



City of

GOLD HILL

P.O. Box 308 • Gold Hill, OR 97525
(541) 855-1525 Fax (541) 855-4501

41-00333

ORDINANCE 99-05

CITY OF GOLD HILL
MUNICIPAL CODE

AN ORDINANCE AMENDING Title 13, WATER AND SEWERS,

§13.04.010, Definitions,

**§13.04.382, Cross-connections or physical connections with
other water supplies or systems and backflow devices,
and**

§13.04.384, Backflow preventer testing requirements

WHEREAS, It is deemed necessary to protect the public potable water supply of the City of Gold Hill from the possibility of contamination or pollution by isolating within the consumer's internal distribution system(s) or the consumer's private water system(s) such contaminants or pollutants which could backflow into the public water systems; and,

WHEREAS, It is deemed necessary to promote the elimination or control of existing cross-connections, actual or potential, between the consumer's in-plant potable water system(s) and non-potable water system(s), plumbing fixtures and industrial piping systems; and,

WHEREAS, To provide for the maintenance of a continuing Program of Cross-Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water systems; and,

WHEREAS, It was determined during the preparation of the May 1999 Water Master Plan, that existing ordinances are outdated and not as comprehensive as would be desired,

The City of Gold Hill ordains as follows:

§13.04.010 Definitions, (H) shall be amended to read as follows:

H. "Industrial Customer" is an individual, firm, corporation, partnership, institution or association who engages in the preparation, processing, treating, making, compounding, assembling, mixing, improving or storing of any product or any solid, liquid or gaseous material for commercial or industrial processes, or who engages in the cleaning, processing or treating of tanks, vats, drums, cylinders or any other container used in the transportation or storage of any solid, liquid or gaseous material used for commercial or industrial processes.

1. The term "Industrial Fluids" shall mean any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration which would constitute a health, system, pollutional or plumbing hazard if introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated used waters; all types of process water and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulated cooling waters connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions and other liquid and gaseous fluids used industrially, for other processes, or for fire fighting purposes.

§13.04.010 Definitions, (L) shall be amended to read as follows:

L. The term "Cross-Connection" shall mean any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections.

1. The term "Direct Cross-Connection" shall mean a cross-connection which is subject to both backsiphonage and backpressure.

2. The term "Indirect Cross-Connection" shall mean a cross-connection which is subject to backsiphonage only.

3. A "Controlled Cross-Connection" is a connection between a potable water system and a non-potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

§13.04.010 Definitions, (P) shall be amended to read as follows:

P. "Backflow Preventer" is an assembly or means designed to prevent backflow.

1. The term "Air Gap" shall mean a physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An "approved air gap" shall be at least double the diameter of the supply pipe measured vertically above the overflow rim of the vessel - in no case less than 1 inch. (2.54 cm).

2. The term "Reduced Pressure Principle Backflow Prevention Assembly" shall mean an assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health (i.e., pollutant) or a health hazard (i.e., contaminant). This assembly shall not be used for backflow protection of sewage or reclaimed water.

3. The term "Double Check Valve Backflow Prevention Assembly" shall mean an assembly composed of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks. (See Specifications, Section 10 for additional details) This assembly shall only be used to protect against a non-health hazard (i.e., pollutant).

§13.04.010, Definitions of the Gold Hill Municipal Code shall receive these additional designations:

S. The term "Approved" as herein used in reference to a water supply shall mean a water supply that has been approved by the health agency having jurisdiction. The term "Approved" as herein used in reference to an air gap, a double check valve assembly, a reduced pressure principle backflow prevention assembly or other backflow prevention assemblies or methods shall mean an approval by the administrative authority having jurisdiction.

T. "Auxiliary Water Supply" is any water supply on or available to the premises other than the purveyor's approved public water supply will be considered as an auxiliary water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source(s) such as a well, spring, river, stream, harbor, etc., or used waters or industrial fluids. These waters may be contaminated or polluted or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

U. The term "Backpressure" shall mean any elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of consideration which would cause, or tend to cause, a reversal of the normal direction of flow.

V. The term "Backsiphonage" shall mean a form of backflow due to a reduction in system pressure which causes a subatmospheric pressure to exist at a site in the water system.

W. The term "Contamination" shall mean an impairment of the quality of the water which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, waste, etc.

X. The term "Degree of Hazard" shall mean either a polluttional (non-health) or contamination (health) hazard and is derived from the evaluation of conditions within a system.

1. The term "Health Hazard" shall mean an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the consumer's potable water system that would be a danger to health.

2. The term "Plumbing Hazard" shall mean an internal or plumbing type cross-connection in a consumer's potable water system that may be either a polluttional or a contamination type hazard. This includes but is not limited to cross-connections to toilets, sinks, lavatories, wash trays and lawn sprinkling systems. Plumbing type cross-connections can be located in many types of structures including homes, apartment houses, hotels and commercial or industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of backflow prevention assembly.

3. The term "Polluttional Hazard" shall mean an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree or intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its appurtenances.

4. The term "System Hazard" shall mean an actual or potential threat of sever danger to the physical properties of the public or the consumer's potable water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

Y. The term "Pollution" shall mean an impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Z. Water

1. **Water - Potable.** The term "potable water" shall mean any public potable water supply which has been investigated and approved by the health agency. The system must be operating under a valid health permit. In determining what constitutes an approved water supply, the health agency has final judgment as to its safety and potability.

2. **Water - Non-Potable.** The term "non-potable water" shall mean a water supply which has not been approved for human consumption by the health agency having jurisdiction.

3. **Water - Service Connection.** The term "service connection" shall mean the terminal end of a service connection from the public potable water system, (i.e., where the water purveyor may lose jurisdiction and sanitary control of the water at its point of delivery to the consumer's water system). If a water meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the water meter.

4. **Water - Used.** The term "used water" shall mean any water supplied by a water purveyor from a public potable water system to a consumer's water system after it has passed through the service connection and is no longer under the control of the water purveyor.

§13.04.382 Cross-connections or physical connections with other water supplies or systems and backflow devices shall be amended to read as follows:

A. Water System Requirements

1. The water system shall be considered as made up of two parts: The Water Purveyor's System and the Consumer's System.

2. Water Purveyor's System shall consist of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the purveyor, up to the point where the consumer's system begins.

3. The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.

4. The distribution system shall include the network of conduits used for the delivery of water from the source to the consumer's system.

5. The consumer's system shall include those parts of the facilities beyond the termination of the water purveyor's distribution system which are utilized in conveying potable water to points of use.

B. Policy

1. No water service connection to any premise shall be installed or maintained by the water purveyor unless the water supply is protected as required by the City of Gold Hill laws and regulations and this chapter. Service of water to any premise shall be discontinued by the water purveyor if a backflow prevention assembly required by this chapter is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed, bypassed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

2. The consumer's system should be open for inspection at all reasonable times to authorized representatives of the City of Gold Hill to determine whether unprotected cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Director shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with the City of Gold Hill statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

3. An approved backflow prevention assembly shall also be installed on each service line to a consumer's water system at or near the property line or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line wherever the following conditions exist:

a. In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the Director, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line commensurate with the degree of hazard.

b. In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line commensurate with the degree of hazard. This shall include the handling of process waters and waters originating from the water purveyor's system which have been subject to deterioration in quality.

c. In the case of premises having (1) internal cross-connections that cannot be permanently corrected or protected against, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line.

4. The type of protective assembly required under subsections B.3a, b, and c shall depend upon the degree of hazard which exists as follows:

a. In the case of any premises where there is an auxiliary water supply as stated in subsection B.3a of this section and it is not subject to any of the following rules, the public water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

b. In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved double check valve backflow prevention assembly.

c. In the case of any premises where there is any material dangerous to health which is handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries and plating plants.

d. In the case of any premises where there are unprotected cross-connections, either actual or potential, the public water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly at the service connection.

e. In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross-connection survey, the public water system shall be protected against backflow from the premises by either an approved air gap or an approved reduced pressure principle backflow prevention assembly on each service to the premises.

§13.04.384 Backflow preventer testing requirements shall be amended to read as follows:

A. Any backflow prevention assembly required herein shall be a make, model and size approved by the Director. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled:

AWWA/ANSI C510-92¹ Standard for Double Check Valve Backflow Prevention Assemblies;

AWWA/ANSI C511-92 Standard for Reduced Pressure Principle Backflow Prevention Assemblies;

and, have met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USC FCCCHR) established in:

Specifications of Backflow Prevention Assemblies - Section 10 of the most current edition of the *Manual of Cross-Connection Control*.

Said AWWA and USD FCCCHR standards and specification have been adopted by the Director. Final approval shall be evidenced by a "Certificate of Compliance" for the said AWWA standards; or "Certificate of Approval" for the said USC FCCCHR Specifications; issued by an approved testing laboratory.

The following testing laboratory has been qualified by the Director to test and approve backflow prevention assemblies:

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California
KAP-200 University Park MC-2531
Los Angeles, California 90089-2531

¹Prior to 1989 the AWWA/ANSI C506 Standard covered both the double check valve assembly and the reduced pressure principle backflow prevention assembly.

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the Director.

Backflow preventers which may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on the laboratory's current list of approved backflow prevention assemblies may be used without further test or qualification.

B. The Director shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the judgement of said director an approved backflow prevention assembly is required for the safety of the water system, the director or his designated agent shall give notice in writing to said consumer to install such an approved backflow prevention assembly(s) at a specific location(s) on his premises. The consumer shall immediately install such an approved backflow prevention assembly(s) at the consumer's own expense; and, failure, refusal or inability on the part of the consumer to install, have tested and maintained said assembly(s), shall constitute grounds for discontinuing water service to the premises until such requirements have been satisfactorily met.

C. It shall be the duty of the consumer at any premises where backflow prevention assemblies are installed to have a field test performed by a certified backflow prevention assembly tester upon installation and at least once per year. In those instances where the Director deems the hazard to be great enough he may require field tests at more frequent intervals. These tests shall be at the expense of the water user and shall be performed by Public Works Department personnel or by a certified tester approved by the Director. It shall be the duty of the Director to see that these tests are made in a timely manner. The consumer shall notify the Director in advance when the tests are to be undertaken so that an official representative may witness the field tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the consumer whenever said assemblies are found to be defective. Records of such tests, repairs and overhaul shall be kept and made available to the Director.

D. All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the testing and maintenance requirements under subsection 3.2.6, be excluded from the requirements of these rules so long as the Director is assured that they will satisfactorily protect the water purveyor's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Director finds that the maintenance constitutes a

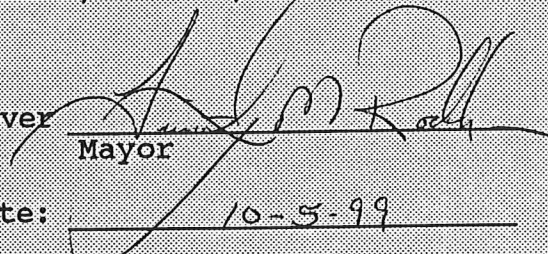
hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of this section.

E. The Director is authorized to make all necessary and reasonable rules and policies with respect to the enforcement of this ordinance. All such rules and policies shall be consistent with the provisions of this ordinance and shall be effective ten (10) days after being filed with the City Recorder of the City of Gold Hill.

The foregoing ordinance was first read by title only at the meeting of the City Council of the City of Gold Hill on the 13th day of September, 1999, and

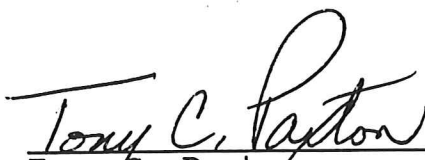
A second reading by title only of the foregoing ordinance took place and was adopted at the meeting of the City Council of the City of Gold Hill on the 4th day of October, 1999, by the following called vote:

Ayes:	Alexander, Eilefson, Hettum, Howard, Silva
Noes:	None
Abstaining:	Wolf
Absent:	None

Approver: 
Mayor

On Date: 10-5-99

Attest:



Tony C. Paxton
City Recorder/Treasurer

October 5, 1999

Date

Cross Connection Control Survey

City of Gold Hill Water Users

Note: A response to this survey is required for every water account. An inspection will be made on all premises where responses are not received. Information pertaining to the cross connection control program can be found on the other side of this sheet.

Please return the survey to City Hall or mail to City of Gold Hill, P.O. Box 308, Gold Hill, OR 97525, before November 15, 1999.

Name _____

Address of water connection _____

Billing address _____ Telephone _____

Please check appropriate lines.

___ YES ___ NO I have a backflow device installed at the water service connection. If you check yes here, you do not need to complete the remainder of the survey.

- | | | |
|---------|--------|--|
| ___ YES | ___ NO | Swimming pool or hot tub. |
| ___ YES | ___ NO | Underground sprinklers, including pop up type. |
| ___ YES | ___ NO | Underground drip irrigation. |
| ___ YES | ___ NO | Chemical injection into an irrigation system. |
| ___ YES | ___ NO | Fire sprinkler system. |
| ___ YES | ___ NO | Solar heating or solar hot water system. |
| ___ YES | ___ NO | Boiler or steam equipment. |
| ___ YES | ___ NO | Well or auxiliary water source. |
| ___ YES | ___ NO | Photo or chemical laboratory. |
| ___ YES | ___ NO | Aspirators. |
| ___ YES | ___ NO | Any recirculated water. |
| ___ YES | ___ NO | Stock watering equipment. |
| ___ YES | ___ NO | Water disinfection equipment. |
| ___ YES | ___ NO | Pumps installed on water system. |
| ___ YES | ___ NO | Water storage tanks. |
| ___ YES | ___ NO | Equipment using water and compressed air. |

___ YES ___ NO Is the premises used for industrial or commercial purposes?
If so, list the type of business.

Thank you for your time and cooperation. If you have any questions please contact Royal Gasso, Public Works Director at 855-7144.

Cross Connection Control

Note: A response to the survey on the back side is required for every water account.

The following information is provided to familiarize you with the City of Gold Hill Cross Connection Control Program. This program is outlined in City of Gold Hill Municipal Code. Title 13, Water and Sewers.

Cross Connection Control Program. The City of Gold Hill, like all other water utilities is required by the Oregon State Department of Health to have a Cross Connection Control Program. Cross connection control, also called backflow prevention, is a method of insuring that contaminants do not enter the public water distribution system from users. The water utility is required to identify sources and potential sources of cross connections, then take appropriate action to remove the hazard.

Definition of Cross Connection: A cross connection is simply any connection between potable water and a non potable substance.

Examples of Cross Connections: Every tap into the water main is a potential cross connection. Water can flow back into the City water distribution system when main line pressure is reduced by breakage or excessive fire fighting demand. Typical examples are:

Underground sprinklers or drip lines.

Garden hoses immersed in swimming pools or other water containers.

Chemical injectors for irrigation systems.

Submerged inlets in any water container.

Inspection: The survey on the opposite side is being distributed to all users in order to comply with Oregon Health Division regulations. In most cases, no action will be required for residential use, however water users with a potential for hazardous backflow will be contacted for an inspection. Industrial and commercial users will be targeted for inspection according to the degree of hazard.

Backflow devices: When hazardous cross connection conditions are identified, appropriate devices will be required to prevent backflow.

Hose Bibs

At first glance, a hose bib seems innocuous, but it is the things people do with the hose that creates problems. In this example, a man is trying to blow a stoppage out in a sewer line, but with a sudden drop in line pressure, this contaminated water can be backsiphoned into the potable water system

