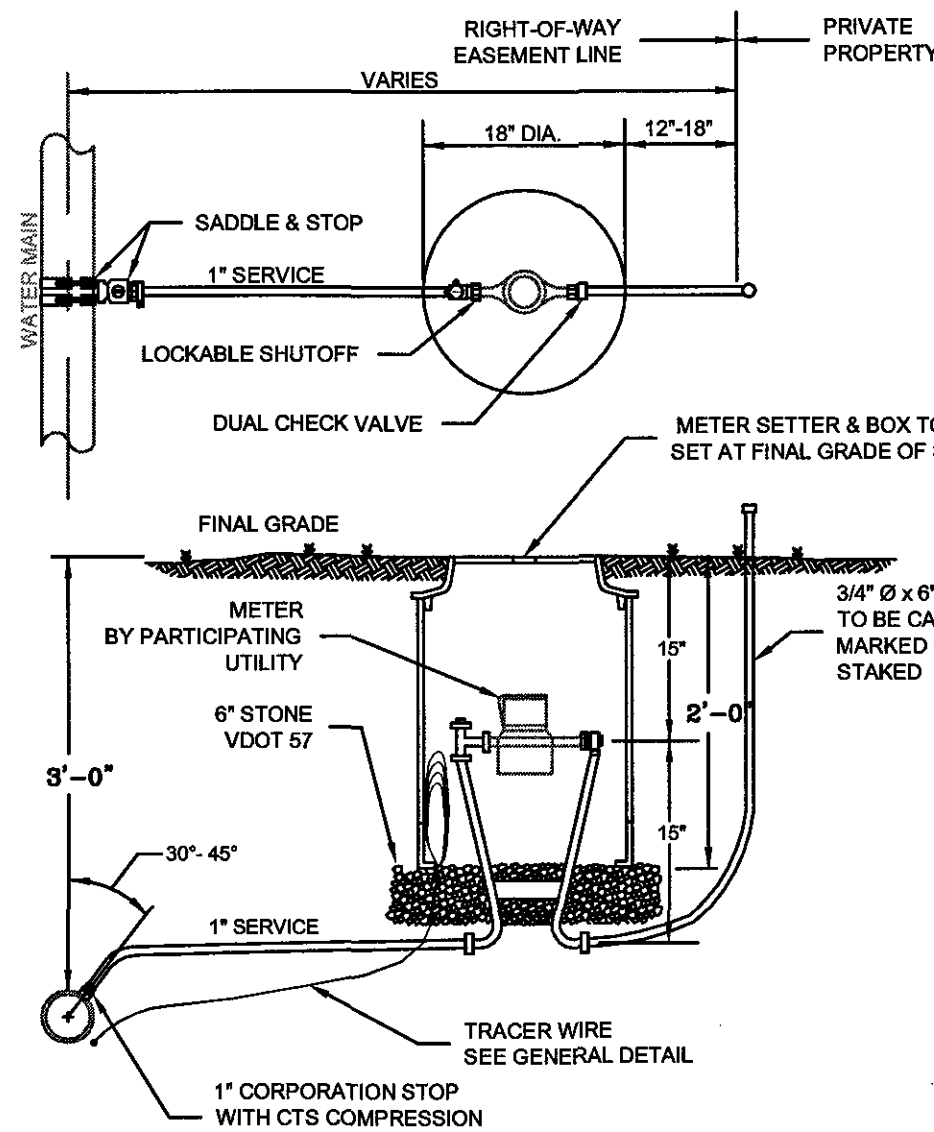


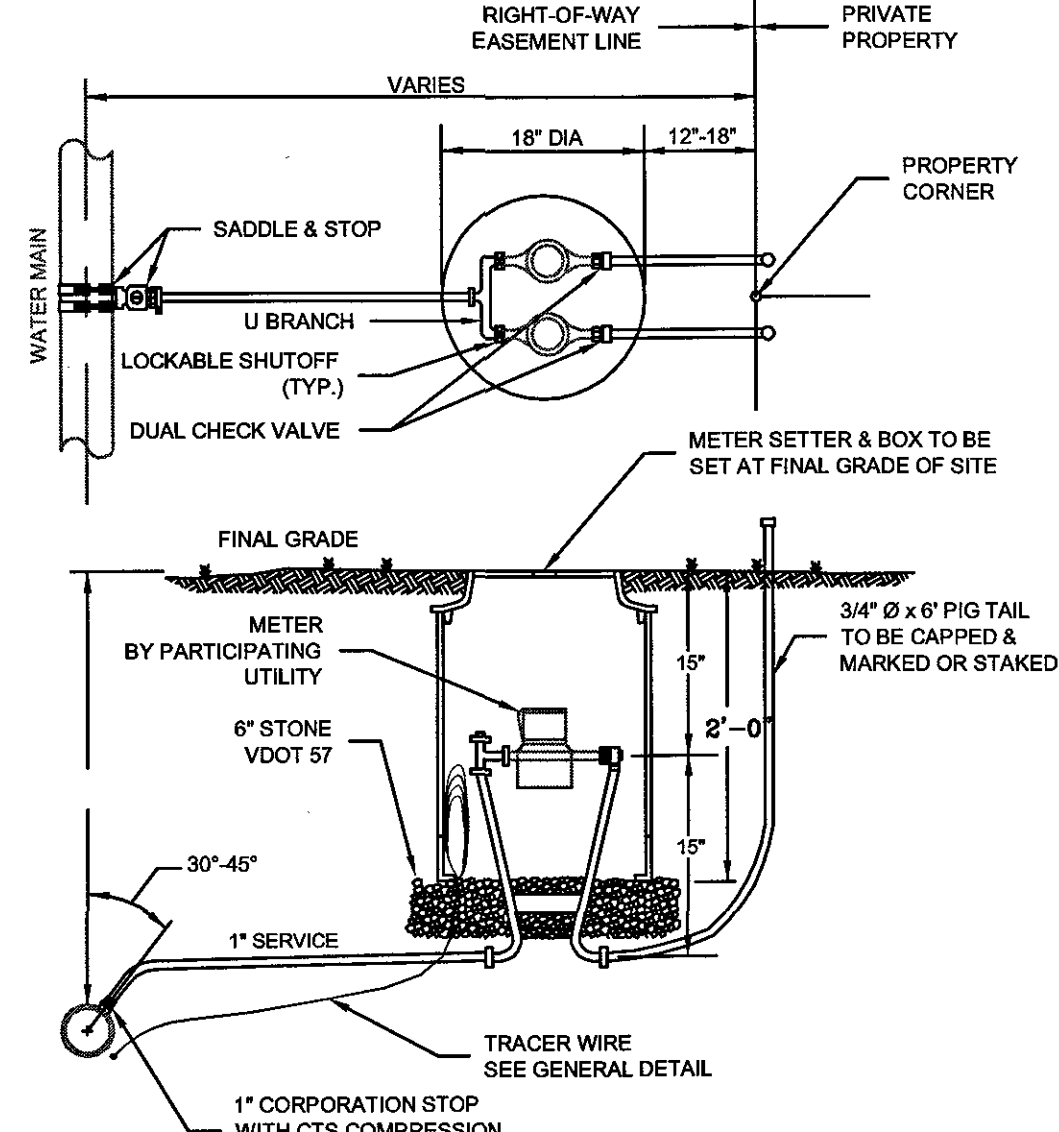
1. SETTER TO BE A.Y. McDONALD 720-215/WD033, FORD VBH/72-15W-11-33 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER F202 OR F303. FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. METER BOX SHALL BE CARSON/MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS, ADS CORRUGATED HDPE BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS, OR A.Y. McDONALD MODEL 74M32AT CAST IRON BASE & COVER OR APPROVED EQUAL. METER BOX SHALL NOT BE PLACED IN AREAS SUBJECT TO VEHICULAR TRAFFIC. IF TRAFFIC BEARING BOX IS REQUIRED, DESIGN ENGINEER SHALL CONSULT WITH PARTICIPATING UTILITY TO DETERMINE SITE SPECIFIC REQUIREMENTS.
4. CORPORATION STOP SHALL BE FORD FB1000-4-G-NL, MUELLER B-25008 OR APPROVED EQUAL.
5. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SODR-9 (200 psi).
6. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
SINGLE RESIDENTIAL
WATER SERVICE (NEW DEVELOPMENT)
(LINE PRESSURE UNDER 120 PSI)

02/17/17 W-1

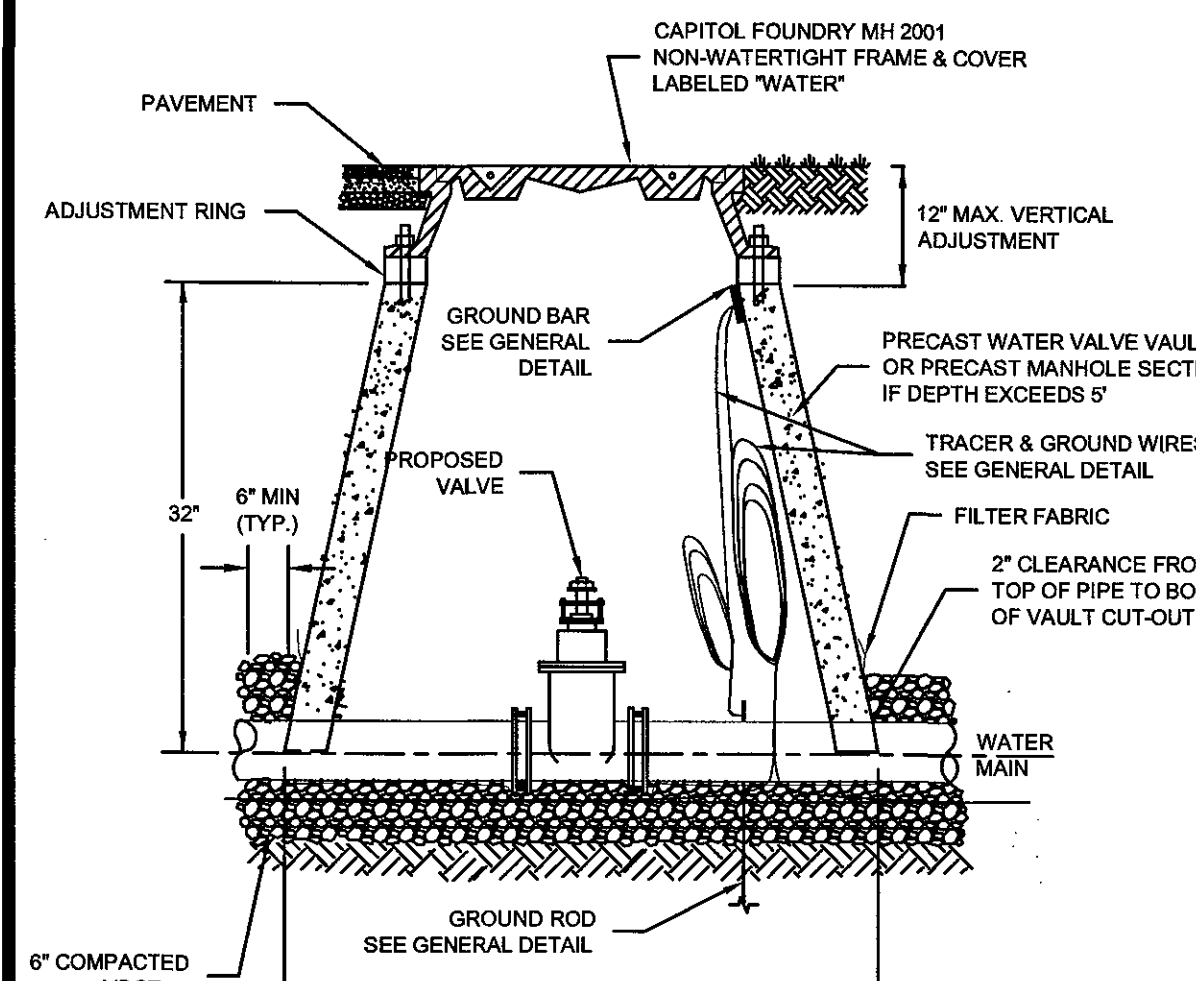
1. SETTER TO BE A.Y. McDONALD 720-215/WD033, FORD VBH/72-15W-11-33 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER F202 OR F303. FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. METER BOX SHALL BE CARSON/MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS, ADS CORRUGATED HDPE BOX WITH FORD "A" DOMESTIC SERIES FRAME WITH A NICOR DOMESTIC 12.25 CX LID WITH SENSUS RECESS, OR A.Y. McDONALD MODEL 74M32AT CAST IRON BASE & COVER OR APPROVED EQUAL. METER BOX SHALL NOT BE PLACED IN AREAS SUBJECT TO VEHICULAR TRAFFIC. IF TRAFFIC BEARING BOX IS REQUIRED, DESIGN ENGINEER SHALL CONSULT WITH PARTICIPATING UTILITY TO DETERMINE SITE SPECIFIC REQUIREMENTS.
4. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.
5. CORPORATION STOP SHALL BE FORD FB1000-4-G-NL, MUELLER B-25008 OR APPROVED EQUAL.
6. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SODR-9 (200 psi).



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
DOUBLE RESIDENTIAL
WATER SERVICE
(LINE PRESSURE UNDER 120 PSI)

02/17/17 W-4

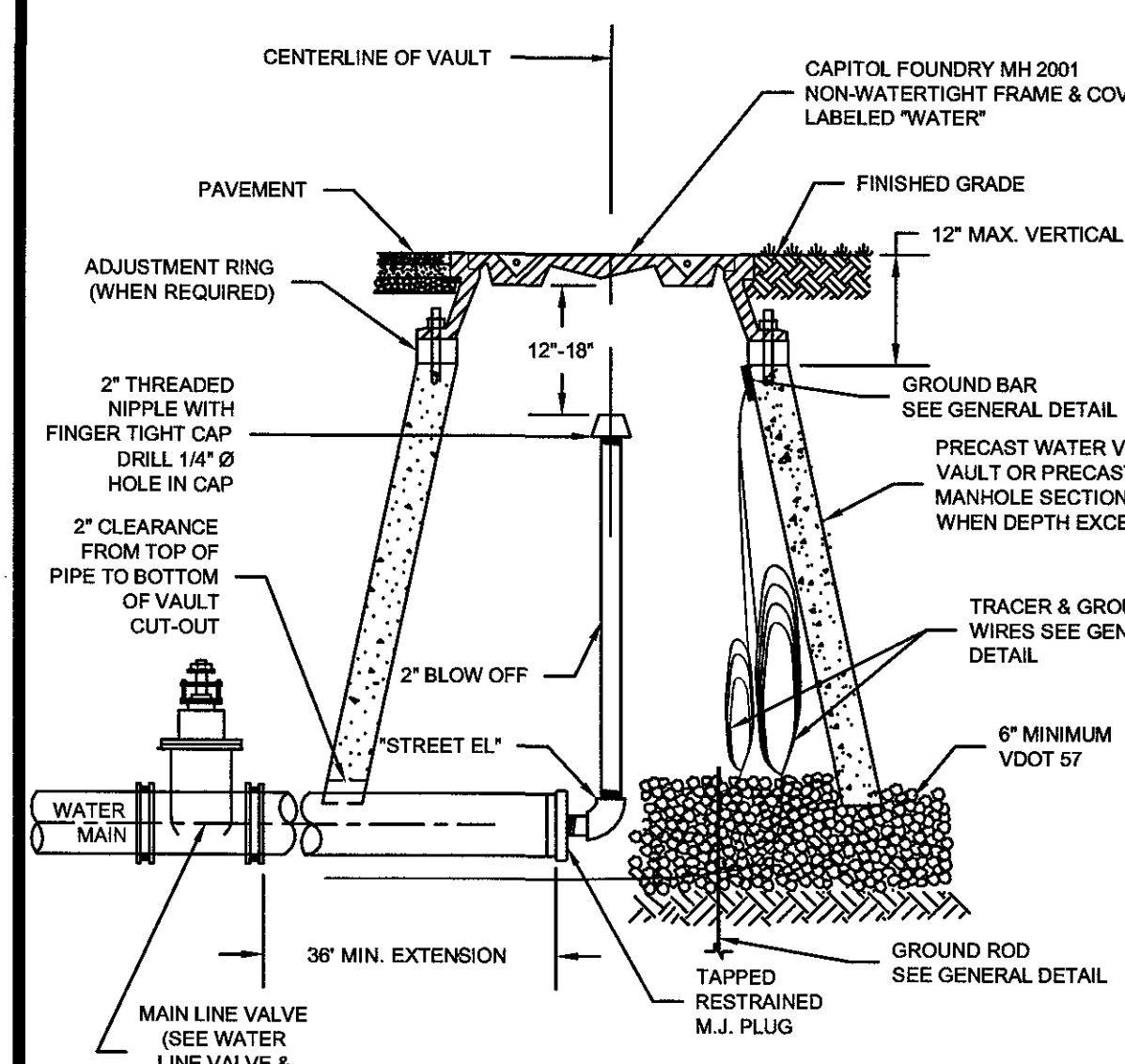
1. FILTER FABRIC TO BE INSTALLED BETWEEN BOTTOM OF PIPE AND STONE BEDDING. FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" FROM BOTTOM OF VAULT (FULL CIRCUMFERENCE).



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
WATER LINE VALVE
& VAULT

01/01/14 W-9

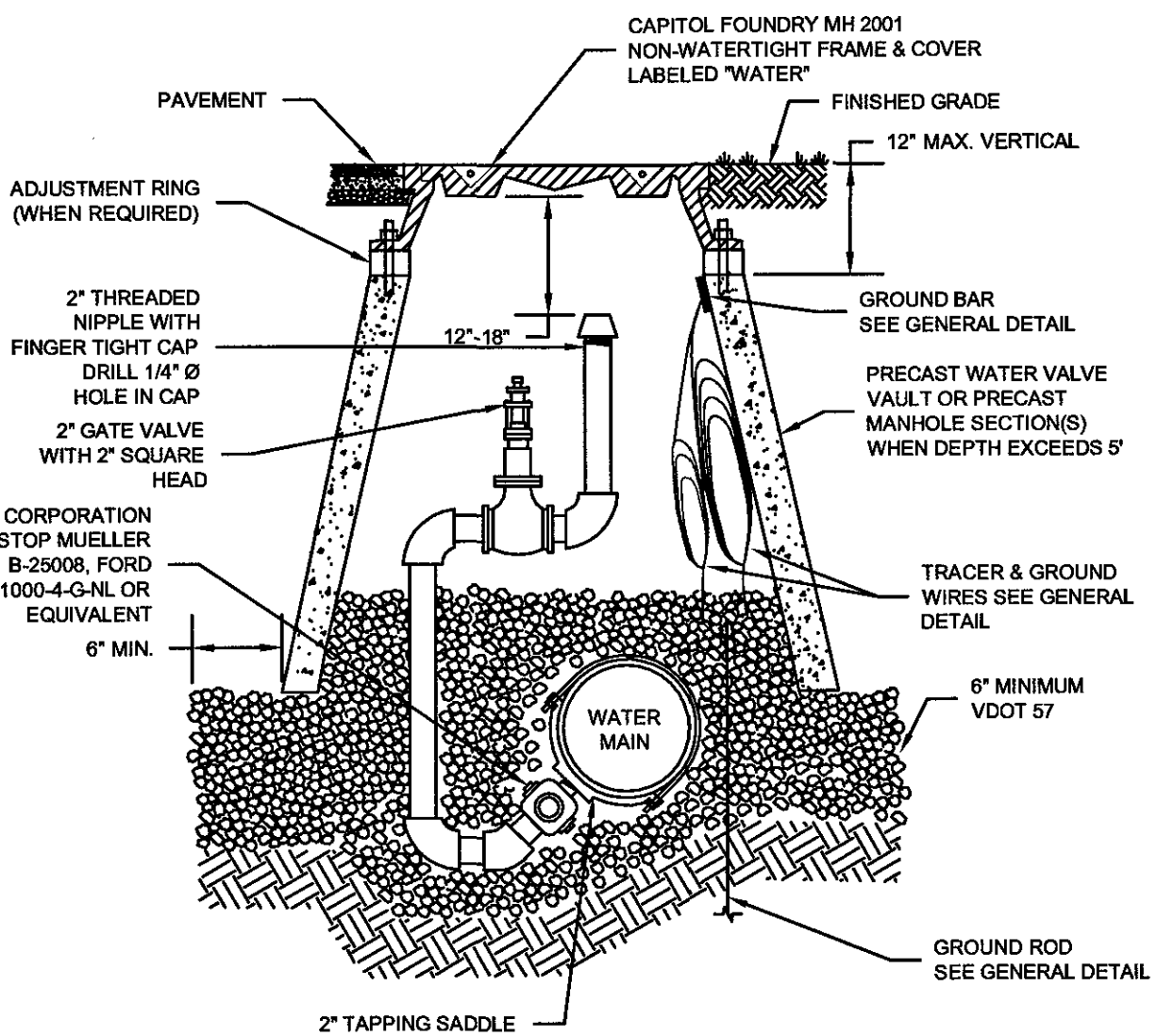
1. THE 2" PIPING AND "STREET EL" SHALL BE LEAD FREE BRASS OR DUCTILE IRON.
2. PIPE JOINTS SHALL BE RESTRAINED BEFORE GATE VALVE IN ACCORDANCE WITH DISTANCE SHOWN IN THE "MINIMUM THRUST RESTRAINT PIPE JOINTS DESIGN LENGTHS" DETAIL FOR VALVE / PLUG. PIPE JOINTS BETWEEN GATE VALVE AND BLOWOFF SHALL ALSO BE RESTRAINED.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
TEMPORARY END OF LINE
BLOW-OFF ASSEMBLY

01/01/14 W-11

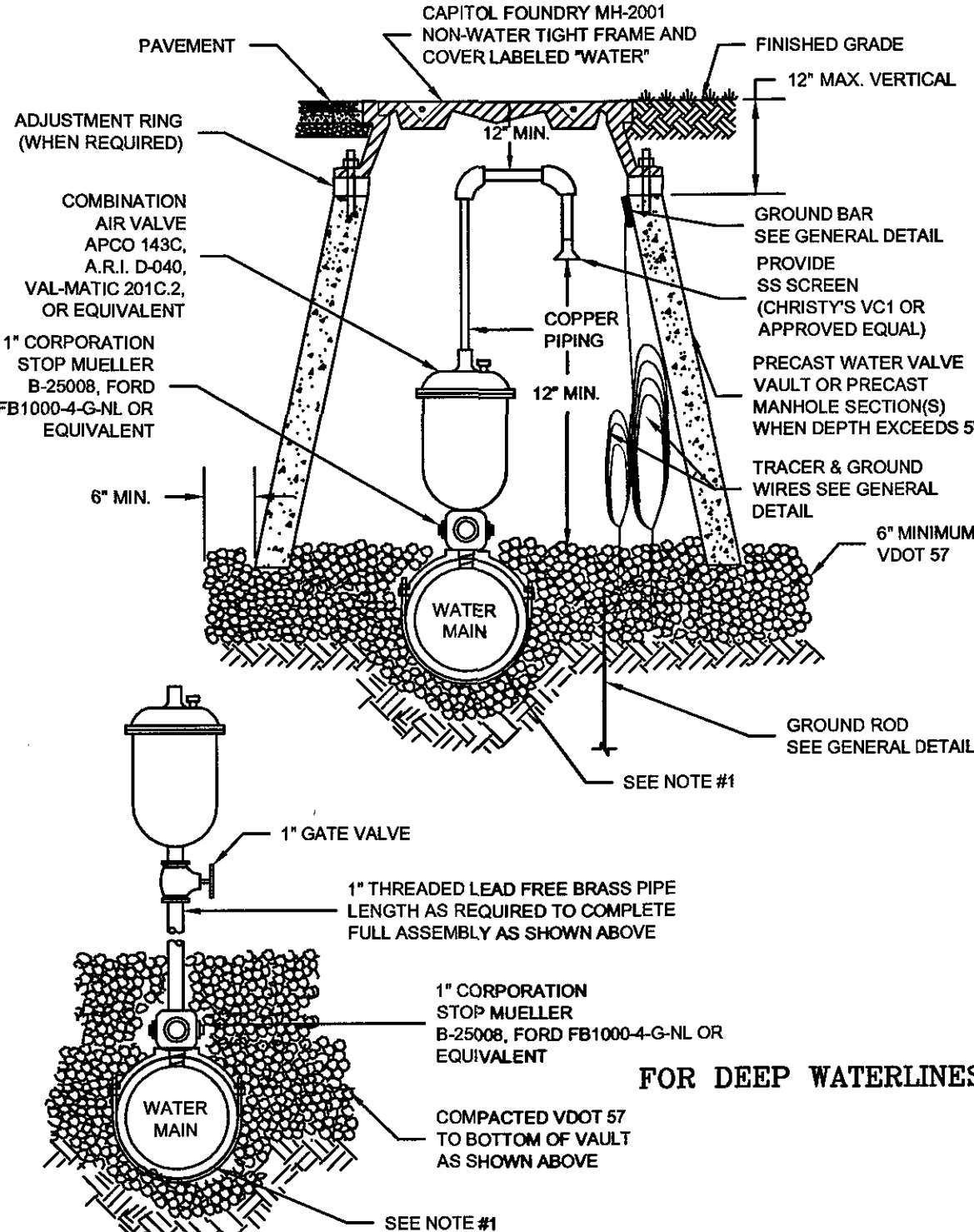
1. FIRE HYDRANTS MAY BE USED AT LOW POINTS IN PLACE OF BLOW-OFFS.
2. THE PIPING AND "STREET EL" BETWEEN CORPORATION STOP AND 2" GATE VALVE SHALL BE LEAD FREE BRASS OR DUCTILE IRON PIPE.
3. THE POINT OF CONNECTION TO THE WATER MAIN SHALL BE LOCATED NEAR THE BOTTOM OF THE MAIN (AS SHOWN) TO FACILITATE REMOVAL OF ACCUMULATED SEDIMENT.
4. SADDLES FOR PLASTIC PIPE SHALL BE PER RESIDENTIAL WATER SERVICE DETAIL.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
IN-LINE
BLOW-OFF ASSEMBLY

02/10/15 W-12

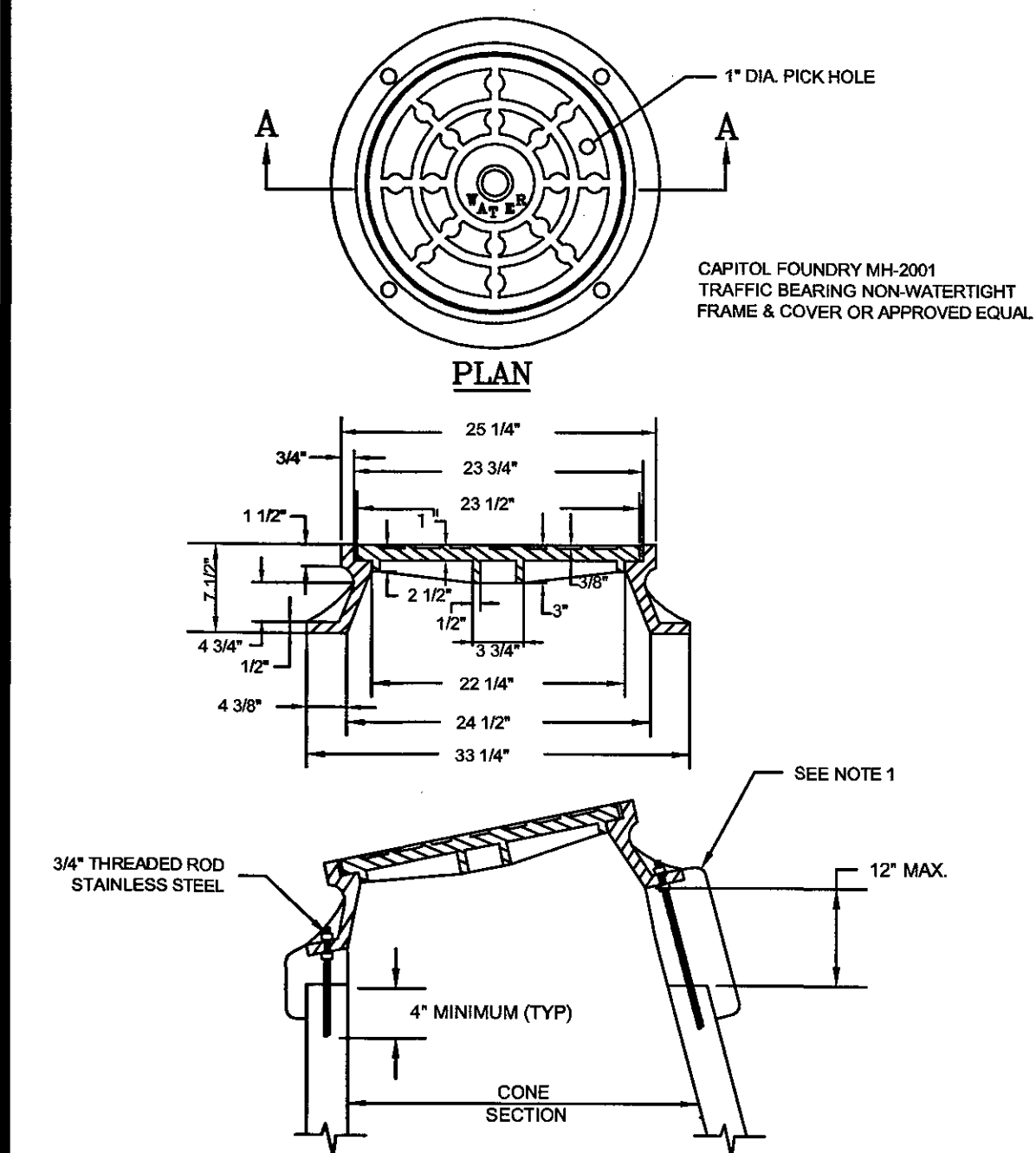
1. SEE RESIDENTIAL WATER SERVICE DETAIL FOR SADDLE REQUIREMENTS.
2. LARGER COMBINATION VALVE MAY BE REQUIRED DEPENDING ON APPLICATION.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
COMBINATION AIR VALVE ASSEMBLY

02/10/15 W-13

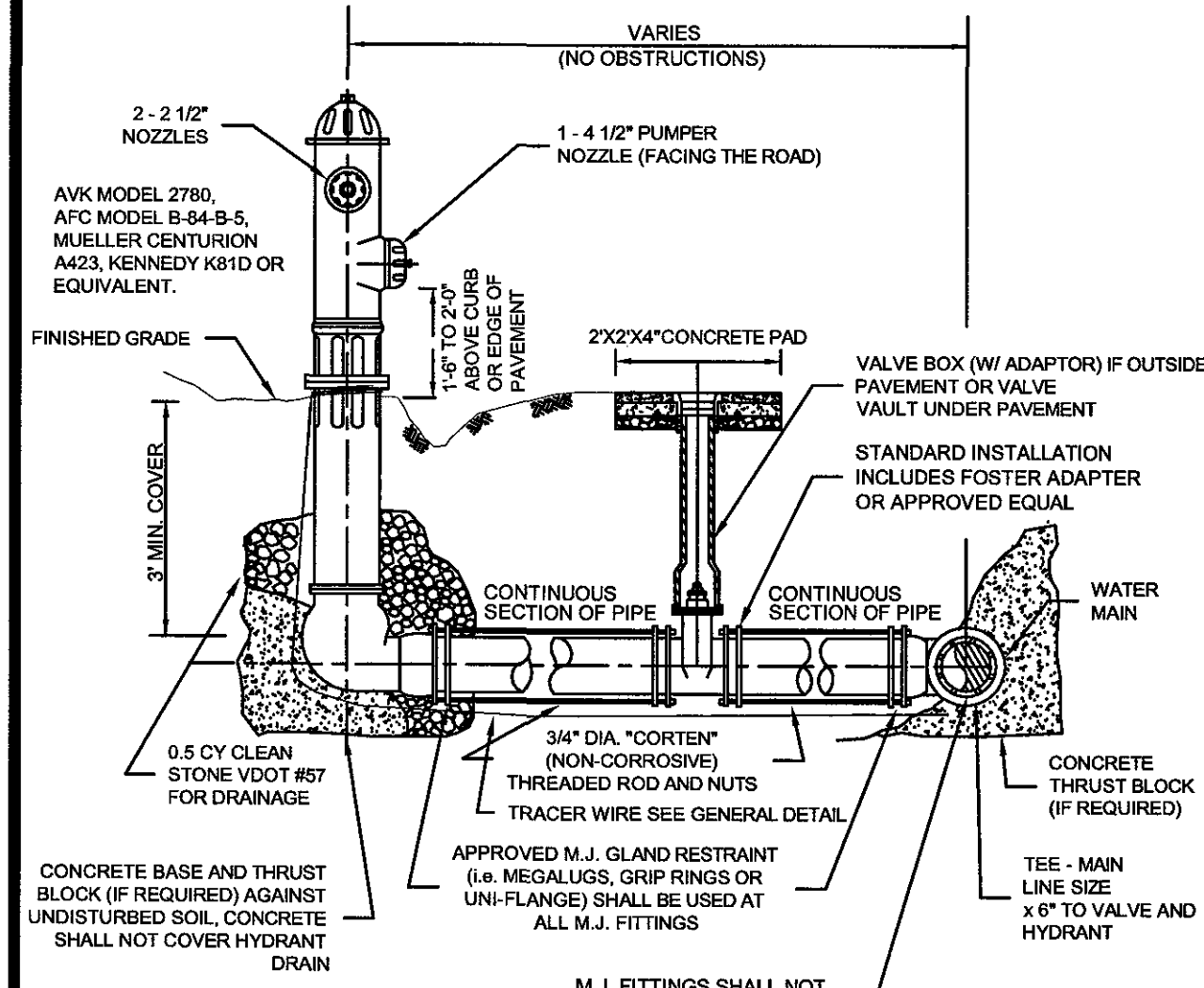
1. USE MODERATELY STIFF MIX OF NON SHRINK GROUT, SAND, AND 1/2" LESS DIAMETER GRAVEL WITH 28 DAYS, STRENGTH AT MINIMUM 3,000 P.S.I.
2. MIX IS TO BE FORCED INTO ALL GROOVES AND UNDER FLANGE OF FRAME AND LEFT AT OR ABOVE TOP OF FLANGE.
3. DO NOT BACKFILL AROUND FRAME AND COVER, FOR 48 HOURS AFTER CONCRETE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



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
VAULT FRAME
AND COVER

01/01/14 W-16

1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT. PRIVATE HYDRANTS SHALL ALSO BE PAINTED SILVER WITH AN OIL-BASED PAINT UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL FIRE MARSHAL.
2. 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.
3. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED.
4. WATERPROOF BAGS OR OUT OF SERVICE RINGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
5. HYDRANT ASSEMBLIES SHALL BE RODDED AND RESTRAINED WITH APPROVED M.J. GLAND RESTRAINTS. HIGH PRESSURE (OVER 150 PSI) ALSO REQUIRES CONCRETE THRUST BLOCKS AS SHOWN BELOW.
6. 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.
7. TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED AROUND BASE OF HYDRANT.
8. APPROVED MODELS - AVK MODEL 2780, AFC MODEL B-84-B-5, MUELLER CENTURION A423, KENNEDY K81D OR EQUIVALENT.
9. WHERE HYDRANT LATERAL(S) IS APPROVED BY THE PARTICIPATING UTILITY TO BE LONGER IN LENGTH, MAKING THE CONTINUOUS SECTION OF PIPE ON EACH SIDE OF THE GATE VALVE UNFEASIBLE, RESTRAINED PIPE JOINTS SHALL BE INSTALLED BETWEEN THE TEE AND GATE VALVE IN LIEU OF RODDING. HOWEVER, A RODDED CONTINUOUS SECTION OF PIPE SHALL ALWAYS BE INSTALLED BETWEEN THE GATE VALVE AND HYDRANT.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
FIRE HYDRANT
ASSEMBLY

02/10/15 W-17

CWA
CALDWELL WHITE ASSOCIATES
ENGINEERS / SURVEYORS / PLANNERS
4203 MELROSE AVENUE, N.W. P.O. BOX 6260
ROANOKE, VIRGINIA 24017-0260
Telephone: (540) 368-3400 Fax: (540) 368-8702
E-Mail: cwaroanoke@aol.com

DATE AUGUST 14, 2017
PROJECT 17-0007
DESIGNED CLH
DRAWN CLH
CHECKED FBC
FIELD BOOK WVWA #1
SCALE 1"=20'

COMMONWEALTH OF VIRGINIA
FRANK B. CALDWELL III
LIC. NO. 9184
14 AUG 17
PROFESSIONAL ENGINEER

REV.	DATE	BY	DESCRIPTION

QUEEN AVENUE, N.W. - COURTLAND ROAD, N.W.
WATERLINE REPLACEMENT PROJECT

DETAILS

sheet

C-17

OF 18