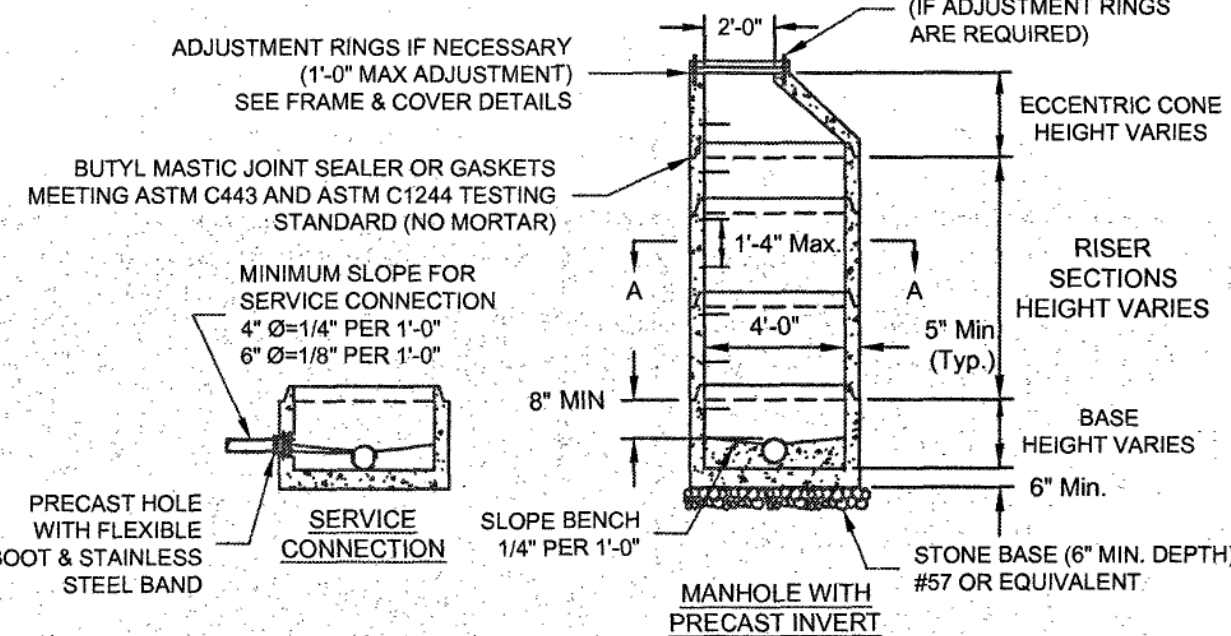


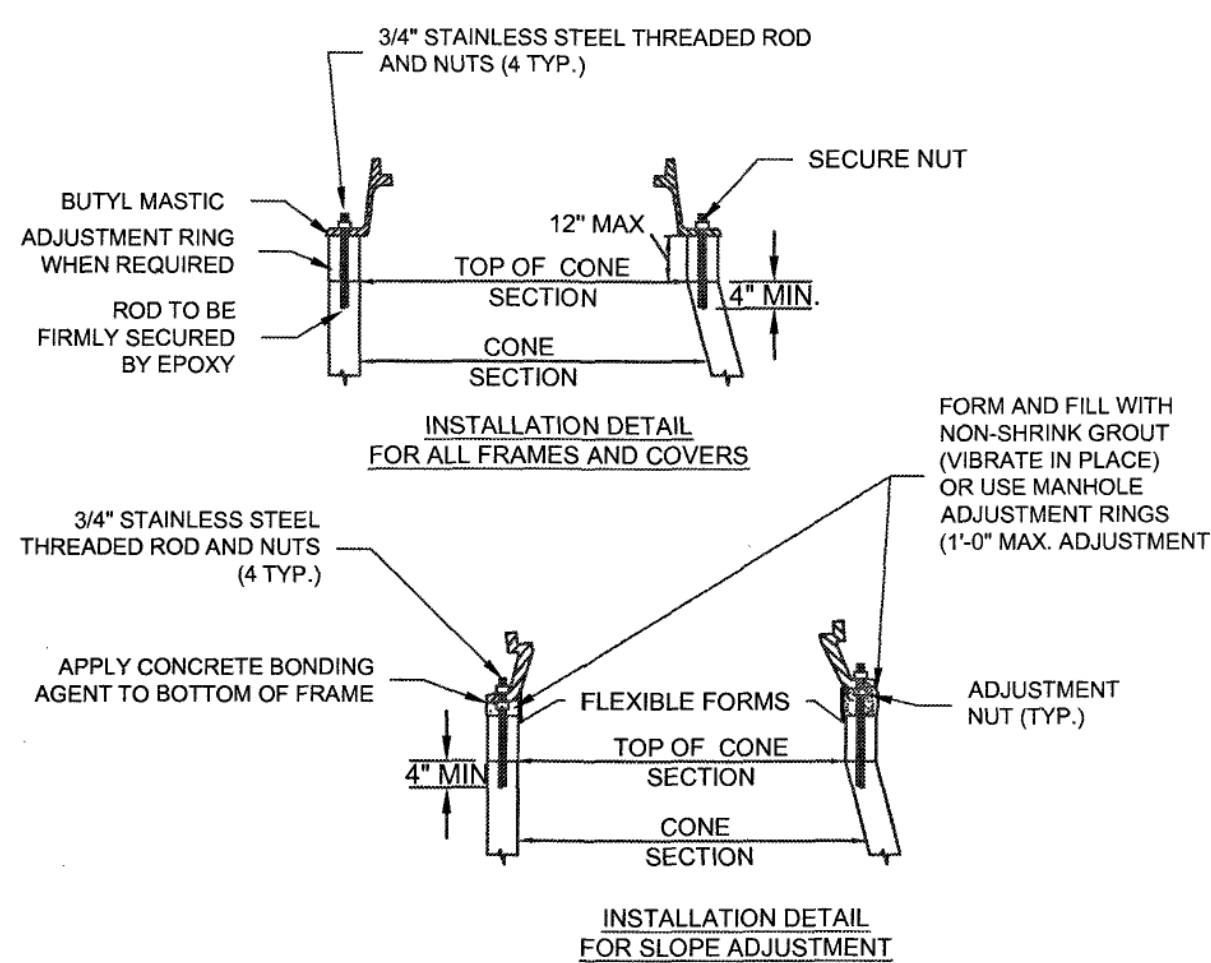
- 
- Diagram illustrating the cross-section (SECTION A-A) of a manhole assembly. The assembly consists of a circular manhole with a diameter of 4'-0". The top of the manhole is sealed with a PRECAST HOLE (TYP.). The space between the precast hole and the manhole wall is filled with GROUT ANNULAR SPACE (TYP. INLET & OUTLET). The bottom of the manhole is sealed with a FLEXIBLE BOOT WITH STAINLESS STEEL BAND (TYP.).



4' STANDARD MANHOLE  
FOR PIPE 15" OR SMALLER  
(FOR DEPTHS UP TO 15 FEET)

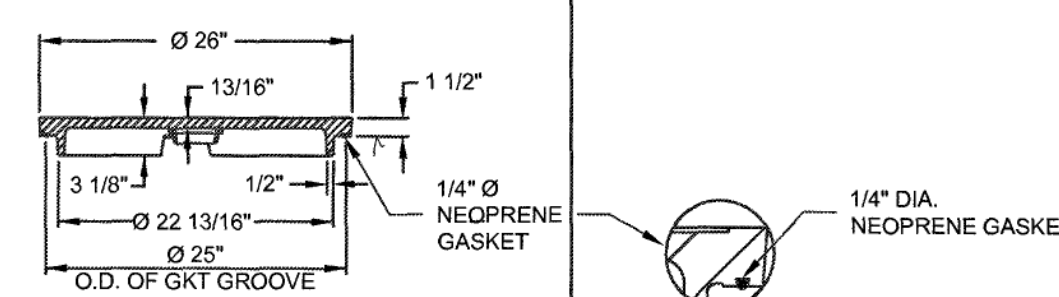
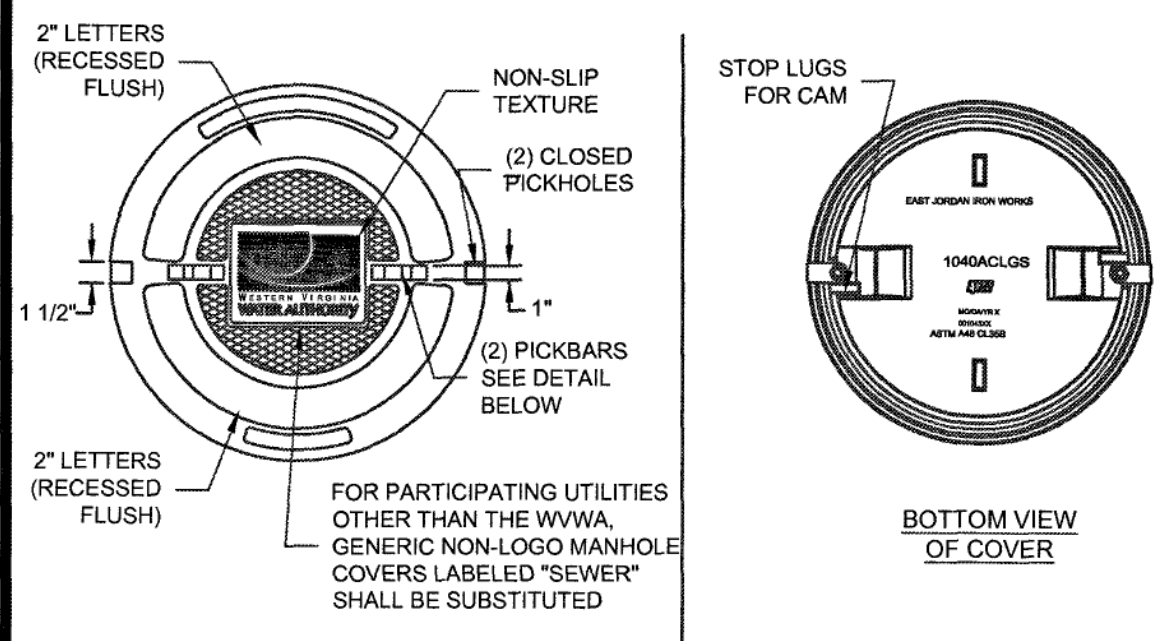
... ..

- 
- 2.000
- 2.000
- 2.000
- 27 1/2" DIA
- 26 1/4" DIA
- 24" DIA
- 28 7/16" DIA
- 36" DIA
- 1 1/2"
- 5/8"
- MACHINED SURFACE
- NOTE
- FRAME SECTION

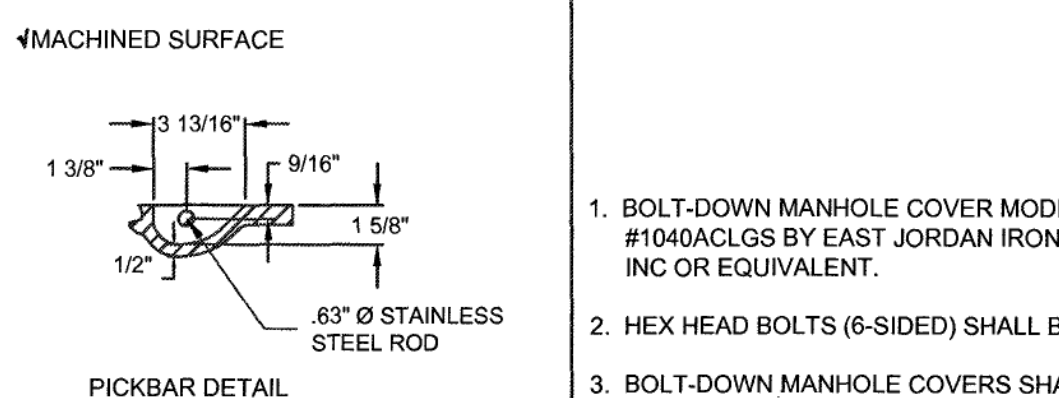


WATERTIGHT  
MANHOLE FRAME

2



### SECTION VIEW



STANDARD MANHOLE COVER MODEL  
100 LBS BY EAST JORDAN IRON WORKS  
OR EQUIVALENT.

### BOLT-DOWN MANHOLE COVER

1. BOLT-DOWN MANHOLE COVER MODEL #1040ACLGs BY EAST JORDAN IRON WORKS, INC OR EQUIVALENT.
2. HEX HEAD BOLTS (6-SIDED) SHALL BE USED.
3. BOLT-DOWN MANHOLE COVERS SHALL BE USED WHEN SHOWN ON PLANS OR AS DIRECTED BY THE PARTICIPATING UTILITY.

WATERTIGHT  
MANHOLE COVER

1

- 

SANITARY SEWER LATERAL

1

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- STAINLESS STEEL SCREEN  
WAGNER MODEL 1600FAA  
(NO COLOR COATING)  
OR APPROVED EQUAL
- 2'-0" MIN.
- 6" MIN.
- 6" MIN.
- 6'-0"
- 11'-6"
- 6" MIN. (TYP.)
- 2" LOW FLOW BYPASS  
TYPE K COPPER
- NPT GATE VALVE
- PRV NOTE 3
- MIN. 5 PIPE DIAMETERS
- TURBO METER
- NPT GATE VALVE
- 4" BLOCKOUT FOR DRAIN (TYP. OF 4)
- OUTLET
- 16"
- 2"-0" Min.
- 12"
- 16"
- INLET
- FLANGED DUCTILE IRON 90° BENDS
- FLANGE ADAPTER
- NOTE:**  
PRV VAULT (CONCRETE AND PIPING) SHALL BE DELIVERED TO SITE BY OWNER. CONTRACTOR RESPONSIBLE FOR ALL EXCAVATION AND PIPE CONNECTIONS OUTSIDE VAULT.
- PRV NOTE 6
- FL X FL GATE VALVE WITH HANDWHEEL NOTE 5
- MAIN LINE FL X FL REDUCING TE
- EPOXY COATED STEEL PIPE SUPPORTS WITH STAINLESS STEEL ANCHORS (TYP.) OF 2
- SMOOTH HOLE WITH LINK SEAL (TYP.) OF 3
- FL X FL TEE - SEE ABOVE
- FL X FL GATE VALVE WITH HANDWHEEL
- MAIN LINE PRV SEE NOTE 4
- MIN. 5 PIPE DIAMETERS
- (TURBO METER (SENSUS OMMI T3) OR APPROVED EQUAL
- FL X FL GATE VALVE WITH HANDWHEEL
- ALUMINUM ACCESS LADDER
- 48" x 48" DOUBLE DOOR GUTTER-FRAME
- H20 RATED ACCESS HATCH

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

### MAIN LINE - PRESSURE REDUCING VALVE ASSEMBLY

LY

- 
- Diagram illustrating a sewer main connection. The main line is labeled "SEWER MAIN". A branch line, labeled "4\" 4\" SEWER", connects to the main line. The branch line features a "CLEAN-OUT STACK (4\" MIN.)" and a "6\" X 4\" WYE". The main line continues past the connection, showing a "6\" SEWER" section, a "CLEAN-OUT STACK (6\" MIN.)", and a "4\" MAX." section. A "6\" X 4\" REDUCER" is shown on the main line. A "COUPLING" is also indicated. A "4\" SEWER LATERAL" is shown connecting to the main line. A "TEE, WYE, TEEWYE OR COMBINATION OF WYE & 45\" BEND FITTINGS SHALL BE SIZED AS REQUIRED" is noted. A "STUB WITH LEAK PROOF CAP TO BE SUPPORTED FOR TESTING" is shown at the end of the lateral. A "PRIVATE PROPERTY" boundary is marked with a dashed line and "B.P.". A "RIGHT OF WAY OR LIMIT OF PUBLIC SEWER EASEMENT" is also indicated.

DOUBLE LATERAL  
COMBINED 6" BY TWO 4" LATERALS

10

1260 Radford Street  
Christiansburg, Virginia 24073

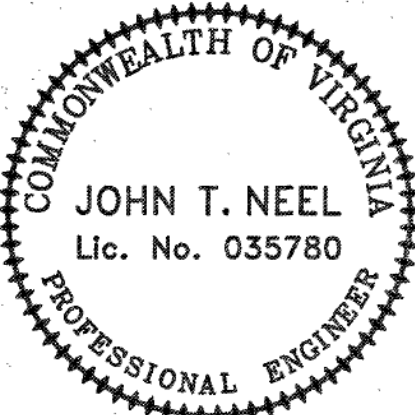
Phone: (540) 381-6011  
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Web: [www.gayandneel.com](http://www.gayandneel.com)

# PORTLAND AVENUE DRAINAGE IMPROVEMENTS

CITY OF ROANOKE, VIRGINIA

[illegible]

## PROJECT TEAM

PIC	JOHN T. NEEL, PE
-----	------------------

PM MATTHEW P. TOMLINSON, PE

SEC MBI

ISSUE DATE

9/30/2014

GNI JOB NO.

2521.0

SHEET TITLE

### UTILITY DETAILS

SHEET NUMBER

C4-07