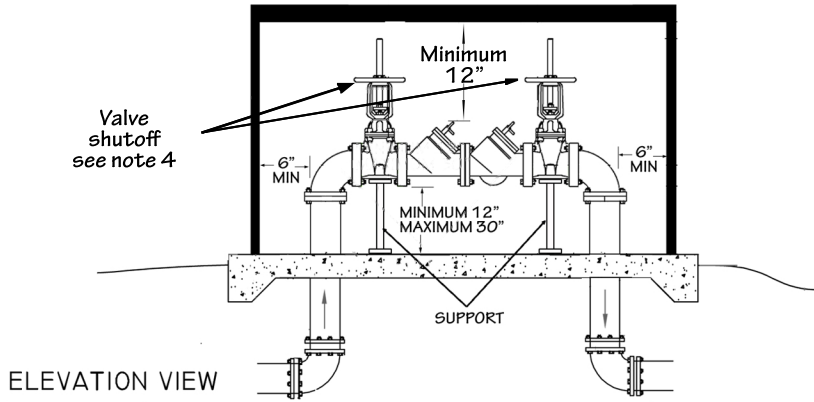
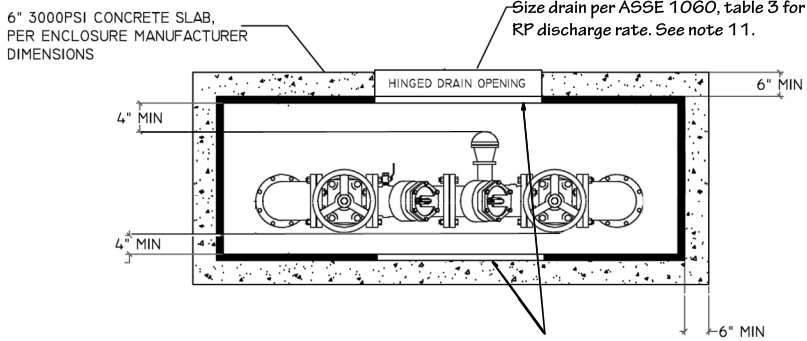


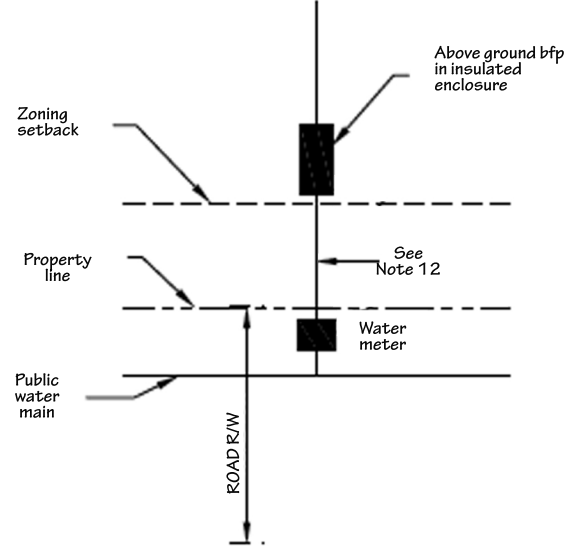
HIGH HAZARD OUTDOOR RPZ BACKFLOW PREVENTER DETAIL



ELEVATION VIEW



PLAN VIEW



Typical location requirement for above ground installation

1. The customer/owner shall furnish and have installed a reduced pressure zone (RPZ) backflow preventer (BFP) assembly in a size to match that of the required meter and/or service piping.
2. 3/4" - 2" assemblies shall include a full-port ball valve on the inlet and outlet sides and a union or swivel coupling nut between the device and each valve. Unions or swivel coupling nuts to be integral with the device or valves.
3. Outdoor installation shall include 120V line in accordance with City of Roswell Electric Code for outdoor operation for enclosure heat unit.
4. 3/4" through 2" sized assemblies shall incorporate quarter-turn (QT) valve shutoffs. 3" through 10" sized assemblies shall incorporate OS&Y valve shutoffs.
5. The device shall have three test cocks in the vertical position fitted with brass or plastic threaded plugs. A fourth test cock shall be provided on the upstream side of the inlet shut-off valve.
6. All components of the assembly shall be equal in corrosion resistance to bronze or stainless steel to resist electrolysis.
7. Assembly shall have replaceable seats.
8. Assembly shall be certified by a nationally recognized testing laboratory in accordance with ASSE Standard 1013 and bears the ASSE seal, and conform to all current requirements of the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCHR).
9. Assembly shall be individually factory tested, shipped, and installed as a unit.
10. Assembly shall not be buried in earth or in any location subject to flooding, but installed above ground in a heated and insulated enclosure meeting ASSE-1060 guidelines, adjacent to, and as close as practical to, the downstream side of the meter installation and shall be installed in a horizontal position only. Approved enclosures include Hot Box/Rox; HydroCowl; or approved equivalent, model numbers determined by BFP size.
11. Water evacuation due to relief valve discharge shall be provided for according to ASSE 1060, table 3 guidelines.
12. Under no condition will a connection be allowed between the meter installation and RPZ-BFP assembly.
13. Permits, plan approvals, and inspections must be obtained and scheduled prior to work through the department of public works, backflow-prevention supervisor by calling: 770-641-3707.
14. All RPZ-BFP assemblies shall be tested at time of installation and at least semiannually thereafter. Backflow tester information and forms are available at: <http://www.roswellgov.com/index.aspx?nid=1030A> copy of all test and maintenance reports must be submitted to: City of Roswell, Department of Public Works, Backflow-Prevention Unit, or via email to backflowtest@roswellgov.com.

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL



HIGH HAZARD OUTDOOR REDUCED PRESSURE ZONE BACKFLOW PREVENTER DETAIL

DETAIL NO.
W16-1

HIGH HAZARD INDOOR RPZ BACKFLOW PREVENTER DETAIL

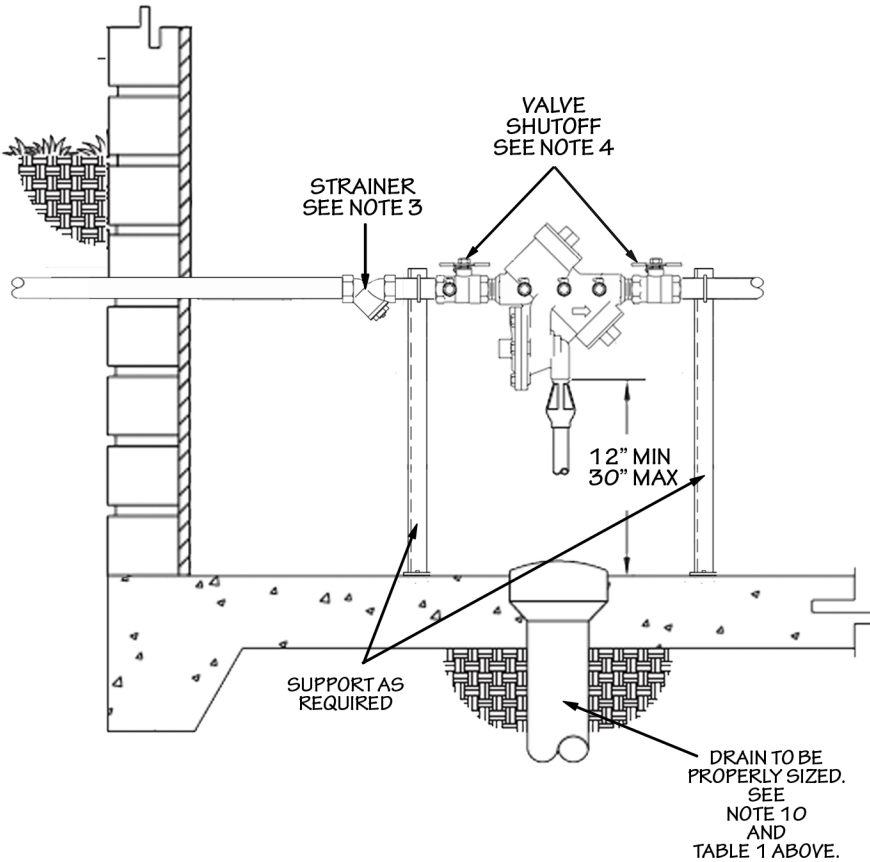
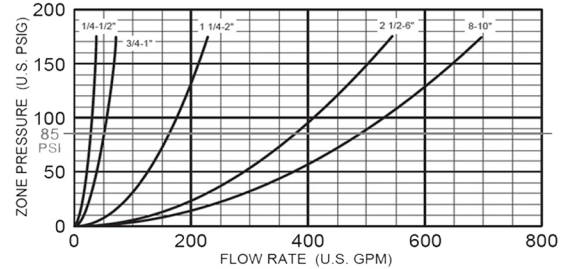


TABLE 1

Relief Valve Discharge Rates

(Worst case condition- If 1st check or relief valve is lodged wide open)
Backflow Preventers



Source: Wilkins/Zurn Co. Document # BF-RV Dsicharge Revision 7/08

Indoor Drain Requirements for RPZ Backflow Preventer

	1/2"	3/4" - 1"	1 1/4" - 2"	2 1/2" - 6"	8" - 10"
Flow rate @ 85 psig	30 gpm	50 gpm	80 gpm	375 gpm	500 gpm
Minimum Drain Diameter	6" decline per 100'	3"	4"	6"	8"
	9" decline per 100'	3"	4"	4"	8"
	12" decline per 100'	3"	4"	4"	8"

1 gal (US)/min = 6.30888x10⁻⁴ m³/s = 0.227 m³/h = 0.06309 gpm; (liter)/s = 2.228x10⁻³ ft³/s = 0.1337 ft³/min = 0.8327 Imperial gal (UK)/min
Source: Engineering Toolbox.com

- The customer/owner shall furnish and have installed a reduced pressure zone (RPZ) backflow preventer (BFP) assembly in a size to match that of the required meter and/or service piping.
- 3/4" - 2" assemblies shall include a full-port ball valve on the inlet and outlet sides and a union or swivel coupling nut between the device and each valve. Unions or swivel coupling nuts to be integral with the device or valves.
- Inside installation shall have a bronze strainer immediately upstream of the RPZ-BFP assembly
- 3/4" through 2" sized assemblies shall incorporate quarter-turn (QT) valve shutoffs. 3" through 10" sized assemblies shall incorporate OS&Y valve shutoffs.
- The device shall have three test cocks in the vertical position fitted with brass or plastic threaded plugs. A fourth test cock shall be provided on the upstream side of the inlet shut-off valve.
- All components of the assembly shall be equal in corrosion resistance to bronze or stainless steel to resist electrolysis.
- Assembly shall have replaceable seats.
- Assembly shall be certified by a nationally recognized testing laboratory in accordance with ASSE Standard 1013 and bears the ASSE seal, and conform to all current requirements of the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCHR).
- Assembly shall be individually factory tested, shipped, and installed as a unit.
- Assembly shall not be installed in an area prone to flooding or freezing, and shall be installed as close as practical to the outlet side of the meter in the horizontal position above a positive gravity drain with air gap. Drain to be appropriately sized to allow for maximum discharge of water as per table 1 above.
- Under no condition will a bypass or any intervening connection be allowed between the meter installation and RPZ-BFP assembly.
- Permits, plan approvals, and inspections must be obtained and scheduled prior to work through the department of public works, backflow-prevention supervisor by calling: 770-641-3707.
- All RPZ-BFP assemblies shall be tested at time of installation and at least semiannually thereafter. A copy of all test and maintenance reports must be submitted to: City of Roswell, Department of Public Works, Backflow-Prevention Unit, or via email to backflowtest@roswellgov.com. Backflow tester information and forms are available at: <http://www.roswellgov.com/index.aspx?nid=1030>
- Approved Devices: Hersey FRP II w/unions & "T" handles; Watts U-009 QT-Z3; Wilkins 975 XLUS; Flowmatic B920; Conbraco 40-200-02 Series

CITY OF ROSWELL WATER UTILITY STANDARD DETAIL



HIGH HAZARD INDOOR REDUCED PRESSURE ZONE BACKFLOW PREVENTER DETAIL

DETAIL NO.
W16-2