

MEMORANDUM

TO: District Engineers

FROM: Lou Harmon, Water and Wastewater Southeast District Engineering Supervisor

THROUGH: Larry Robinson, Water and Wastewater Engineering Program Manager

DATE: September 21, 2005

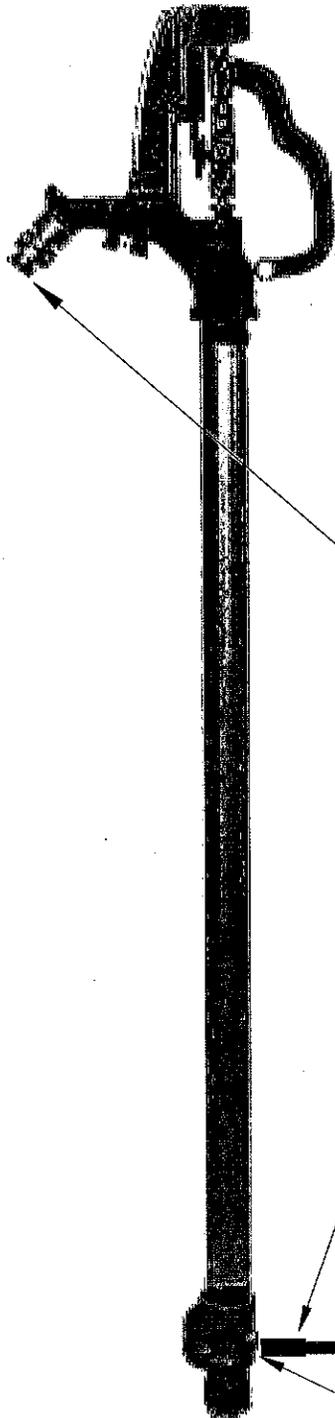
SUBJECT: Policy 14.14.18 Modification of Frost Free Hydrants for Backflow Prevention

1. Chapter 11, Section 59, Potable Water Supply Standards, paragraph (d)(ii) prohibits below ground stop and waste valves with weep holes. This describes the construction of the typical frost free yard hydrant.
2. The alternative of using the product identified as a sanitary hydrant is four times as expensive. All sanitary hydrant designs are a maintenance nightmare. Improper operation results in freezing and failure.
3. The attached drawing illustrates an acceptable solution that protects the hydrant drain from backflow. The additional cost for parts is less than \$15.00.

Attachement Hydrant3.pdf



Frost free yard hydrant modified to provide backflow prevention at the drain port. Like a fire hydrant, the modified hydrant must be installed more than 10 ft from any storm or sanitary sewer line, 25 ft from any septic tanks, and 50 ft from any leach fields. The drain port should empty into a gravel bed of at least 1 cubic foot of volume. The bottom of the drain bed should be above the high ground water level.



ASSE #1011 Vacuum Breaker

1/8" resilient seated
spring loaded
0.2 psi
opening
check valve

Spring loaded check valves are designed to open a specific pressure. Design operating pressures vary from 0.2 psi to 5 psi. Only the 0.2 psi opening valve will work. Higher opening pressures will not let the hydrant column drain sufficiently to prevent freezing.

1/8" Copper Drain Line

The down turned drain loop keeps dirt from falling into valve seat
The top of the copper loop should not extend more than 6" above drain port.

Hydrant Drain Port



Modified Frost Free Yard Hydrant

Hydrant satisfies WQD backflow req'ts

Drawn by: LBH

12 January 2005