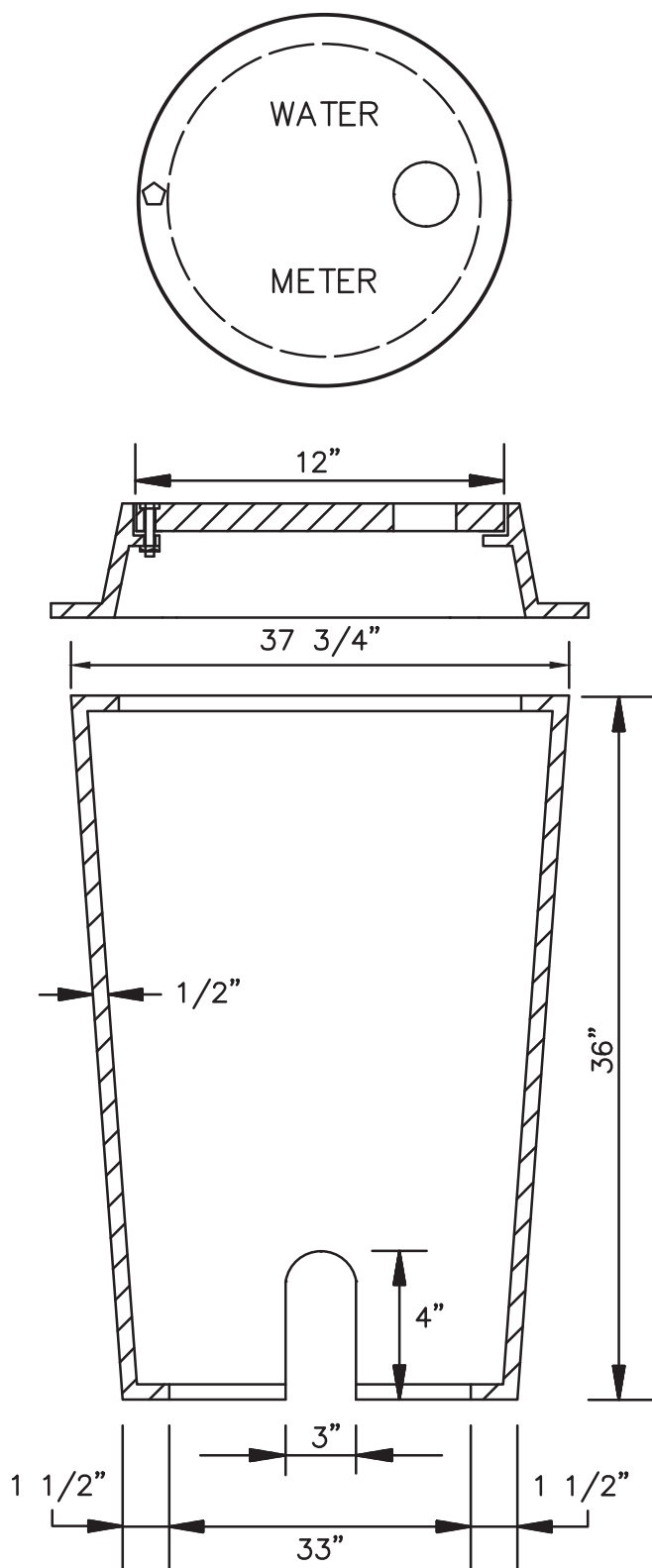
Spotsylvania County  
Department of Utilities

Meter Box 1"

DRWG. NO.

W7-A

NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM



Not to Scale

DATE  
April 2013

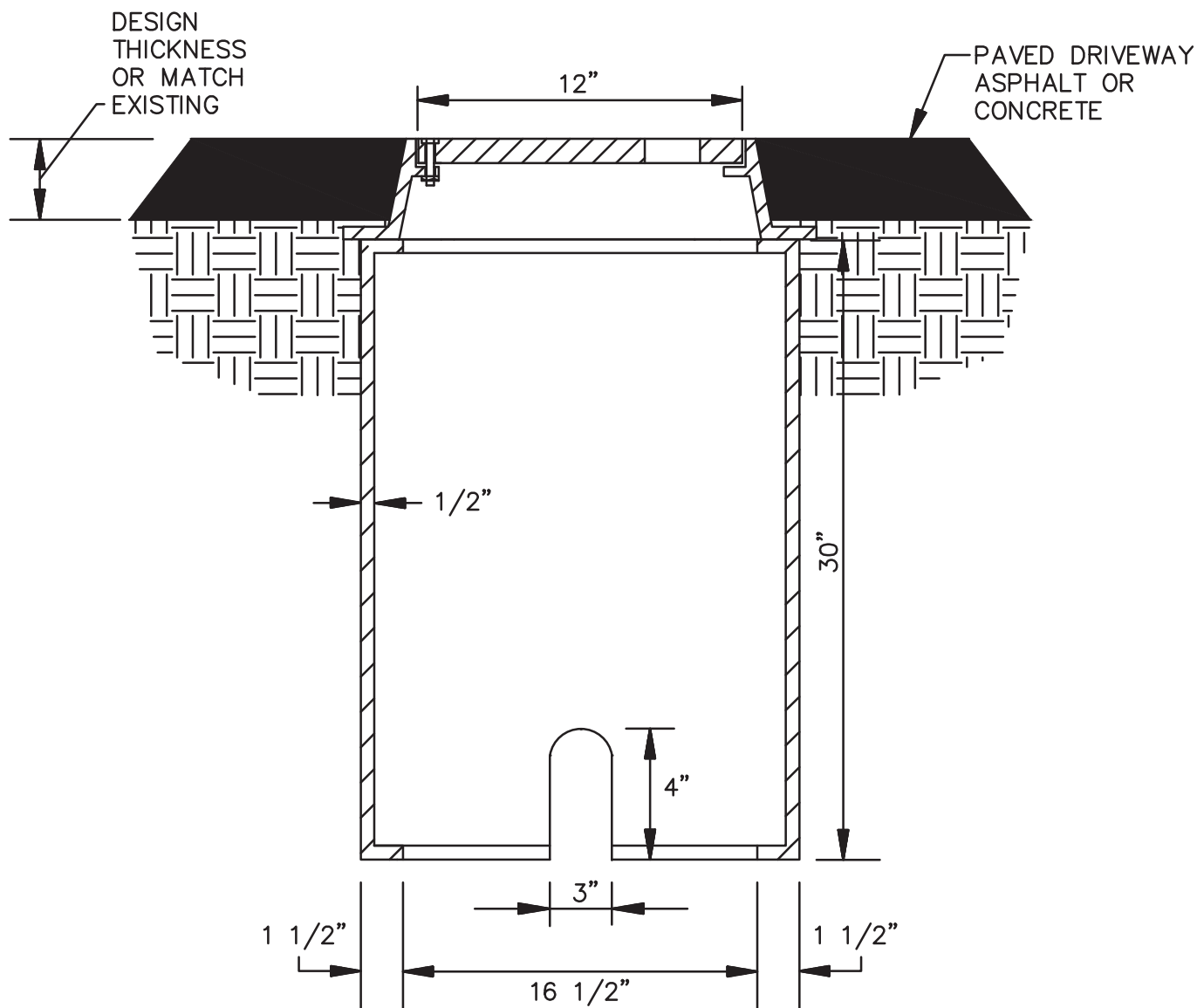
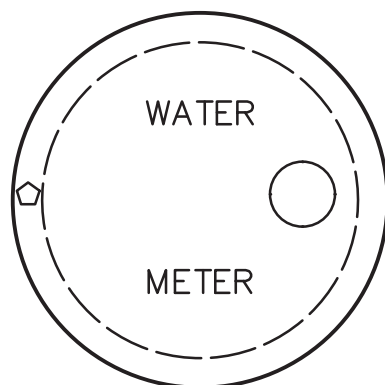
REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

Meter Box 1 1/2" & 2"

DRWG. NO.  
W7-B

NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM

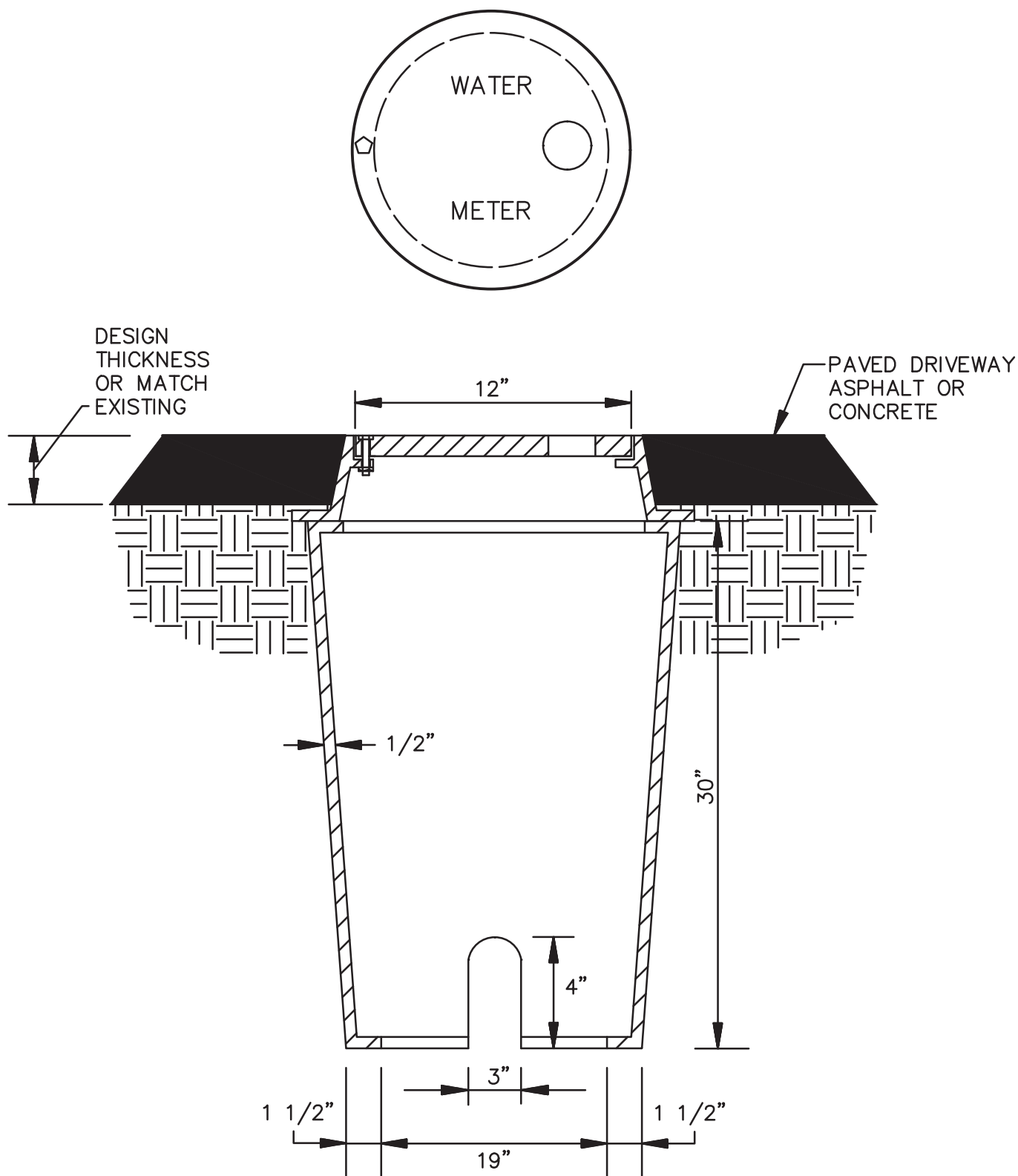


Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Traffic/Driveway Meter Box 5/8" & 3/4"	DRWG. NO. W7-C
REVISIONS March 2017			



NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM



Not to Scale

DATE  
April 2013

REVISIONS  
March 2017

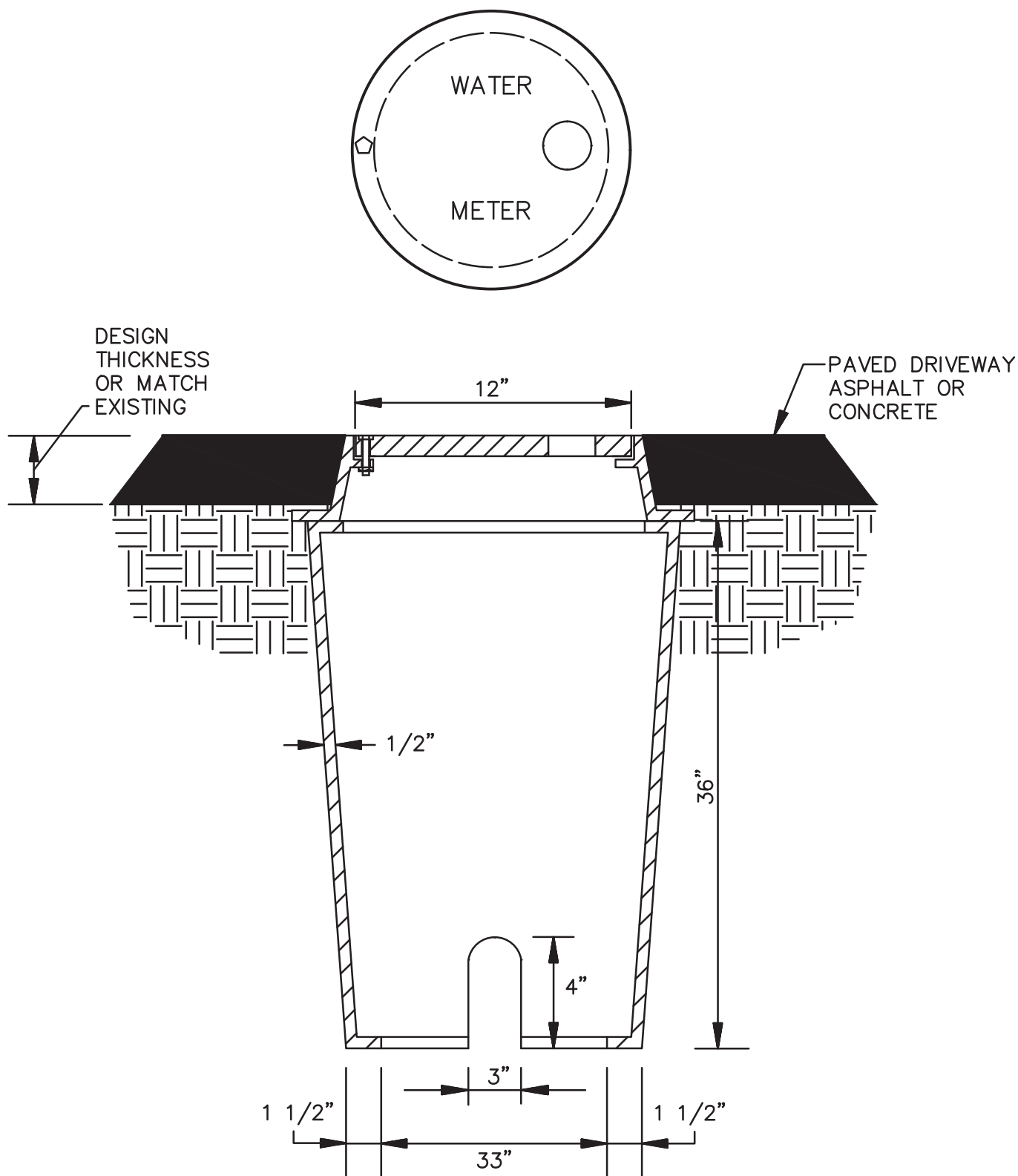
Spotsylvania County  
Department of Utilities

Traffic/Driveway  
Meter Box 1"

DRWG. NO.

W7-D

NOTE: PROVIDE A 1-3/4" DIA. HOLE IN  
METER BOX LID FOR INSTALLATION OF  
COUNTY'S METER READING SYSTEM



Not to Scale

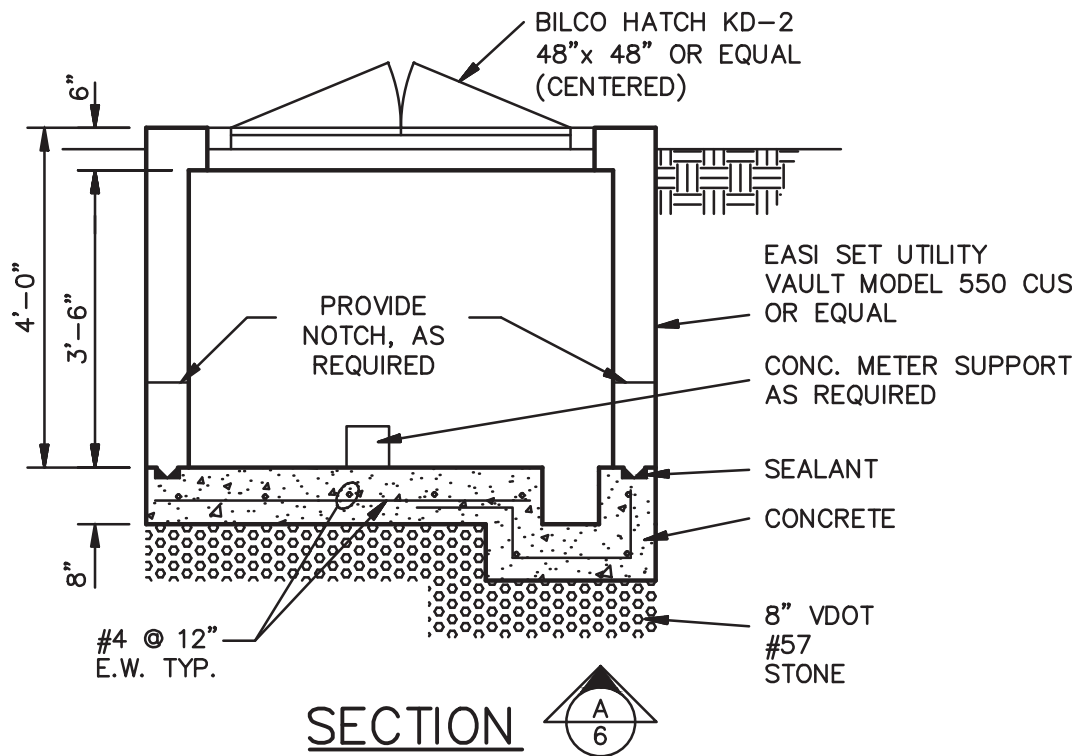
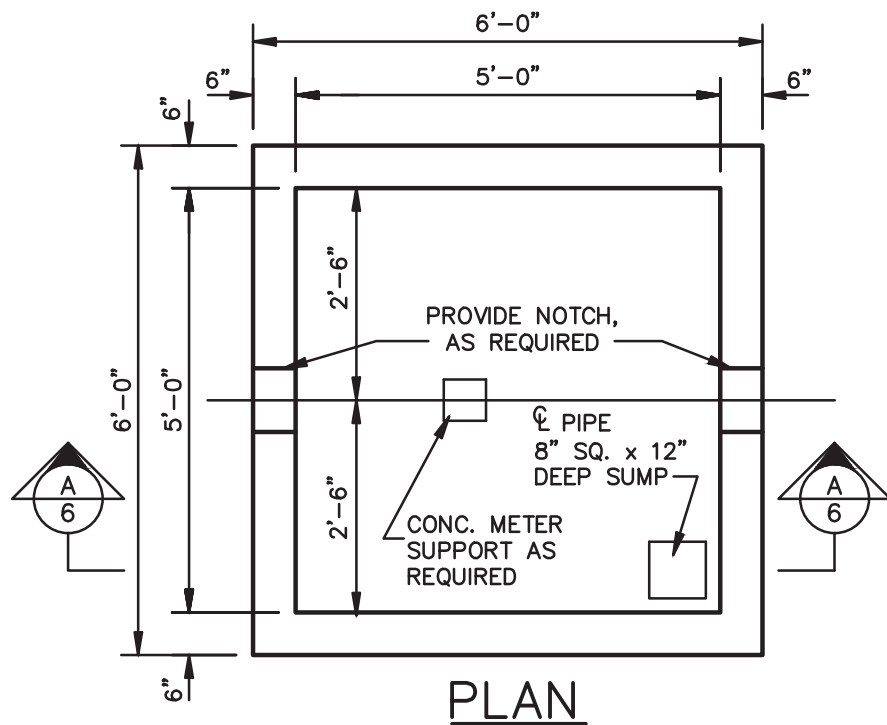
DATE  
April 2013

REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

Traffic/Driveway  
Meter Box 1 1/2" & 2"

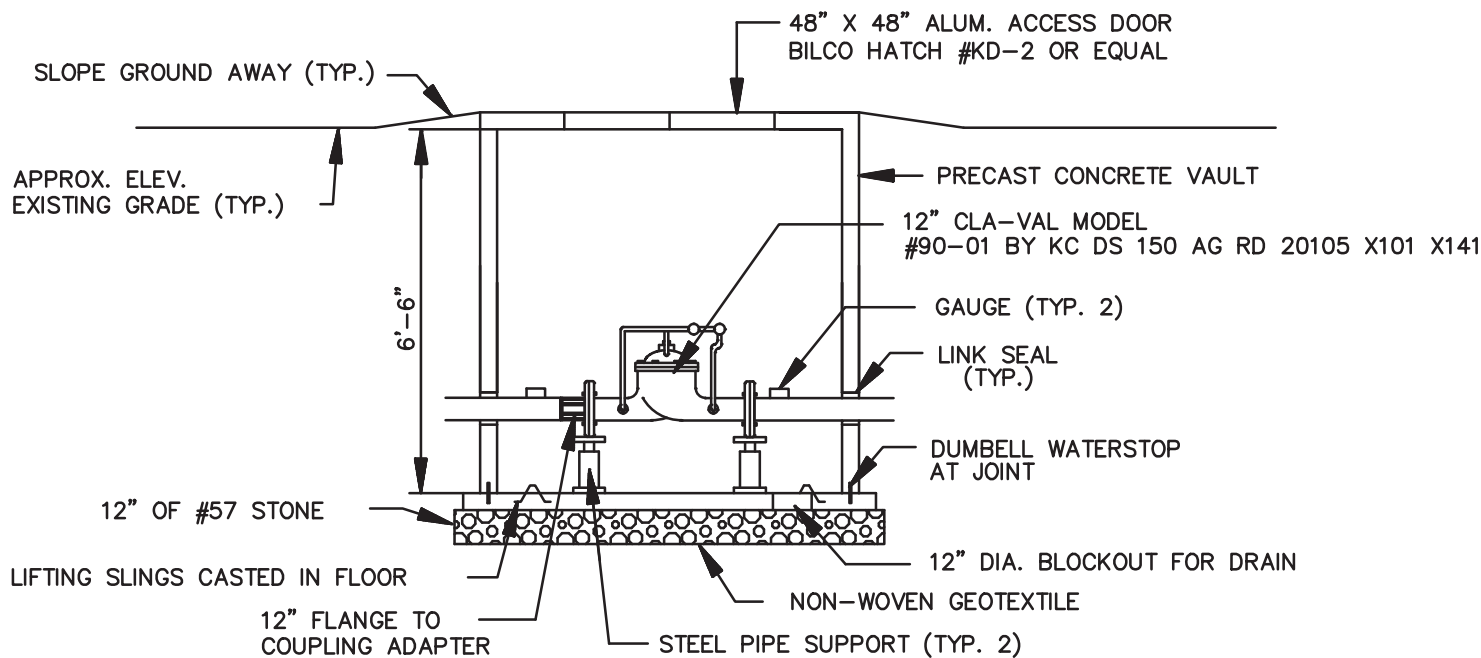
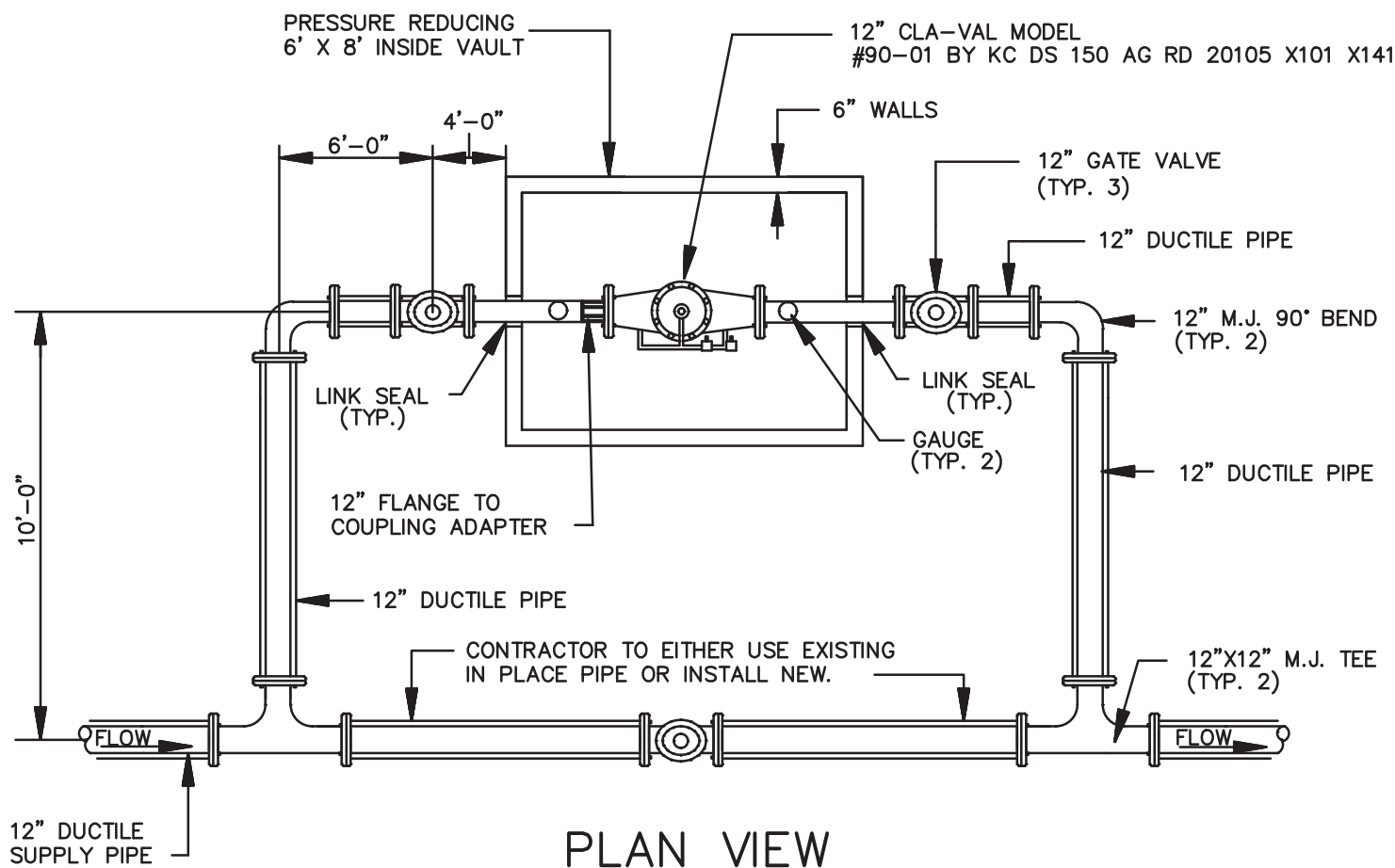
DRWG. NO.  
W7-E



NOTE: PROVIDE 1-3/4" DIA. HOLE IN METER BOX LID FOR  
INSTALLATION OF COUNTY'S METER READING SYSTEM

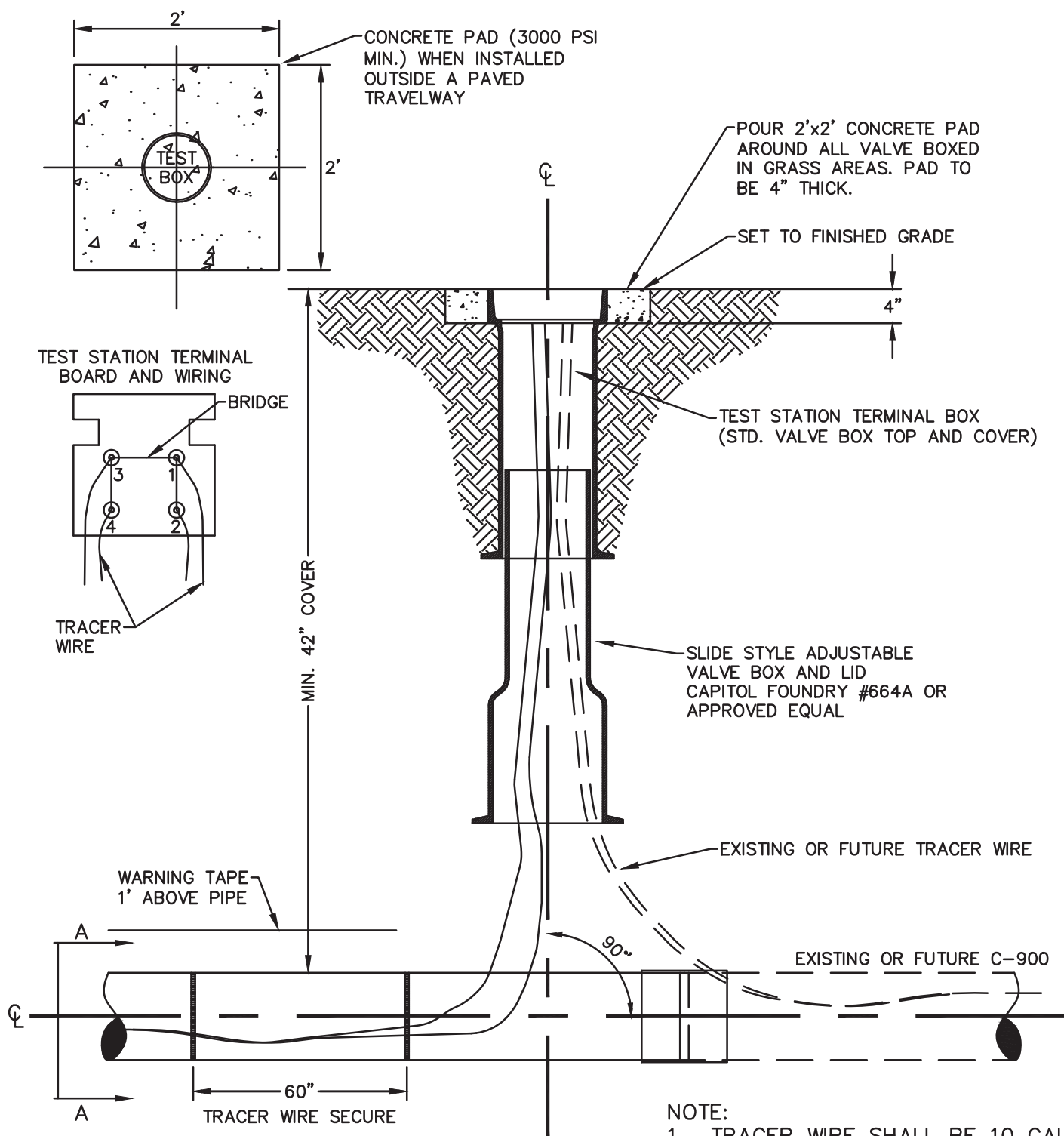
Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Water Meter Box Over 2 Inches	DRWG. NO. W9
REVISIONS			



Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Pressure Reducing Valve Vault	DRWG. NO. W10
REVISIONS			



Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Tracer Wire Test Station for Lawns and Pavement Areas	DRWG. NO.  W11
REVISIONS March 2017			

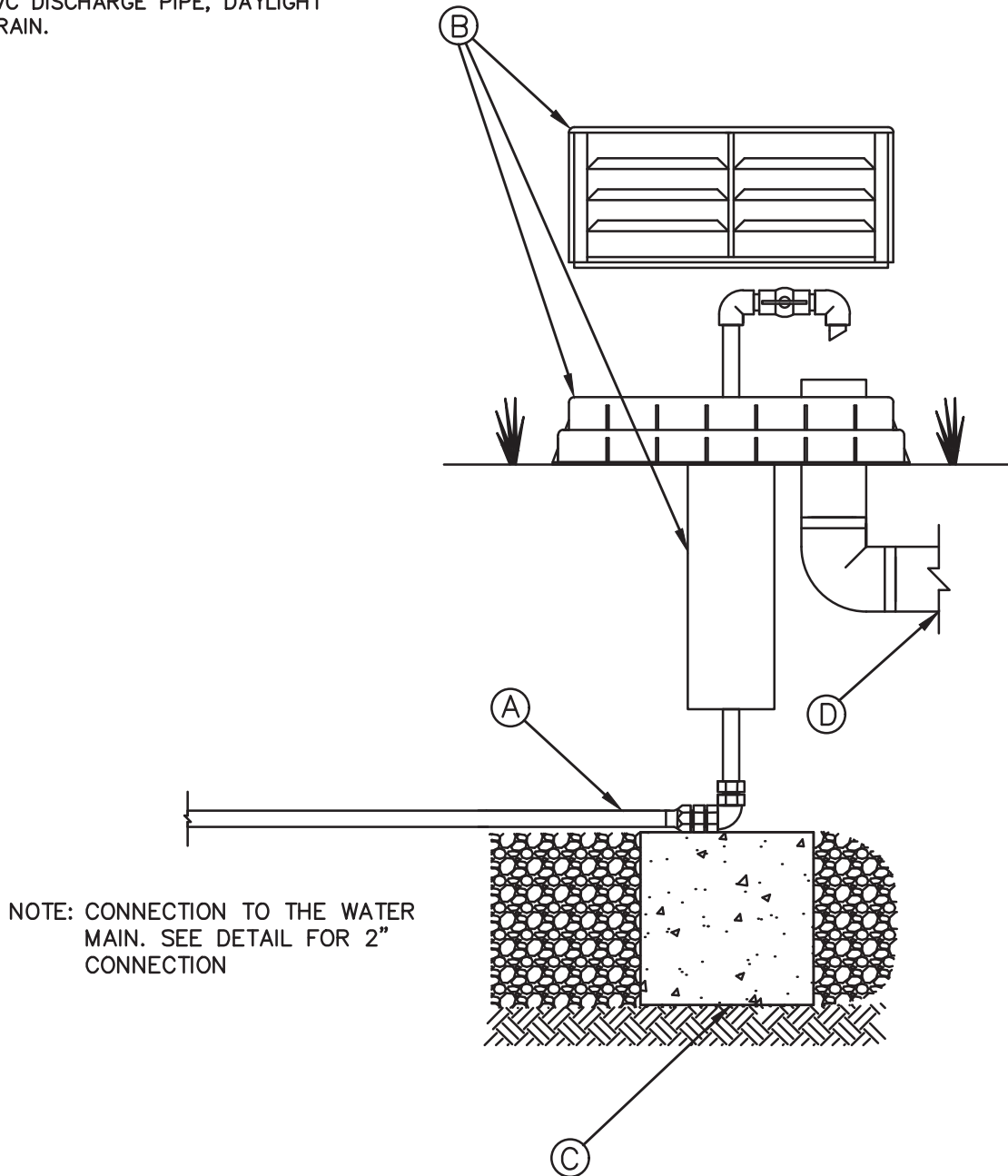
I. 3/4" BRASS CORPORATION STOP.

Not to Scale

DATE April 2013	Spotsylvania County Department of Utilities	Sample Station Installation	DRWG. NO.  W12
REVISIONS March 2017			

KEYNOTES:

- A. 2" DOMESTIC TYPE K SOFT COPPER.
- B. #9800 AUTOMATIC FLUSHING DEVICE.  
THE KUPFERLE FOUNDRY CO.
- C. 8"X"8 CONCRETE PIER BLOCK ON  
UNDISTURBED NATIVE SOIL.
- D. 6" PVC DISCHARGE PIPE, DAYLIGHT  
TO DRAIN.



Not to Scale

DATE  
April 2013

REVISIONS  
March 2017

Spotsylvania County  
Department of Utilities

# Automatic Flushing Device Installation

DRWG. NO.  
W13