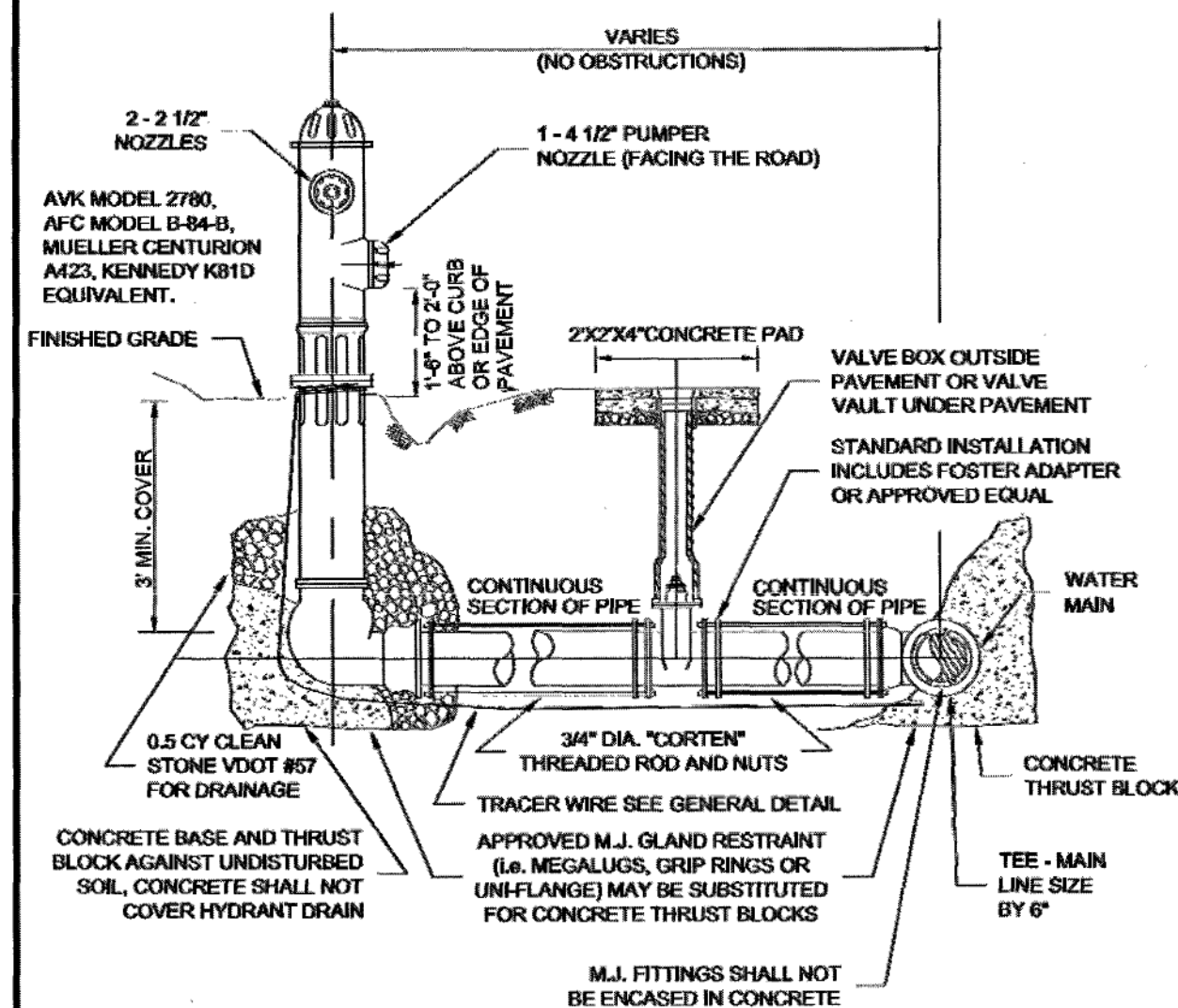


- PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT AND PRIVATE HYDRANTS SHALL BE PAINTED WHITE WITH AN OIL-BASED PAINT.
- FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 8' MIN. AND 12' MAX. FROM EDGE OF PAVEMENT WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE.
- AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
- WATERPROOF BAGS OR OUT OF SERVICE RINGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
- HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE OF ALL 3 RESTRAINTS.
- IF DURING CONSTRUCTION THE SEASONAL WATER LEVEL IS NOTED TO BE ABOVE THE DRAIN OUTLETS OF THE PROPOSED HYDRANT, THE PARTICIPATING UTILITY WILL BE NOTIFIED IMMEDIATELY SO THAT THE HYDRANT CAN BE RELOCATED TO A SUITABLE LOCATION, OMITTED, OR THE DRAIN HOLE PLUGGED.
- TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED AROUND BASE OF HYDRANT.
- APPROVED MODELS - AVK MODEL 2780, AFC MODEL B-84-B, MUELLER CENTURION A423, KENNEDY K81D EQUIVALENT.



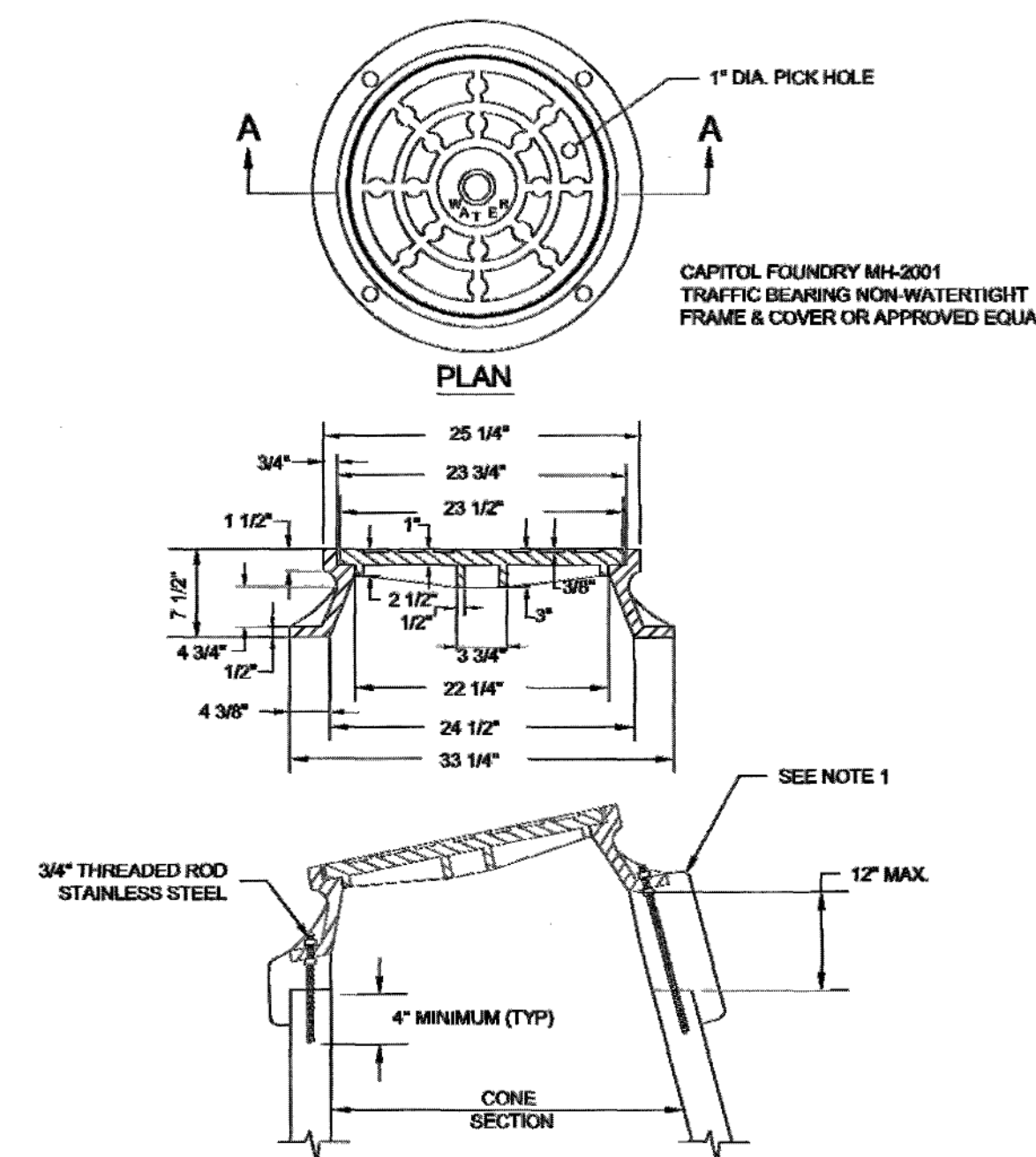
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

FIRE HYDRANT
ASSEMBLY

01/01/12

W-17

- USE MODERATELY STIFF MIX OF NON SHRINK GROUT, SAND, AND 1/2" AND LESS DIAMETER GRAVEL WITH 28 DAYS, STRENGTH AT MINIMUM 3,000 P.S.I.
- MIX IS TO BE FORCED INTO ALL GROOVES AND UNDER FLANGE OF FRAME AND LEFT AT OR ABOVE TOP OF FLANGE.
- DO NOT BACKFILL AROUND FRAME AND COVER, FOR 48 HOURS AFTER CONCRETE IS PLACED. THE USE OF HIGH EARLY STRENGTH CEMENT WOULD REDUCE TIME TO (24 HRS.)
- RESTRICT TRAFFIC LOAD FOR A MINIMUM OF 24 HOURS.



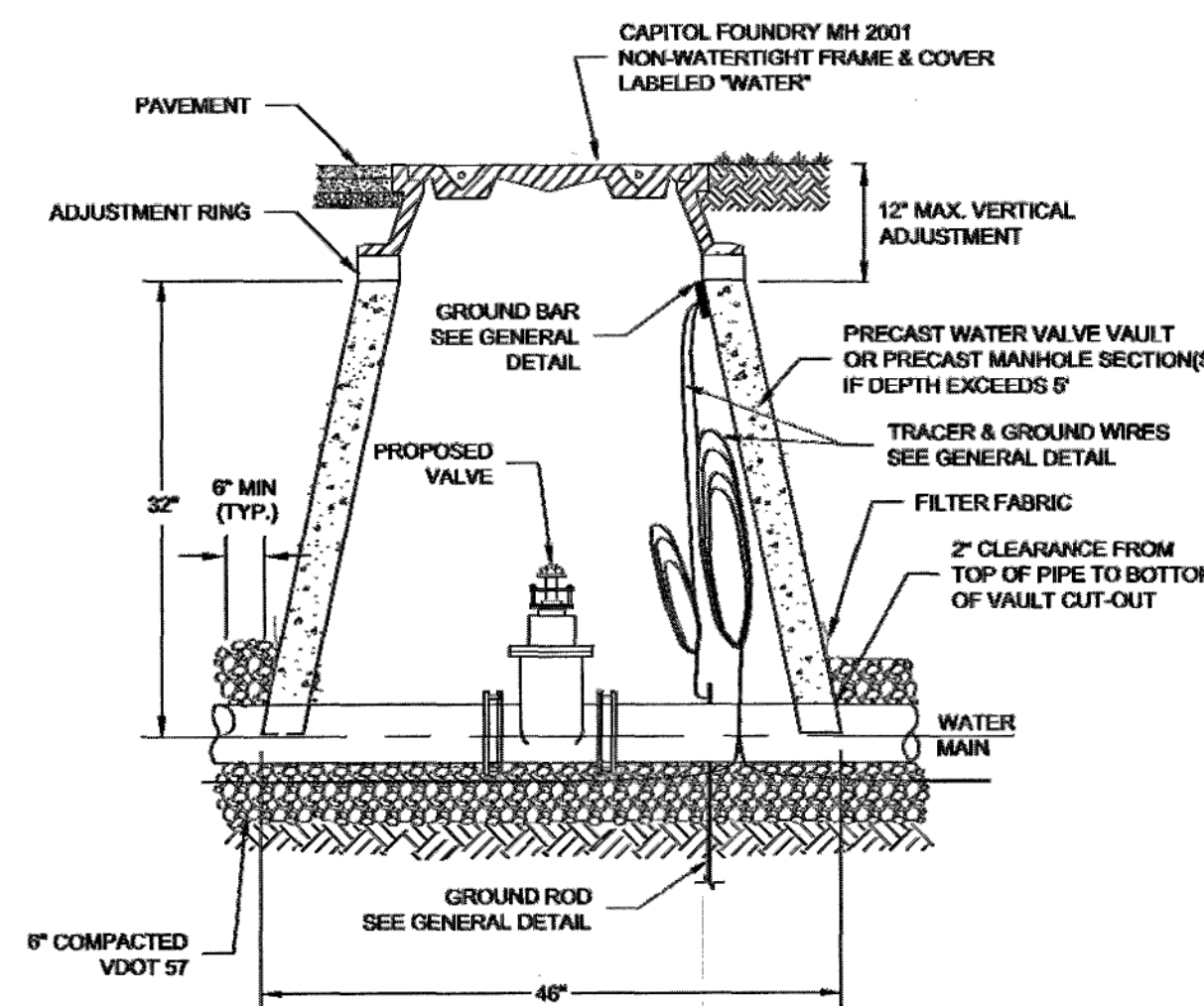
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

VAULT FRAME
AND COVER

01/01/12

W-16

- FILTER FABRIC TO BE INSTALLED BETWEEN BOTTOM OF PIPE AND STONE BEDDING. FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" FROM BOTTOM OF VAULT (FULL CIRCUMFERENCE).



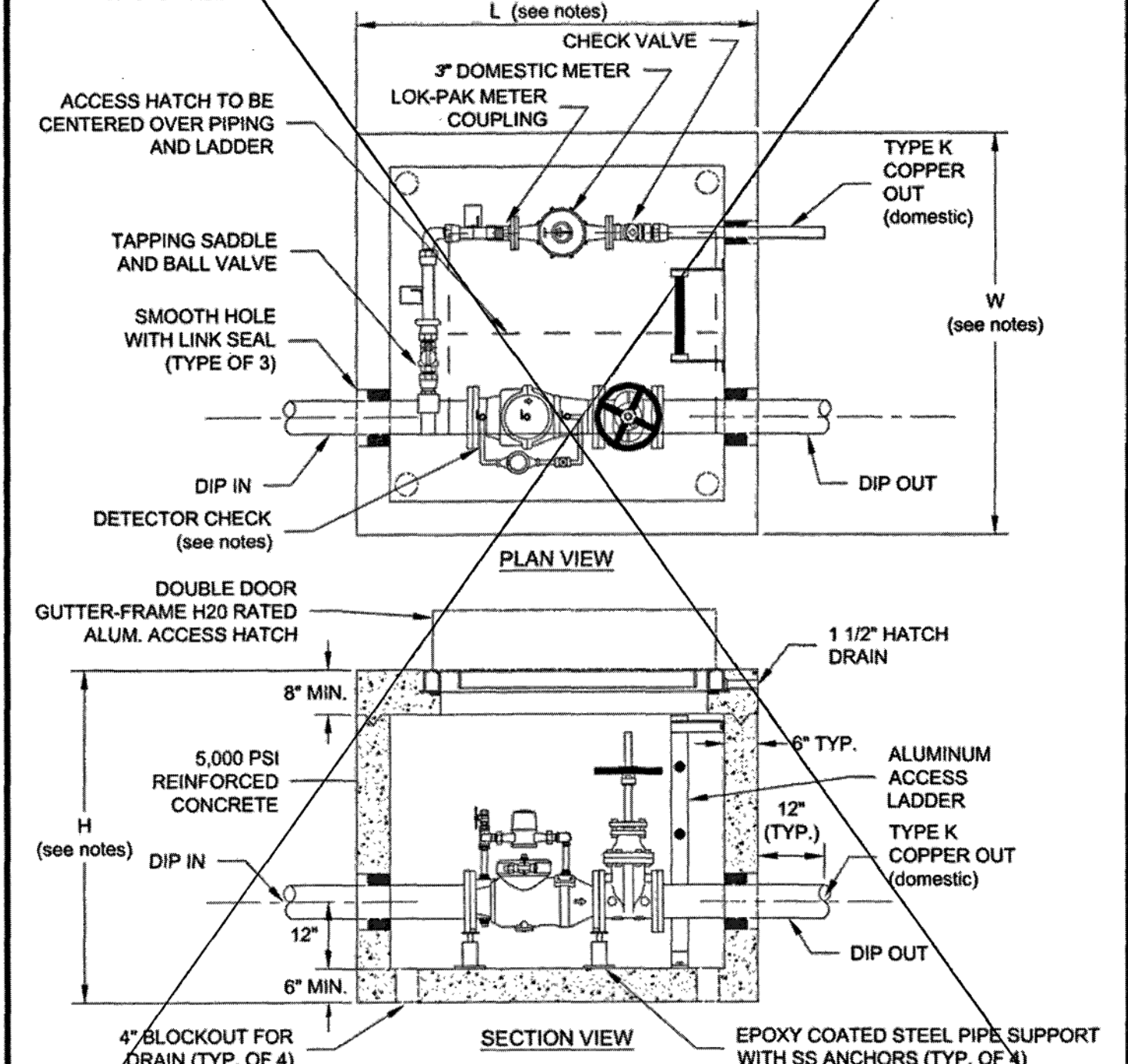
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

WATER LINE VALVE
& VAULT

01/01/12

W-9

- FOR FIRE LINE EXTERIOR VAULT DIMENSIONS SHALL BE (L X W X H) 6' X 6' X 6' WITH DOMESTIC TAP MADE INSIDE VAULT AS SHOWN BELOW.
- FOR FIRE LINE EXTERIOR VAULT DIMENSIONS SHALL BE (L X W X H) 6' X 6' X 6' WITH DOMESTIC TAP MADE OUTSIDE VAULT. BALL VALVE WITH LOCKING TABS BE PROVIDED INSIDE VAULT TO ALLOW FOR ISOLATION OF DOMESTIC METER.
- SINGLE DETECTOR CHECK VALVE SHALL BE WILKINS 310 DALM, WATTS ES-S07F - BP, OR APPROVED EQUAL WITH FLANGED END CONNECTIONS, BYPASS ASSEMBLY, AND ONE OS&Y GATE VALVE.
- DOMESTIC SHALL BE TYPE K COPPER WITH GRIP JOINT FITTINGS, BALL VALVE AT TAPPING SADDLE (WITH LOCKING TABS) AND CHECK VALVE ON OUTLET.
- DOMESTIC METER TO BE SUPPLIED BY OWNER AND INSTALLED BY VENDOR.
- "UNI FLANGE" ADAPTOR FLANGE, OR APPROVED EQUAL, OR FLANGED - PLAIN END PIPING REQUIRED FOR INLET AND OUTLET PIPING.
- VAULT TO BE INSTALLED ON MIN. 6" COMPACTED VDOT #57 STONE WITH FILTER FABRIC PLACED BETWEEN BOTTOM OF VAULT AND STONE BEDDING. FILTER FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" ON ALL FOUR SIDES OF VAULT.



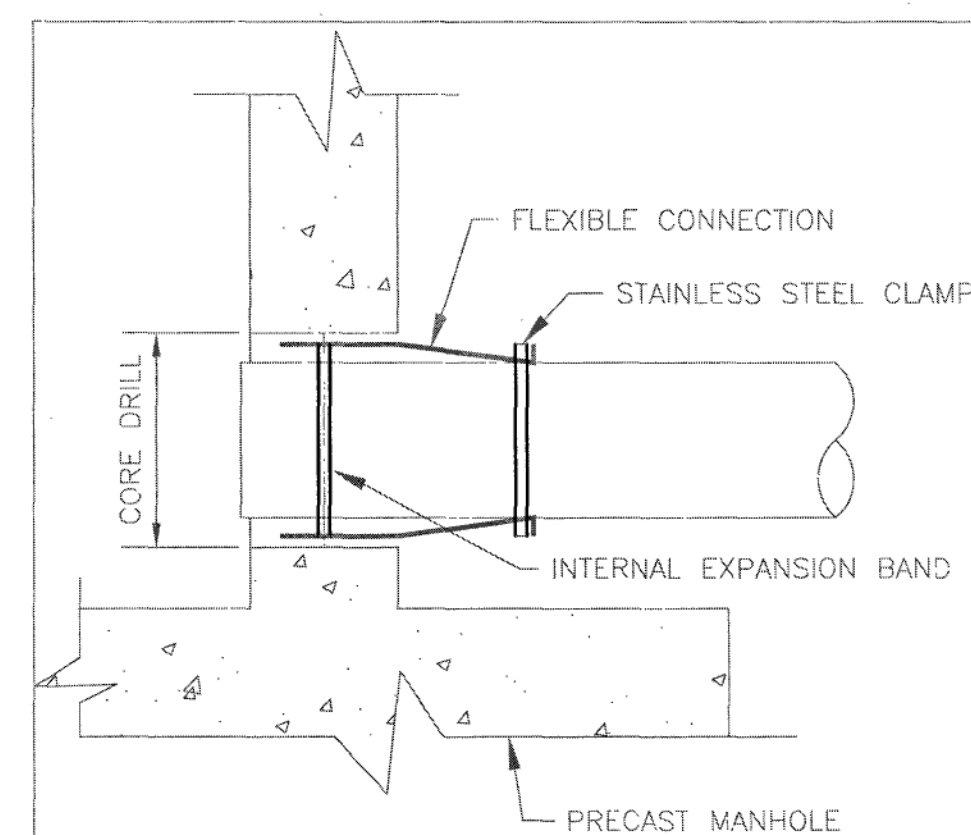
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

COMMERCIAL METER VAULT

01/01/14

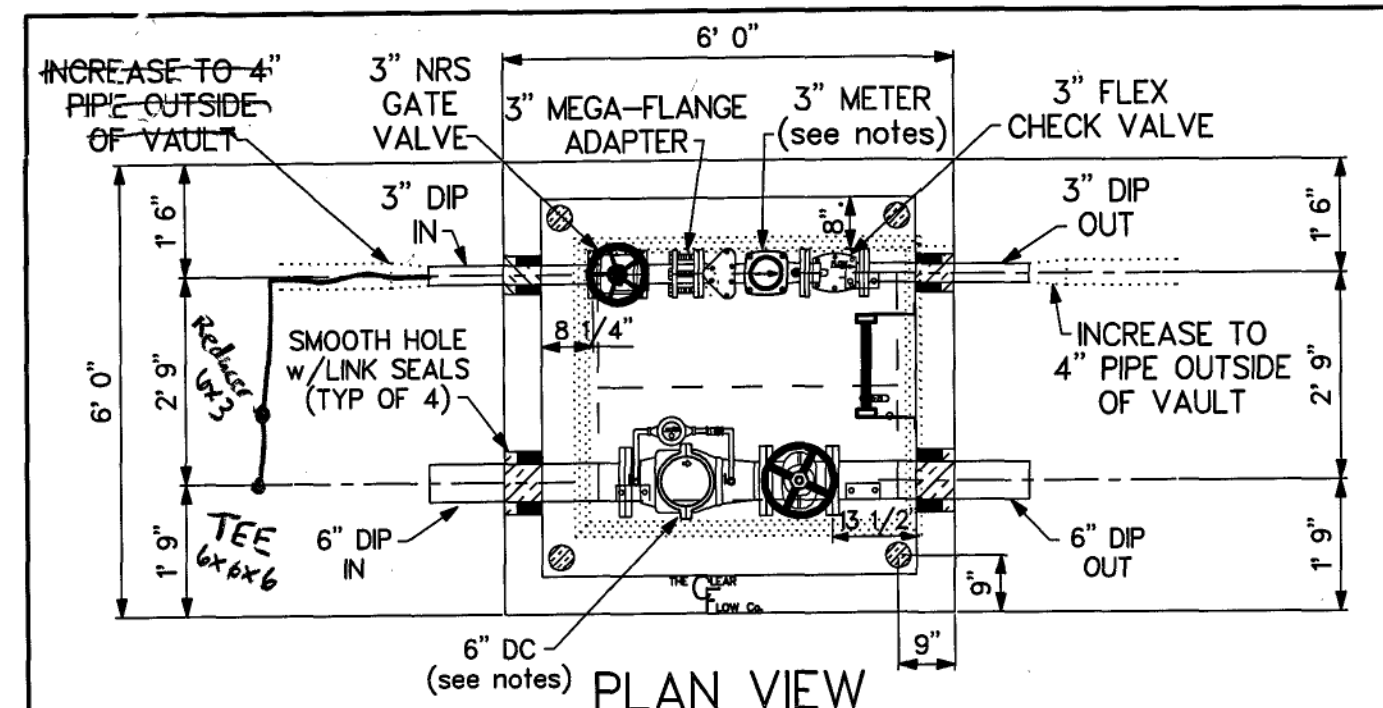
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W-7

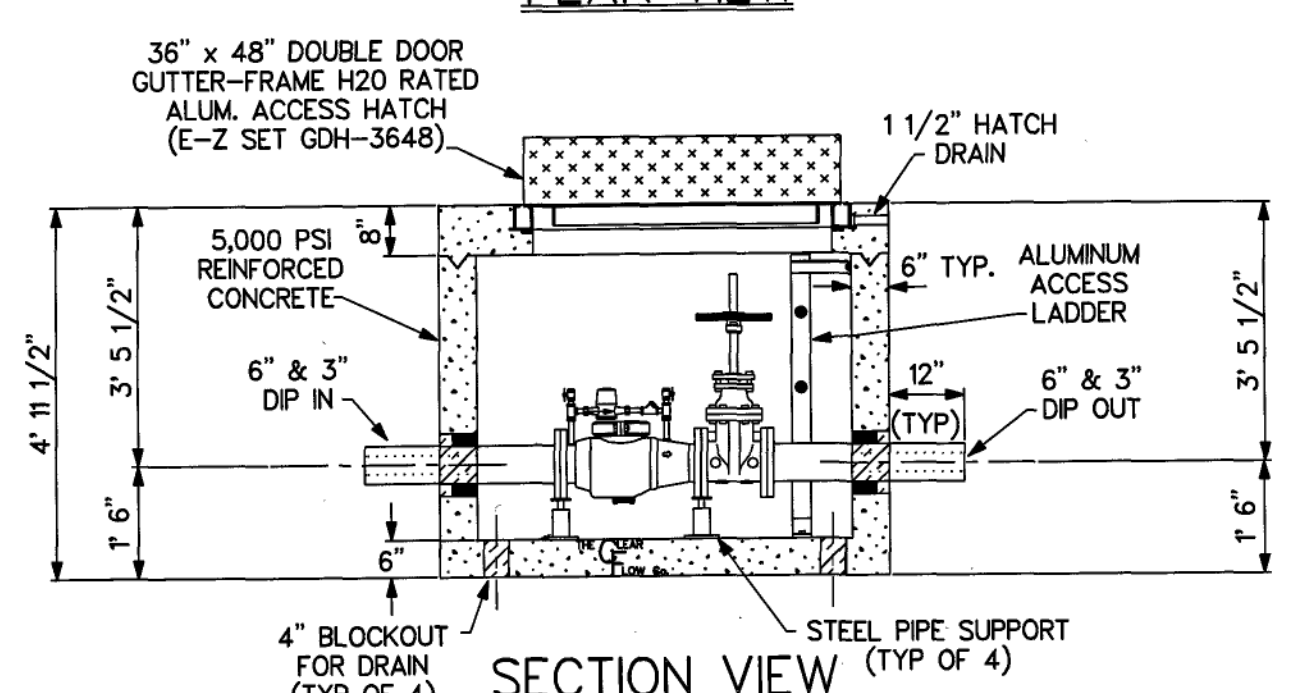


FLEXIBLE CONNECTION DETAIL

ALL PIPELINE CONNECTIONS TO PRECAST MANHOLES SHALL BE MADE WITH A FLEXIBLE BOOT. THE BOOT SHALL MEET ASTM SPECIFICATION C-923. BOOT SHALL BE MADE FROM NEOPRENE RUBBER AND HAVE A 3/8" MINIMUM WALL THICKNESS THROUGHOUT. THE INTERNAL EXPANSION BAND TO SECURE THE BOOT IN PLACE SHALL CONFORM TO ALUMINUM MATERIAL SPECIFICATION 6061-T6. THE EXTERNAL BAND TO CLAMP AND SEAL THE BOOT TO THE PIPE SHALL BE STAINLESS STEEL-CORROSION RESISTANT CONFORMING TO ASTM SPECIFICATION A-167. THE PORT TO RECEIVE THE BOOT SHALL BE CORE DRILLED AND SHALL ALLOW FOR LATERAL AND VERTICAL ANGULAR ADJUSTMENT THRU 20 DEGREES IN ALL DIRECTIONS. ALL FIELD INSTALLATION OF PIPE THRU FLEXIBLE CONNECTION SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.



PLAN VIEW



SECTION VIEW

- NOTES:
- CLEAR FLOW VAULT SHIPPED ASSEMBLED WEIGHING APPROXIMATELY 16,000 LBS.
 - 6" WILKINS 310DAL SINGLE CHECK DETECTOR ASSEMBLY w/ONE OS&Y GATE VALVE
 - 3" METER SUPPLIED TO CLEAR FLOW BY THE WESTERN VA WATER AUTHORITY
 - 3" CLA-VAL #584 FLEX SWING CHECK VALVE

| | | |
|---------------------------------------|------------------|----------|
| DESIGN | STEVEN L. GORDON | 10/09/06 |
| DRAWN | BY CP&P | 01/14 |
| CHECKED | BY CP&P | 01/14 |
| SINGLE CHECK 2 DOMESTIC LINES | 1/09/11 | |
| TAP DOMESTIC OFF FIRE LINE (IF POSS.) | 1/25/11 | |
| SENSUS OWN C2 & IPER METERS | 3/19/12 | |
| 5" LINE & METER | 1/26/14 | |
| <div></div> | | |
| REF. NO. | P-82862-S | |

| | |
|--|--|
| <div>CLEAR FLOW</div> <div>By CP&P</div> <div>CONCRETE PIPE & PRECAST, LLC</div> <div><div></div>210 STONE SPRING ROAD HARRISONBURG, VA 22801 (540) 434 - 6979</div> | <div>ROANOKE COUNTY, VIRGINIA</div> <div>FRIENDSHIP HEALTH & REHAB-SOUTH</div> <div>6" DC VAULT w/ 3" DOMESTIC METER</div> <div>JACK ST. CLAIR</div> |
|--|--|

CLEAR FLOW
By CP&P
CONCRETE PIPE & PRECAST, LLC
210 STONE SPRING ROAD
HARRISONBURG, VA 22801
(540) 454-6979

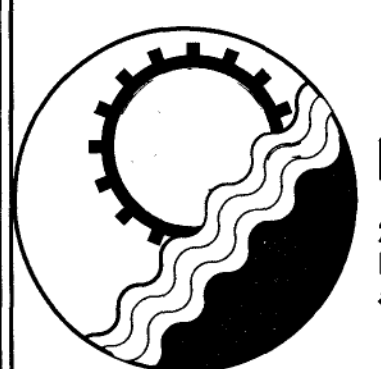
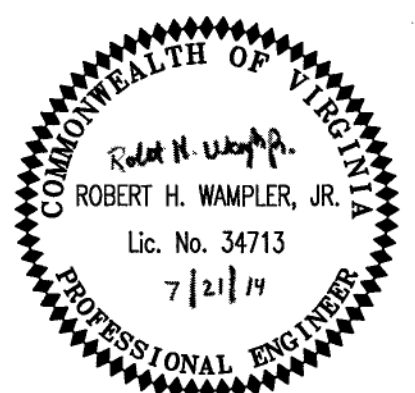
ROANOKE COUNTY, VIRGINIA
FRIENDSHIP HEALTH
& REHAB-SOUTH
6\"/>

Drawn RHB
Designed RHW
Checked ECI
Approved RHW

FRIENDSHIP HEALTH AND
REHAB CENTER SOUTH
WATER DETAILS
ROANOKE COUNTY, VIRGINIA

NO SCALE
DATE: 7/21/14
PROJECT: 13106
18

APPROVED



ENGINEERING CONCEPTS, INC.

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