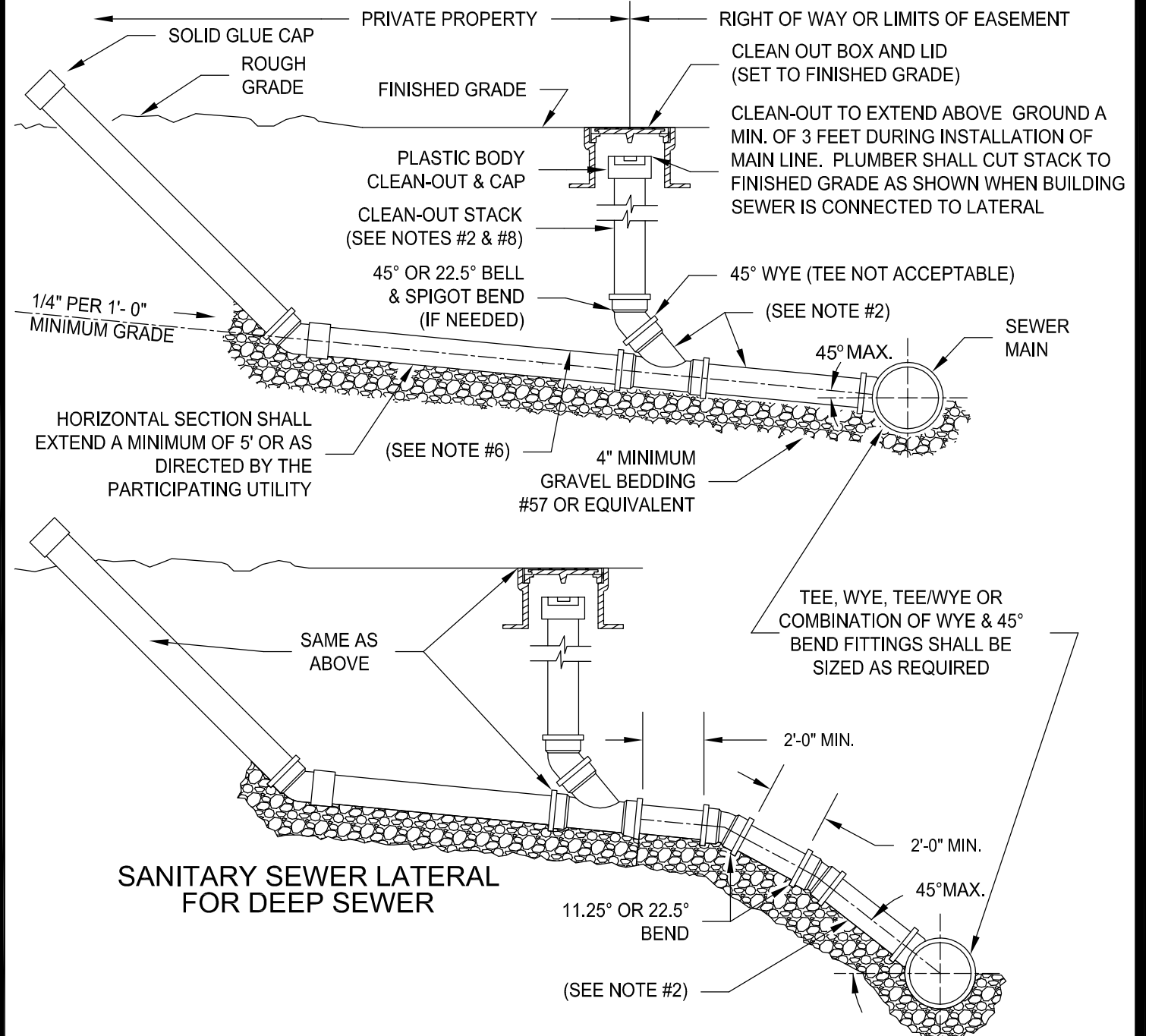


1. TRAFFIC BEARING BOX AND LID REQUIRED IN TRAFFIC AREAS (CAPITOL FOUNDRY VB-9'S).
2. SEWER LATERAL AND CLEANOUT PIPING SHALL BE ASTM D3034 SDR 26. SEWER LATERAL FITTINGS SHALL BE OF SAME SDR RATING AS THE SEWER MAIN. SCHEDULE 40 SOLVENT WELD PIPE AND FITTINGS MAY BE USED FOR THE SEWER LATERAL AND CLEANOUT ASSEMBLY WITH APPROVAL FROM THE PARTICIPATING UTILITY.
3. ALL PIPE SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEANOUT STACK WYE. (EXCEPT FOR DEEP SEWER, AS SHOWN BELOW).
5. ALL MAIN LINE TAPS ON ACTIVE MAINS SHALL BE PERFORMED BY PARTICIPATING UTILITY.
6. PIPING ON PRIVATE SIDE OF CLEANOUT TO BE INSTALLED PER GOVERNING JURISDICTION REQUIREMENTS.
7. MINIMUM LATERAL SIZE: 4" FOR RESIDENTIAL SERVICE, 6" FOR NON-RESIDENTIAL SERVICE.
8. SEWER CLEANOUTS SHALL BE SAME SIZE AS SEWER LATERAL.
9. MINIMUM COVER FOR ALL SEWER LATERALS SHALL BE THREE (3) FEET.
10. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE (IN ACCORDANCE WITH THIS DETAIL) WHEN MAINTENANCE OCCURS.
11. LOWEST SERVED FINISHED FLOOR ELEVATION SHALL BE A MINIMUM OF THREE FEET (3) ABOVE THE TOP OF THE MAIN AT THE POINT WHERE THE SERVICE LATERAL CONNECTS TO THE MAIN.
12. WHEN CONNECTING TO EXISTING LATERAL USE FERNCO FLEXIBLE COUPLING.

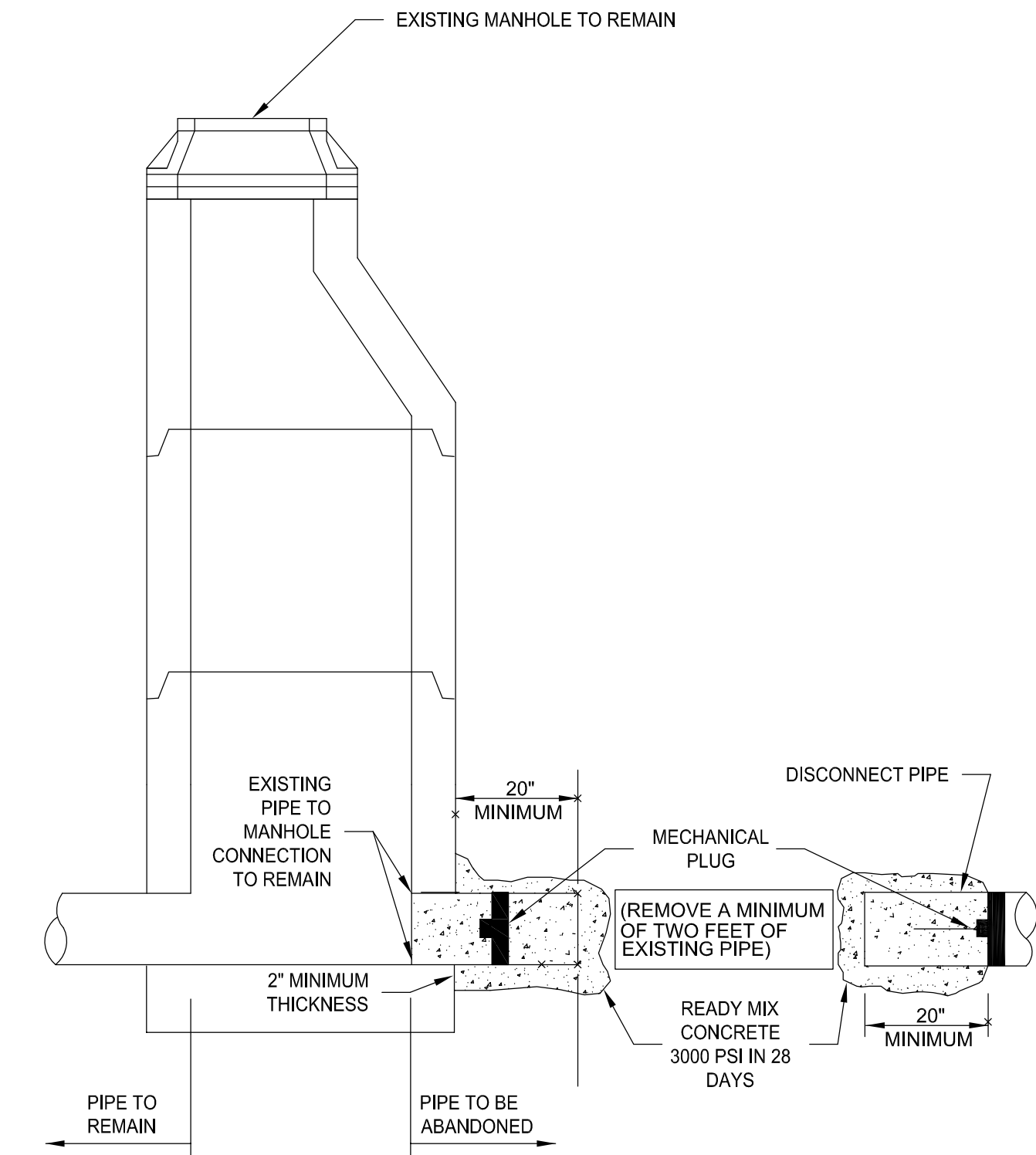


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

SANITARY SEWER LATERAL

S-6

1. FOR PIPES 18" AND LARGER PROVIDE A MASONRY BULKHEAD IN LIEU OF MECHANICAL PLUGS.

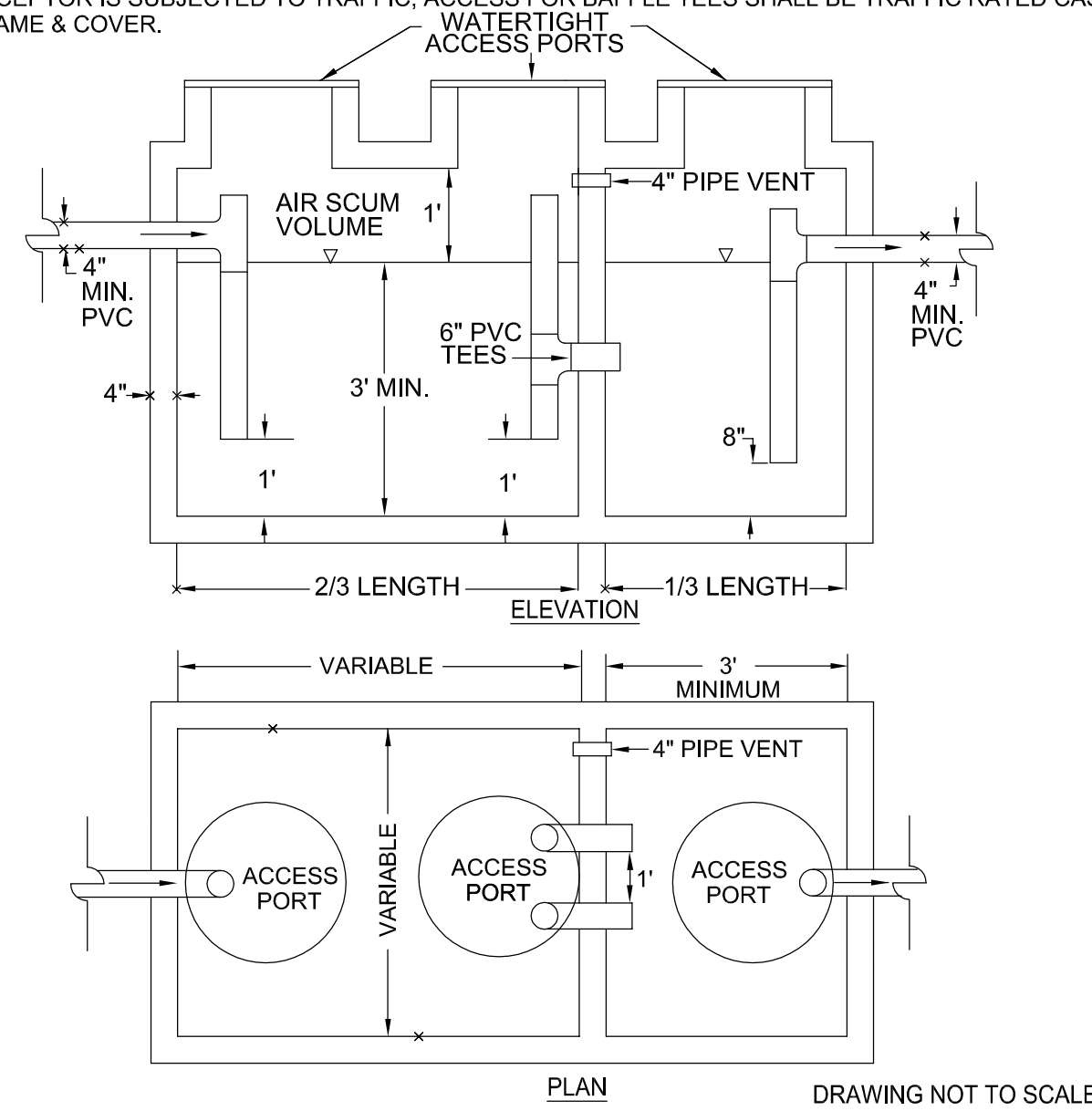


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

SANITARY SEWER PIPE
ABANDONMENT AT A MANHOLE

S-15

- NOTES:
1. MINIMUM RETENTION TIME SHOULD BE 30 MINUTES AT PEAK FLOW.
 2. GREASE INTERCEPTOR SHOULD BE DESIGNED TO WITHSTAND TRAFFIC LOADS IF APPLICABLE.
 3. FRAMES AND COVERS SHALL BE CAST IRON & WATERTIGHT. NO PLASTIC COVERS SHALL BE ALLOWED. "GREASE" SHALL BE CAST INTO COVER.
 4. A NON - MONOLITHIC UNIT SHALL HAVE THE FOLLOWING INSTALLED PER MANUFACTURER'S SPEC:
 - A.1. A CONSEAL CS - 102 BUTYL RUBBER SEALANT (OR EQUIVALENT) IN THE JOINT.
 - B. 24" CONSEAL CS - 212 POLYOLEFIN BACKED EXTERIOR WRAP (OR EQUIVALENT) CENTERED OVER THE EXTERIOR OF THE JOINT.
 5. GREASE INTERCEPTOR SHALL BE INSPECTED AND APPROVED BY THE PARTICIPATING UTILITY PRIOR TO SITE RECEIVING WATER SERVICE CONNECTION.
 6. FORTY- EIGHT (48) HOURS PRIOR TO INSTALLATION, THE CONTRACTOR SHALL COMPLETE THE FOLLOWING:
 - A.1) CONTACT PARTICIPATING UTILITY TO DETERMINE PROPER SUBMITTAL AND INSPECTION PROCEDURE.
 - B. 1) FOR UNITS INSTALLED INTO THE WESTERN VIRGINIA WATER AUTHORITY'S SYSTEM:
 - 1.) SUBMIT SHOP DRAWINGS TO C. ALTICE, 601 S JEFFERSON ST, SUITE 300, ROANOKE, VA. 24011.
 - 2.) CALL (540) 537-3460 TO SCHEDULE GREASE INTERCEPTOR INSPECTION. THE INSPECTION SHALL OCCUR PRIOR TO THE CONTRACTOR COVERING THE GREASE INTERCEPTOR.
 7. CONCRETE SHALL BE TYPE III AND CONFORM TO ASTM C150.
 8. ALL OTHER DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM C1613.
 9. ALL PVC PIPES SHALL EXTEND 5" ABOVE WATER SURFACE.
 10. IF INTERCEPTOR IS SUBJECTED TO TRAFFIC, ACCESS FOR BAFFLE TEES SHALL BE TRAFFIC RATED CAST IRON FRAME & COVER.

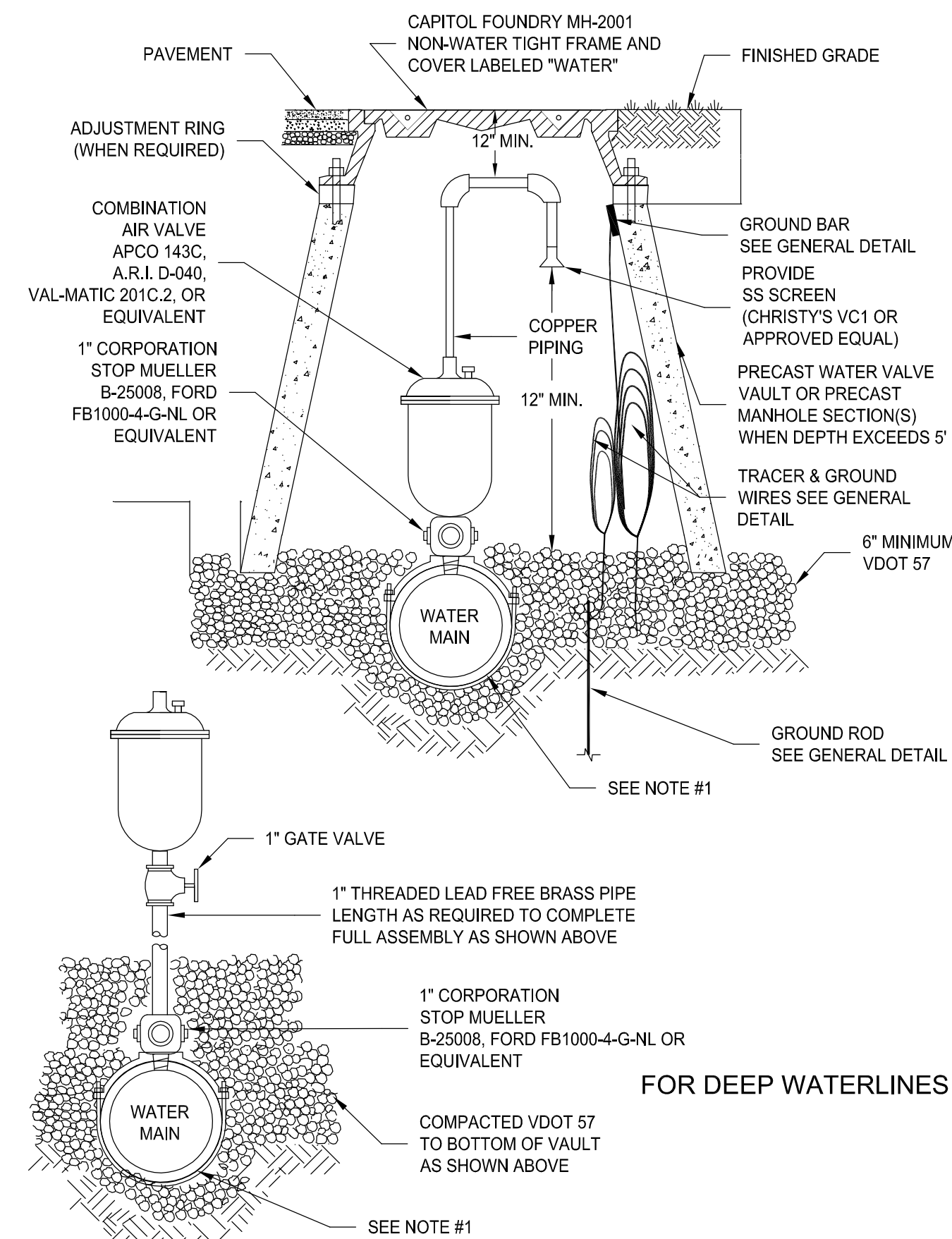


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

GREASE INTERCEPTOR

S-17

1. SEE RESIDENTIAL WATER SERVICE DETAIL FOR SADDLE REQUIREMENTS.
2. LARGER COMBINATION VALVE MAY BE REQUIRED DEPENDING ON APPLICATION.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

COMBINATION AIR VALVE ASSEMBLY

W-13

1. A 1" DRAIN WILL BE REQUIRED ON THE LOWER END OF THE CASING PIPE.
2. SPACERS SHALL BE RACI HDPE SPACERS OR EQUIVALENT. STAINLESS STEEL SPACERS MAY BE USED IF IN COMPLIANCE WITH THE FOLLOWING CRITERIA:
 - INTERIOR SURFACES OF THE CIRCULAR STAINLESS STEEL BAND SHALL BE LINED WITH EPDM OR NEOPRENE MATERIAL.
 - ABRASION RESISTANT RUNNERS/SKIDS SHALL BE POLYMER MATERIAL WITH EACH END BEVELED TO FACILITATE EASE OF INSTALLATION INTO CASING PIPE.
3. SPACERS SHALL BE SPACED 6 1/2" ON SEWER PIPE.
4. CARRIER PIPE SHALL BE DUCTILE OR HDPE IN ACCORDANCE WITH REGIONAL STANDARDS.
5. IF HDPE CARRIER PIPE IS USED AND PRECISE GRADES ARE NOT REQUIRED THROUGH CASING, SPACERS MAY BE OMITTED.
6. CASING PIPE TO BE STEEL IN ACCORDANCE WITH VDOT STANDARD DETAIL EP-1 OR HDPE AS SPECIFIED IN THE STANDARDS IF APPROVED BY THE PARTICIPATING UTILITY.
7. CONCRETE CASING PIPE WILL NOT BE ALLOWED.
8. DIAMETER OF CASING PIPE SHALL BE AS SHOWN IN THE TABLE BELOW UNLESS OTHERWISE SPECIFIED BY THE PARTICIPATING UTILITY. WHERE SPACERS ARE NOT REQUIRED, CASING PIPE SHALL BE MINIMUM DIAMETER TO ADEQUATELY INSTALL AND PASS CARRIER PIPE THROUGH AND TO MINIMIZE VOID SPACE BETWEEN CARRIER AND CASING PIPES.

CASING PIPE SIZE CHART	
CARRIER PIPE (NOMINAL DIAMETER)	CASING PIPE (DIAMETER)
6"	12"
8"	16"
10"	24"
12"	24"
14"	24"
16"	30"
18"	30"
24"	42"
30"	42"

TWO SPACERS PLACED AT EACH END OF CASING (TYP)

CASING PIPE

RESTRAINED JOINTS

6.5" * BETWEEN SPACERS

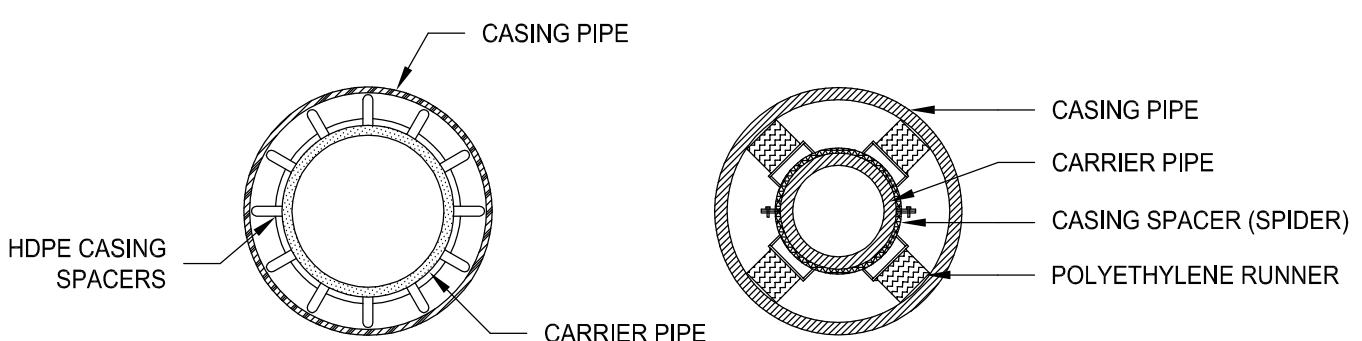
2" FROM BELL END

CARRIER PIPE

CASING SPACERS SHALL BE SPACED A MAXIMUM OF 1' FROM EACH SIDE OF THE PIPE JOINT

RUBBER END SEAL WITH STAINLESS STEEL BANDS, PIPELINE SEAL & INSULATOR INC., MODEL "C", "R", "S", OR APPROVED EQUAL

* ADDITIONAL SPACING ALLOWED AS RECOMMENDED BY PIPE MANUFACTURER.

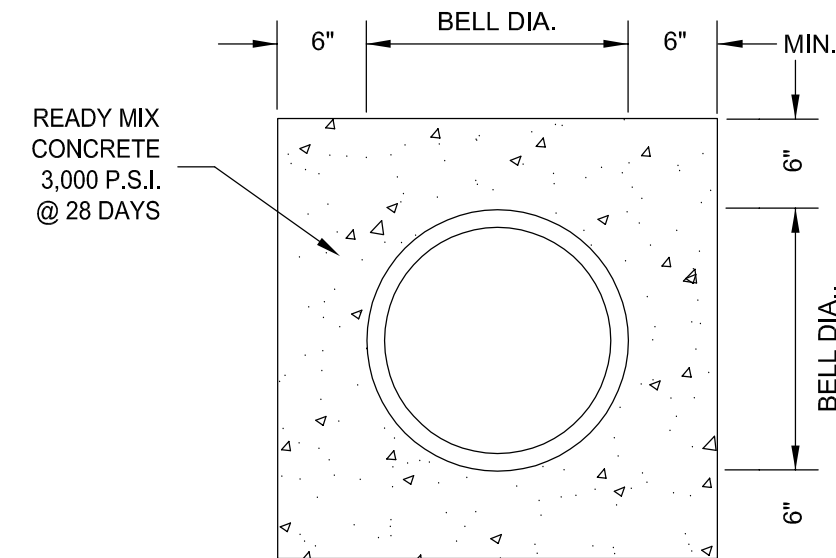


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

PIPE SUPPORT
IN CASING PIPE

G-6

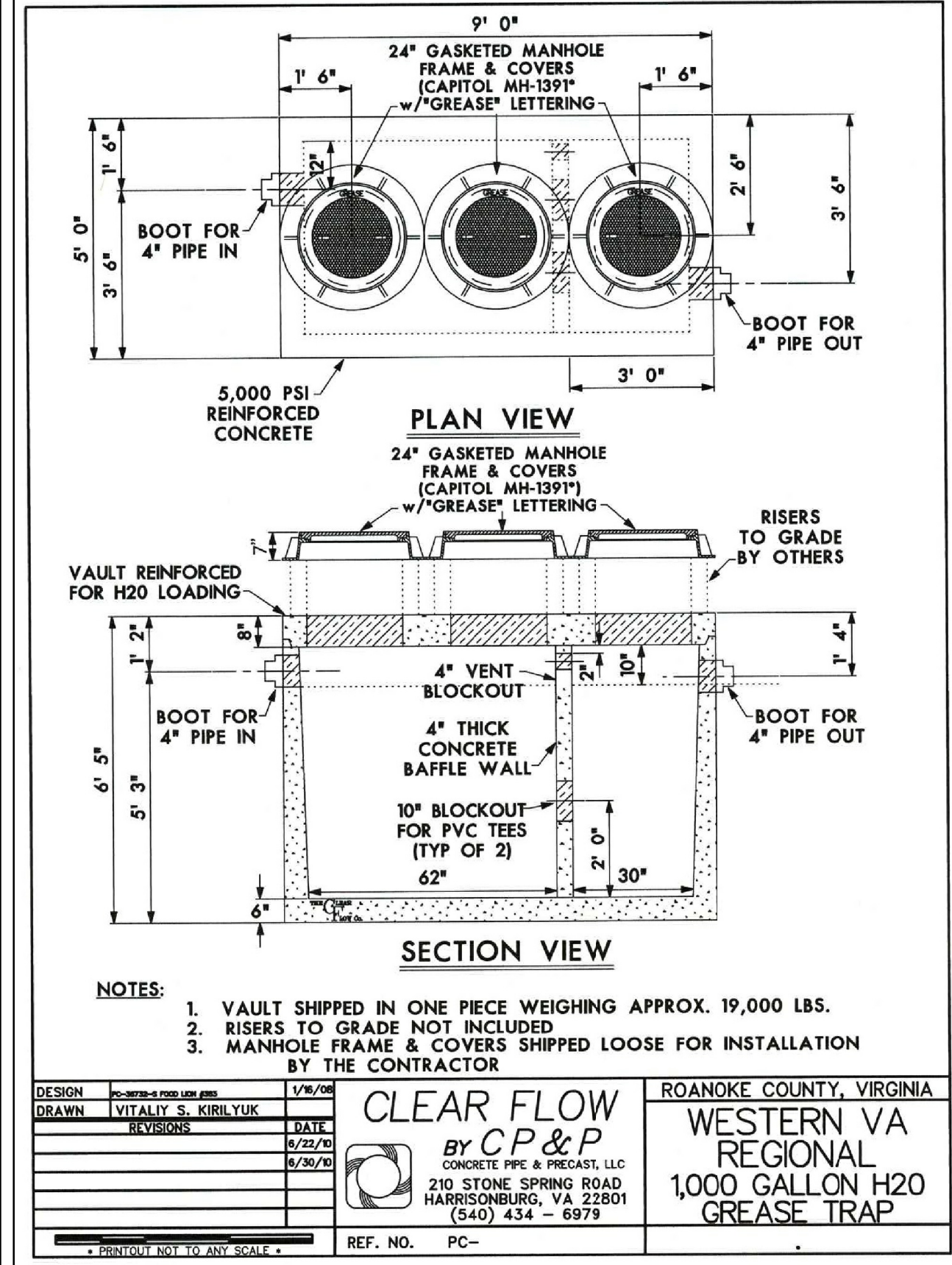
1. DUCTILE IRON WATER AND SEWER LINES CROSSING STREAMS MUST BE CONCRETE ENCASED UNLESS OTHERWISE SPECIFIED BY PARTICIPATING UTILITY.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

CONCRETE ENCASED PIPE

G-9



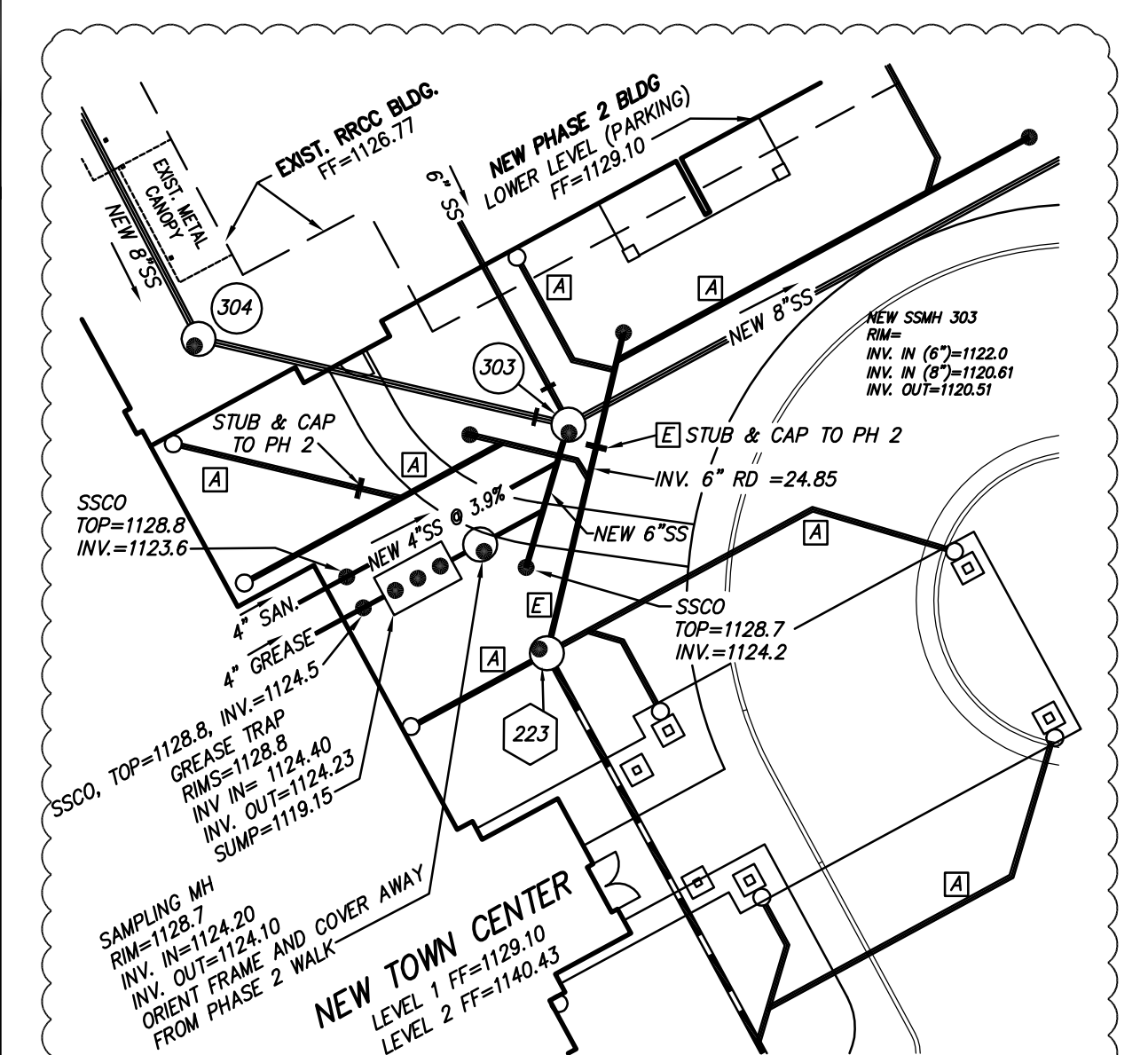
- NOTES:
1. VAULT SHIPPED IN ONE PIECE WEIGHING APPROX. 19,000 LBS.
 2. RISERS TO GRADE NOT INCLUDED
 3. MANHOLE FRAME & COVERS SHIPPED LOOSE FOR INSTALLATION BY THE CONTRACTOR

CLEAR FLOW
By C.P. & P.

CONCRETE PIPE & PRECAST, LLC
210 STONE SPRING ROAD
HARRISONBURG, VA 22801
(540) 434 - 6978

ROANOKE COUNTY, VIRGINIA
WESTERN VA
REGIONAL
1,000 GALLON H2O
GREASE TRAP

DETAIL S-17 TO THE LEFT IS THE GENERAL STANDARD FOR GREASE INTERCEPTORS, AS REQUIRED BY THE WESTERN VIRGINIA WATER AUTHORITY. AS DETAILED ABOVE, THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 1,000 GALLON GREASE INTERCEPTOR AS MANUFACTURED BY "CLEAR FLOW BY CP&P" OF HARRISONBURG, VA.



ENLARGED PLAN - SEE SHEET C6.1 FOR FULL PLAN
1" = 20'

- GREASE INTERCEPTOR / SAMPLING MANHOLE NOTES:
1. THE NEW SAMPLING MANHOLE SHALL BE A STRAIGHT-THROUGH (180") STANDARD WYMA SANITARY SEWER MANHOLE ASSEMBLY.
 2. FORTY-EIGHT (48) HOURS PRIOR TO INSTALLATION, THE CONTRACTOR SHALL:
 - 2.1. SUBMIT SHOP DRAWINGS TO MR. AARON SHEARER, 601 S. JEFFERSON STREET, SUITE 300, ROANOKE, VA 24011.
 - 2.2. CALL (540) 537-3460 TO SCHEDULE GREASE INTERCEPTOR INSPECTION. THE INSPECTION SHALL OCCUR PRIOR TO THE CONTRACTOR BACKFILLING THE GREASE INTERCEPTOR.
 3. GREASE INTERCEPTOR SHALL BE INSPECTED AND APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY PRIOR TO RECEIVING NEW WATER SERVICE CONNECTION.

NEW PART 2, PHASE 1 TOWN
CENTER GREASE INTERCEPTOR
SCALE: AS SHOWN

DETAILS THIS COLUMN ADDED

LOCATION OF GREASE INTERCEPTOR REVISED FROM
WESTERN FACE OF NEW TOWN CENTER TO EASTERN FACE.
NEW SAMPLING MANHOLE ADDED TO EFFLUENT SIDE OF
GREASE INTERCEPTOR

POPE
ARCHITECTS

POPE ARCHITECTS, INC.
1295 BANDANA BLVD N, SUITE 200
ST. PAUL, MN
55108-2735
(651) 642-9200 | FAX (651) 642-1101
www.popearch.com

RICHFIELD LIVING
CAMPUS
REDEVELOPMENT
PART 2
SALEM, VA

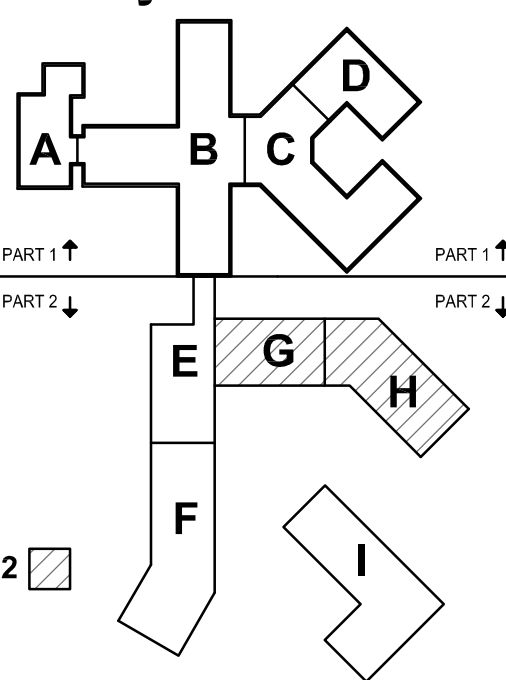


CWA

CALDWELL WHITE ASSOCIATES
ENGINEERS / SURVEYORS / PLANNERS
4005 KERRIDGE AVENUE
P.O. BOX 6290
ROANOKE, VIRGINIA 24017-0290
(540) 368-3400
FAX: (540) 368-6705

Scale: As Shown
W.O. 18-0045
Designed: C.L. White
Drawn: C.L. White

Key Plan



PHASE 2

DETAILS-
WATER AND SANITARY
SEWER

Issues and Revisions:

Issue	Date	Description
10/15/2018	1ST SITE SUBMITTAL	
11/09/2018	PERMIT SET	
12/19/2018	PER 1ST SITE REVIEW	
12/19/2018	CONSTRUCTION SET	
01/24/2019	PER 2ND SITE REVIEW	
04/02/2019	ADDENDUM 2	



Commission No: 63132-17186

Drawn by:

Checked by:

SHEET

C15.6

30' 0' 30' 60'
1" = 30' GRAPHIC SCALE