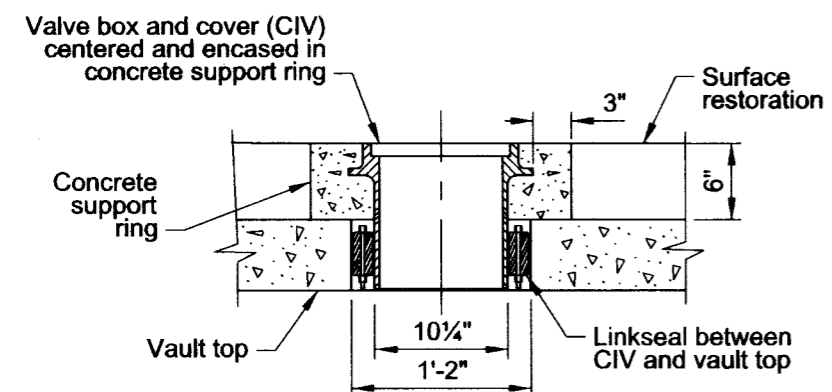
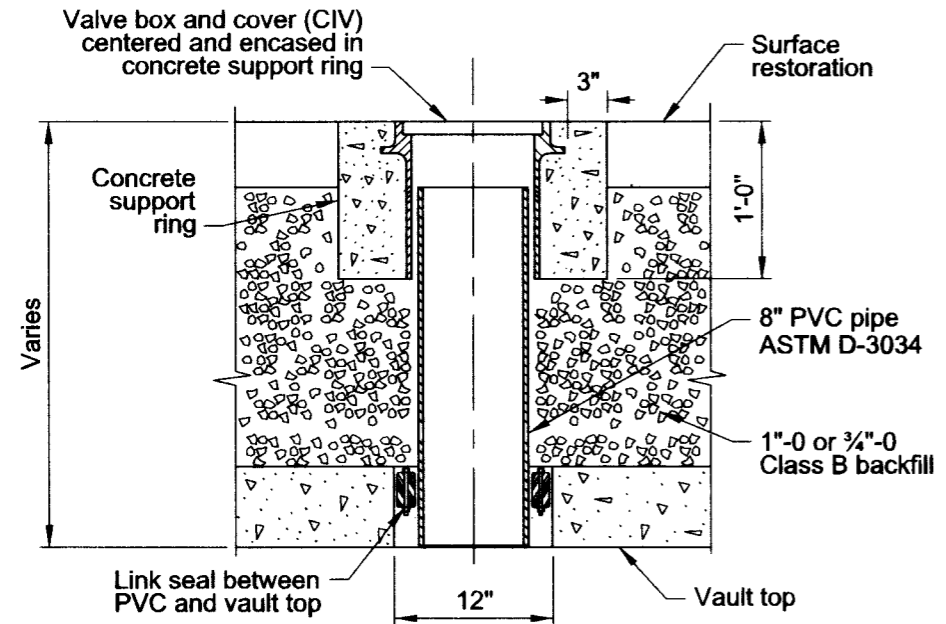


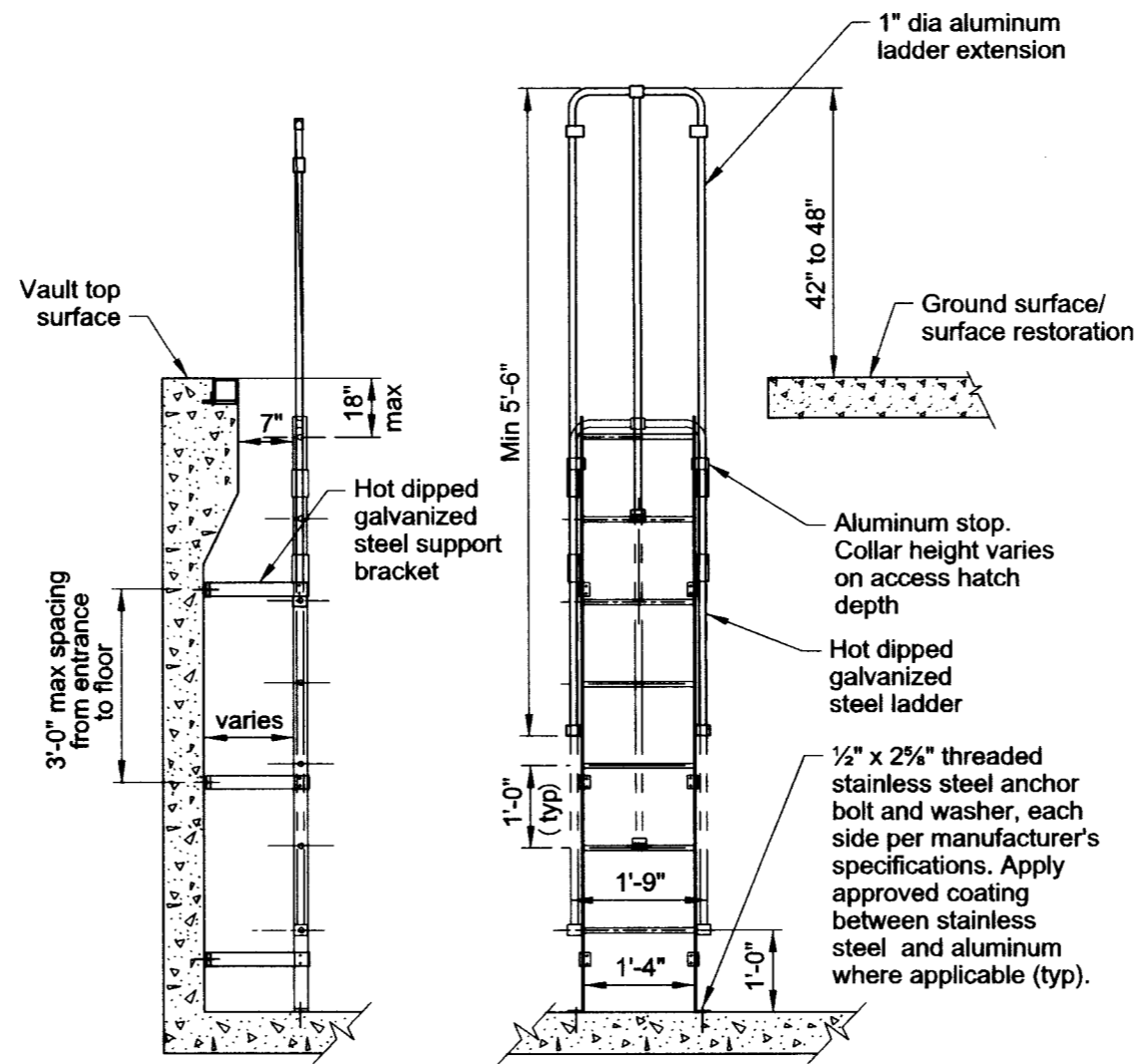
Manhole Installation (In-Street)



Valve Box and Cover (CIV) Installation (In-Sidewalk)



Valve Box and Cover (CIV) Installation (In-Street)





Ladder

General Notes:

1. Contractor to supply and install all piping, vault and appurtenances except for meter, strainer and dismantling assembly internal to the vault. Verify required length of spacer for meter, strainer and dismantling assembly with PWB shop.
2. Select products are listed for reference only and approved equals may be substituted.
3. Dismantling connections shall be (1) restrained FLG x FLG dismantling joints, (2) restrained FLG x PE DI nipple with wedge action or through bolt flange adapter, or (3) restrained FLG x PE nipple with a torque shear set screw flange adapter. Use in the above order of preference as required by length. Typical installations are shown.
4. Strainer is shown adjacent to meter. Dismantling assembly may be placed between strainer and meter as piping permits. Strainer may be integral to meter.
5. Piping outside of vault shall be designed for dead end restraint to facilitate dismantling pipe within the interior of the vault. Pipe restraint by Engineer.
6. Vaults shall be constructed by the manufacturer with solid walls, bottom drains (grated) and top access valve boxes and covers (CIVs) as shown. All outside surfaces shall be coated by the manufacturer with inorganic silicate pore sealant and the contractor shall provide joint gasket/sealants. Pipe penetrations shall be core drilled and sealed with mechanical seals, no knockouts.
7. Vault bottom shall be installed level for those vaults with a center sump, and vaults with trench sumps shall be set sloping toward the trench to facilitate drainage. The slope shall be approximately 1/4" differential across the floor of the vault. Core a hole through the vault sumps for the drain check valves, and center drain rock surrounded by non-woven filter fabric. Extend drain rock to non-compacted native soil.
8. Obtain custom vault top for sloping sites. Fine adjustments to grade shall be made with non-shrink grout and shims per vault manufacturer's recommendation. Foundation base and backfill aggregate shall be Class B backfill, compacted to 95% density.
9. Vault access hatch doors shall be rated for H-20 wheel loads with non-skid surface per City Standards. Hatch door shall only be used in off street locations not subject to high density or heavy truck traffic. Hatch door shall have a tamper proof locking device that ensures flush closure.
10. Attach ladders, hatches, pipe supports, etc., to vault with SS anchors per manufacturer's specifications. Apply mastic coating between SS and aluminum parts.
11. All piping in vaults shall be epoxy coated. Coat DI with leafing aluminum epoxy (Carbomastic 15) per PWB standards. Bolts shall be hot dipped galvanized, SS, silicon bronze, epoxy or PTFE coated or fitted with petrolatum filled caps.
12. The spools, or spool and nipple combination between the mainline tees and bypass are optional. If spools or nipples are omitted, order vault with modified configuration for pipe penetrations and CIV locations. Provide Foster Adapter for MJ connections.

Plot Date: 8/11/2015 11:46:57 AM Filename: J:\Engineering\CAD\Standards\Working-Vaults\855-General-Vault_Details.dgn

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.	 PORTLAND WATER BUREAU CITY OF PORTLAND, OREGON  Chief Engineer	
	Standard Drawing Title	
General Vault Details		
Note: All material and workmanship shall be in accordance with City of Portland Standard Construction Specifications.	Effective Date	Aug 17 2015
	Calc. Book No.	PWB 1
	Baseline Report Date	Aug 17 2015
		Standard Drawing No.
		P-855