STANDARD DETAIL DRAWINGS

(Revisions in process to be inserted at a later date)
CONCRETE METER BOX FOG-TITE
METER SEAL #2 17" x 28" (OR EQUIVALENT) DIFFERENT SIZES
PROPORTIONATE TO A/V SIZE

INSTALL BERM OR
SLOPE FINISHED GRADE
TO DIVERT SURFACE WATER
FROM ENTERING THE UNIT

AIR AND VACUUM VALVE
1" - APCO MODEL 143C, 2" - APCO
MODEL 145C OR APPROVED EQUIVALENT
GALVANIZED BRASS SEATED UNION
GATE VALVE, THREADED BRONZE, RED-WHITE,
OR EQUIVALENT

LOCATE WIRE
CORPORATION STOP MUELLER H-10013, OR EQUIVALENT

2" OPEN PATTERN
RETURN BEND

BANDING STRAP

CONCRETE GUARD
POST PAINTED WITH
BLUE ENAMEL PAINT

2" GALVANIZED IRON
PIPE, FIELD LOCATE

2" GALVANIZED IRON
PIPE TO FIT

2" X 2" X 2" TEE
OR 2" X 2" X 1" TEE

2" GALVANIZED IRON
PIPE 18" LONG
CAP WITH 1/8"
DRAIN HOLE

WASHED GRAVEL
PASSING 1 1/2" AND
RETAINED ON 1/4"
MESH

GALVANIZED BRASS
SEATED UNION

2 - 90° 32 ELBOWS

SERVICE SADDLE
1" ASSEMBLY - SINGLE STRAP, ROMAC 101 S
2" ASSEMBLY - DOUBLE STRAP, SMITH-BLAIR 313

NOTE:
AIR & VACUUM VALVE ASSEMBLY MUST BE INSTALLED AT HIGHEST POINT
OF LINE. IF HIGH POINT FALLS IN A LOCATION WHERE ASSEMBLY CANNOT
BE INSTALLED, PROVIDE ADDITIONAL DEPTH OF LINE TO CREATE HIGH POINT
AT A LOCATION WHERE ASSEMBLY CAN BE INSTALLED. ALL PIPE AND FIT-
TINGS TO BE GALVANIZED IRON.
Precast Concrete or Reinforced Cast in Place Vault

Concrete blocking or metal support under each valve

Gate Valve with Hand Wheel

Typical I.P.S. Double Strap Saddle

Pressure Reducing Valve

Gate Valve

Pressure Guage

0-150 P.S.I. Range with Stop Cock

Pressure Reducing Valve

4" Drain P.R. x P.E. with Wall Flange

Permanently mounted ladder vaults over 4' deep
THREAD LOCATE WIRE THROUGH A FIELD PENETRATION IN CASING

TOP SECTION

EXTENSION PLACE IF NECESSARY
A VALVE OPERATOR EXTENSION IS REQUIRED IF OVER 6' DEEP

BASE SECTION
14 GAGE LOCATE WIRE

LOCATOR WIRE TO EXTEND 12" ABOVE FINISHED GRADE.

FINISH PAVEMENT GRADE

CAST IRON ONLY

WATER LID WITH BLUE ENAMEL PAINT.

NOTE: VALVE BOX BY OLYMPIC FOUNDRY, OR EQUIVALENT

PUBLIC UTILITY DISTRICT NO. 1
OF JEFFERSON COUNTY
230 CHIMACUM RD. (PO BOX 929)
PORT HADLOCK, WA 98399
(360) 385 5800

PUD STANDARD DRAWING DETAILS #3B
THREAD LOCATE WIRE THROUGH A FIELD PENETRATION IN CASING

WATER LID WITH BLUE ENAMEL PAINT. TABS POINT IN THE DIRECTION OF WATER MAIN LOCATOR WIRE TO EXTEND 12" ABOVE FINISHED GRADE.

EXISTING GRADE

EXTENSION PLACE IF NECESSARY A VALVE OPERATOR EXTENSION IS REQUIRED IF OVER 6' DEEP

CAST IRON ONLY

BASE SECTION

14 GAGE LOCATE WIRE

NOTE:

VALVE BOX BY OLYMPIC FOUNDRY, OR EQUIVALENT

VALVE BOX

DETAIL

NO SCALE

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PUD STANDARD DRAWING
DETAILS #3A
2" BLOW-OFF ASSEMBLY
END CONNECTION

DETAIL 1

2" GALVANIZED IRON PIPE

2" 90\(\frac{1}{2}\) GALVANIZED IRON ELBOW WITH 1/4" DRILLED DRAIN HOLE

PLASTIC OR TAR PAPER

1/4 CUBIC YARD OF 1½" DRAIN ROCK TO PERMIT FREE DRAINAGE OF BLOW-OFF COVERED WITH FABRIC TO PROTECT AGAINST SOIL INFILTRATION

2" GATE VALVE, THREADED, NON-RISING STEM WITH SQUARE NUT

LOCATOR WIRE TO EXTEND 12" ABOVE FINISHED GRADE TAPED TO PIPE.

THRUST BLOCK UNDISTURBED EARTH

MJ END CAP FOR PVC PIPE W/2" IPS OUTLET

2" GALVANIZED TEE WITH 2" GALVANIZED PLUG

PVC OR 2" POLYETHYLENE PIPE, AS SHOWN ON PLAN

2" COMPRESSION COUPLING FOR PE PIPE, 2" IPS MULLER 110, OR EQUIVALENT

TOP VIEW
2½" BRASS FIRE CAP WITH CHAIN

2½" X 2" REDUCER

LOCATOR WIRE TO EXTEND 12" ABOVE FINISHED GRADE TAPED TO PIPE.

2" CORPORATION STOP I.P.S. MUELLER H-10013, OR EQUIVALENT

2" GALVANIZED IRON PIPE AS REQUIRED

LOCATE

BEDDED SAND

FULL CIRCLE, DOUBLE STRAP SADDLE, SMITH-BLAIR 313, OR EQUIVALENT

2" GATE VALVE, THREADED, NON-RISING STEM WITH SQUARE NUT

1¼ CUBIC YARD OF 1½" DRAIN ROCK TO PERMIT FREE DRAINAGE OF BLOW-OFF COVERED WITH FABRIC TO PROTECT AGAINST SOIL INFILTRATION

2" GALVANIZED IRON PIPE

2" 90½ GALVANIZED IRON ELBOW WITH ¼" DRILLED DRAIN HOLE

PLASTIC OR TAR PAPER

2" CORPORATION STOP I.P.S. MUELLER H-10013, OR EQUIVALENT

2" GALVANIZED IRON PIPE AS REQUIRED

LOCATE

BEDDED SAND

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2" GALVANIZED IRON PIPE AS REQUIRED

LOCATE

BEDDED SAND

FULL CIRCLE, DOUBLE STRAP SADDLE, SMITH-BLAIR 313, OR EQUIVALENT

2" GATE VALVE, THREADED, NON-RISING STEM WITH SQUARE NUT

1¼ CUBIC YARD OF 1½" DRAIN ROCK TO PERMIT FREE DRAINAGE OF BLOW-OFF COVERED WITH FABRIC TO PROTECT AGAINST SOIL INFILTRATION
POURED IN PLACE CONCRETE AGAINST UNDISTURBED SOIL OR USE JOINT RESTRAINTS.

CONCRETE GUARD POST AS REQUIRED.

PAINT BARREL AND TOP AS PER JEFFERSON COUNTY ORDINANCE.

LOCATOR WIRE TO EXTEND 12" ABOVE FINISHED GRADE.

CONCRETE GUARD POSTS ONLY AS NEEDED.

5⅛" MANUAL OPENING FIRE HYDRANT. NST THREAD WITH 1 - 4½" PUMPER PORT AND 2 - 2½" HOSE CONNECTION PORTS. MUELLER, IOWA OR EQUIVALENT.

PUMPER PORT TO FACE ROAD WITH 4" STORTZ ADAPTER.

TWO PIECE CAST IRON VALVE BOX, OLYMPIC FOUNDRY, OR EQUIVALENT.

1/4 CUBIC YARD COARSE GRAVEL OR CRUSHED ROCK (3" TO ½")

FIRE HYDRANT ASSEMBLY DETAIL 5

NO SCALE TYP
CONC. BLOCKING CAST IN PLACE
2 – 3/4" GALV. SHACKLE RODS
MJ CAP/TOP (THREADED)

3/4" NUT WASHER

BLIND FLANGE
OR SMALLER SIZE PIPE

TEA DETECTOR WIRE
3/4" GALV. SHACKLE ROD

ELEVATION
CONC. BLOCKING CAST IN PLACE
NOTE: #4 SHACKLE RODS REQUIRED

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<th>PIPE SIZE</th>
<th>A(FT.)</th>
<th>B(FT.)</th>
<th>C(FT.)</th>
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NOTES:
1. BEARING AREA OF CONCRETE THRUST-BLOCK BASED ON 200 PSI PRESSURE AND GAVE SOIL BEARING LOAD OF 2,000 POUNDS PER SQUARE FOOT.
2. AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES AND SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISENTANGLING OF JOINT.
5. CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.
FOG-TITE METER SEAL CO. NO. 10 METER BOX, PRECAST CONCRETE WITH STEEL LID, OR IN NON TRAFFIC LOCATIONS CARSONS 1419–15 PLASTIC BOX (WITH READER LID) OR EQUIVALENT.

INSULATED NO. 14 COPPER LOCATION WIRE, LOCATOR WIRE TO BE CONNECTED TO MAIN LINE TRACE WIRE WITH SPLIT NUT CONNECTIONS.

1" POLYETHYLENE TUBING, IRON PIPE SIZE, CLASS 200 PIPE SHALL BE SNAKED IN TRENCH TO PROVIDE FOR SETTLING.

1" CORPORATION STOP MUELLER H–10013, OR EQUIVALENT

WATER MAIN AS SHOWN ON PLANS

SERVICE SADDLE 1" I.P.S. OUTLET SMITH-BLAIR 313, OR EQUIVALENT.

SINGLE SERVICE CONNECTION DETAIL 6
NO SCALE TYP

PUBLIC UTILITY DISTRICT NO. 1 OF JEFFERSON COUNTY 230 CHIMACUM RD. (P.O. BOX 929) PORT HADLOCK, WA 98399 (360) 385 5800 PUD STANDARD DRAWING DETAIL 7A
1" CURB STOP MUELLER H-10283, OR EQUIVALENT

1" POLYETHYLENE TUBING,
IRON PIPE SIZE CLASS 200
PIPE SHALL BE SNAKED
IN TRENCH TO PROVIDE
FOR SETTLING

1" CORPORATION STOP
MUELLER H-10013,
OR EQUIVALENT

WATER MAIN AS
SHOWN ON PLANS

INSULATED NO. 14
COPPER LOCATION WIRE,
LOCATE WIRE TO BE CONNECTED
TO MAIN LINE LOCATE WIRE WITH
SPLIT BOLT CONNECTIONS

1" CURB STOP MUELLER H-10283, OR EQUIVALENT

CONNECT TO METER YOKE
WITH UNION FOR ADJACENT
SETS OR EXTEND 3/4"
POLYETHYLENE PIPE WITH
LOCATION WIRE TO METER
YOKE AT NON-ADJACENT
SETS

U-BRANCH CONNECTION
MUELLER H-15364, OR
EQUIVALENT. USE
1" X 3/4" GALVANIZED
BULLHEAD TEE FOR
NONADJACENT SETS

SERVICE SADDLE 1" I.P.S.
SMITH-BLAIR 313, OR EQUIVALENT
BRASS SERVICE TEE REQUIRED
FOR CONNECTION TO 2"
POLYETHYLENE WATER MAINS

DOUBLE SERVICE CONNECTION

DETAIL

NO SCALE
STANDARD UTILITIES LOCATION

JEFFERSON COUNTY ROAD/STREET

DITCH
SHOULDER
EXISTING PAVEMENT
SEWER PIPE
WATER PIPE

RIGHT OF WAY

Min 10' Separation

5' TYPICAL

3' MINIMUM

NO SCALE

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PORT HADLOCK, WA 98399
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PUD STANDARD DRAWING
DETAILS #8
NOTE: Clearances still apply when devices are installed inside buildings.
NOTE: Clearances still apply when devices are installed inside buildings.
EXHIBIT 1-V-90
6' - 8" CONCRETE BLOCKING

NOTE: PROVIDE PLUGS ON ALL TEST COCKS. DRAIN CANNOT BE SLOPED TO GROUND. FOR A TORM SEWER, A STORM PUMP MUST BE INSTALLED.

PLAN

36 X 36 SL LID

ELEVATION

SUPPORT

NOTE: ITEMS 1-10 ARE PACKAGED AS AN "APPROVED ASSEMBLY" NO SUBSTITUTIONS ON ALTERATIONS ALLOWED AND ARE SUBJECT TO FIRE MARSHALL'S APPROVAL.

MATERIAL LIST

1. MAIN GATE VALVE, RESILIENT SEATED FULL FLOW SHUT-OFF VALVES/TEST COCKS.
2. DOUBLE DETECTOR CHECK CONFORMED TO AWWA STANDARDS C506-78.
3. POST INDICATOR VALVE
4. 3/4" BALL VALVE (TEST COCK)
5. 5/8" X 3/4" DOMESTIC METER, 1 TO 20 GPM
6. 3/4" GATE VALVE, ASTM B584-78
7. 3/4" DOUBLE CHECK VALVE BACKFLOW PREVENTOR
8. 3/4" TEE
9. VALVE CHAMBER, PIPE ENGINEERING, INC. W/12" RISER OR EQUAL
10. WALL PIPE, FXPE WITH INTEGRALLY CAST COLLAR

INSTRUCTIONS

SLOPE TO DRAIN 3" FLOOR DRAIN

Public Utility District No. 1
Jefferson County

STANDARD DETAIL #9C
Double Detector Check Valve Assemblies
Must be installed a minimum of 12" above highest downstream point.

Must be installed a minimum of 6" above highest downstream point. No valves downstream.

Public Utility District No. 1
Jefferson County
FITTING SCHEDULE

1. DUCTILE IRON SPOOL, LENGTH TO FIT, 3 PLACES
2. 3/4" POLYETHYLENE RESERVOIR SENSING LINE, TAPPED INTO RESERVOIR SIDE OF INSTALLATION WITH SERVICE SADDLE AND CORPORATION STOP
3. 3/4" POLYETHYLENE BACK PRESSURE SENSING LINE TAPPED INTO INLET SIDE OF MAIN WITH SERVICE SADDLE AND CORPORATION STOP
4. 3/4" BALL VALVE, SHUT OFF
5. LIQUID FILLED PRESSURE GAGE 0 TO 30 PSI, WITH 3/4" BALL VALVE AND 3/4" TEE
6. LIQUID FILLED PRESSURE GAGE 0 TO 100 PSI, WITH 3/4" BALL VALVE AND 3/4" TEE
7. 3/4" TEE WITH 3/4" BALL VALVE. THESE TO BE INSTALLED NEAR ALTITUDE VALVE AT POINT IN LINES TO PROVIDE FOR AIR RELEASE. PROVIDE I.P.T. TO HOSE THREAD ADAPTER ON DISCHARGE
8. ALTITUDE VALVE FLANGED. CLA-VAL OR EQUAL. THIS INCLUDES A BACK PRESSURE SUSTAINING FEATURE AND OPENING AND CLOSING SPEED CONTROL
9. TURBO METER, SENSUS OR EQUAL
10. STRAINER (SEDIMENT TRAP TYPE), FLANGED
11. SUPPORT AS REQUIRED

Public Utility District No. 1
Jefferson County

STANDARD DETAIL 10
Altitude Valve Assembly
Vault Plan & Elevation
APPROVED AIR GAP SEPARATION

An approved air gap is a physical separation between the free flowing discharged end of a potable water supply pipeline and the overflow rim of an open or non-pressure receiving vessel. These vertical physical separations must be at least twice the diameter of the inlet pipe but never less than one inch. If splashing is a problem, tubular screens may be attached or the supply line outlet may be cut at a 45 degree angle. If the supply line is cut at a 45 degree angle the air gap distance is measured from the center of the angle. Hoses are not allowed. In theory, a well designed and properly maintained air gap is the best means available for protection against backflow. An air gap, however, is not always practical and is vulnerable to bypass arrangements which nullify its effectiveness. As such, only in certain specific cases, where extremely hazardous conditions exist, is an air gap separation required. Illustrated below is an example of an approved air gap. A bypass could easily nullify this air gap. A line could be installed between the inspection of air gaps shall be included in the yearly testing program for backflow devices.

Public Utility District No. 1
Jefferson County

Standard Detail #11
Air Gap For Makeup Tank
CRUSHED SURFACING TOP COURSE

2" MIN ASPHALT CONC CL B OR CEMENT CONC PAVEMENT MATCH EXIST THICKNESS

SAWCUT EDGES/ SEAL JOINT (TYP)

EXISTING PAVEMENT

NON-SHRINK SPEC SECTION ENTIRE DEPTH

PIPE DIA + 24' PAY LIMIT

COMPACTED TRENCH BACKFILL

COMPACT TO MIN OF 95% MAX DENSITY PER ASTM D-698

WARNING TAPE

BEDDING MATERIAL FOR RIGID AND FLEXIBLE PIPE PER STD SPEC 9-03.15 AND 9-03.16

BACKFILL AROUND PIPE IN TWO LIFTS

NO LIFT SHALL EXCEED 6" LOOSE

PCV OR DUCTILE IRON PIPE

LOCATOR WIRE

RIGID PIPE

TYPICAL TRENCH DETAIL

FLEXIBLE PIPE

PUD STANDARD DRAWING
DETAIL #12