CROSS-CONNECTION CONTROL MANUAL

TOWN OF MANALAPAN

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WATER DEPARTMENT

600 SOUTH OCEAN BOULEVARD

MANALAPAN, FLORIDA. 33462

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PURPOSE OF MANUAL

This Cross-Connection Control Manual has been prepared to set forth guidelines and procedures to be used by the Town of Manalapan (the Town) to establish and carry out an ongoing cross-connection control program. A successful cross-connection control program will reduce the risk of contamination or pollution of the Town's public water supply system.

RESPONSIBILITIES

The United States Environmental Protection Agency (the EPA) has jurisdiction over the public health aspects of drinking water supply. In Florida, the authority to regulate public water supplies has been delegated to the Florida Department of Environmental Protection (the FDEP). In Palm Beach County, the Palm Beach County Health Department (the PBCHD) has been delegated the responsibility to monitor and enforce Florida Statutes that regulate public water supplies and suppliers (the purveyors) by the Florida Legislature through the FDEP.

Within the service area, when a person or entity establishes a service account to purchase water from the Town, that person or entity becomes a water customer of the Town and is obligated by contract to comply with all rules and regulations of the Town in regard to the water system.

GOVERNMENTAL REGULATIONS

The Safe Drinking Water Act (SDWA), 42 U.S.C. Section 300f to 300j-26 establishes federal jurisdiction over the public health aspects for the drinking water supplies within the United States and the USEPA is the responsible agency.

Within the State of Florida, the general guidelines for cross-connection control are set forth in Chapter 62 of the Florida Statutes. Specifically, definitions are found in 62-550.202, F.A.C. and the general rules in 62-550.360 (Appendix A). The PBCHD monitors the cross-connection control programs for each water purveyor within the County.

The Town prepared and adopted Ordinance No. 284 that sets forth the requirements to be met by each water system customer within its service area. The ordinance was codified into Title 5: Public Works, Chapter 51. Water, specifically Section 51.16 of the Town's Code of Ordinances (Appendix B).

DEFINITIONS

1. Approved: Accepted by the Manager or his designee, as meeting an applicable specification stated or cited in this Ordinance, or as suitable for the proposed use.

2. Auxiliary Water Supply: Any water supply on or available to the premises other than the purveyor's or the Town's approved public potable 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 water" or "industrial fluids". These waters may be polluted or contaminated or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.

3. Backflow: The flow of water or other liquids, mixtures or substances under pressure into the distributing pipes of a potable water supply system from any source or sources other than its intended source.

4. Backpressure: A pressure higher than the supply pressure, caused by a pump, elevated tank, boiler, or any other means that may cause backflow.

5. Backsiphonage: The flow of water or other liquids, mixtures or substances into the distributing pipes of a potable water supply system from any other source other than its intended source caused by sudden reduction of pressure in the potable water supply system.

6. Backflow Prevention Assembly: A mechanical backflow preventer (i.e., SVB, PVB, DCVA, RP), used to prevent the backward flow of contaminants or pollutants into a potable water distribution system. An assembly has a resilient seated, full-flow shut-off valve before and after the backflow preventer making it testable in-line. The assembly is shipped with the shut-off valves attached to the backflow preventer. An assembly is labeled with the manufacturer's symbol, size, serial number, model number, the working pressure, and the direction of flow. The foundation for Cross Connection Control and Hydraulic Research at the University of Southern California tests and approves backflow prevention assemblies.

7. Backflow Prevention Device: A means of backflow protection, usually mechanical that does not require shut-off valves and test cocks. Any backflow prevention assembly without the shut-off valves is called a device. The American Society of Sanitary Engineers (ASSE) approves backflow prevention devices. (See Appendix E.2.)

8. Backflow Preventer: A device, assembly or means designed to prevent backflow. These devices or assemblies are described below (See Appendix G):

    a) Air-Gap: 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 separation" shall be at least double the diameter of the supply pipe measured vertically above the top of the rim of the vessel. In no case shall it be less than 1 inch. When an air-cap is used at the service connection to prevent the contamination or pollution of the public portable water system, an emergency by-pass shall be installed around the air-gap system and an approved reduced pressure principle assembly shall be installed in the by-pass system.

b) Approved Backflow Prevention Device: Must include isolation valves and test cocks to facilitate in-line testing and repair. The assembly must appear on a current approval list form the American Society of Sanitary Engineering (ASSE) or on an approval list from the Foundation of Cross-Connection Control and Hydraulic Research at the University of Southern California (FCCC & HR@ USC).

c) Reduced Pressure Principle Assembly: A device containing within its structure a minimum of two independently acting approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure shutoff valves located at each end of the device, and each device shall be fitted with properly located test cocks. The entire assembly shall meet the design and performance specifications and approval of a recognized and Town-approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for in-line maintenance and testing and be installed in a location where no part of the assembly will be submerged.

d) Double Check Valve Assembly: An assembly composed of two single, independently acting, check valves, including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve, plus properly located test cocks for the testing of each check valve. A check valve is a valve that is drip-tight in the normal direction of flow when the inlet pressure is one psi and the outlet pressure is zero. The check valve shall permit no leakage in a direction reverse to the normal flow. The closure element (e.g., clapper) shall be internally weighted or otherwise internally loaded to promote rapid and positive closure. The entire assembly shall meet the design and performance specifications and approval of a recognized and Town-approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for in-line maintenance and testing.

e) Double Check Valve: A compact unit manufactured with two independent spring actuated check valves. The residential dual check is acceptable for use back-low prevention in areas served by reuse systems defined in FAC Chapter 62-610, Part III, as defined in paragraphs (5)(a) and (5)(b).

f) Atmospheric Vacuum Breaker: An anti-siphon backflow prevention device that incorporates an air inlet to prevent backflow by backsiphonage. Designed to protect against high and low hazards during a backsiphonage condition only. Sometimes includes a shut-off valve on the upstream side only.

g) Pressure Vacuum Breaker: An assembly containing one independently operated internally loaded check valve and an independently operated internally loaded air inlet valve located on the discharge side of the check. Assembly includes tightly closing shut-off valves on the inlet and outlet sides of the assembly and properly located test cocks.

h) Spill Resistant Pressure Vacuum Breaker: An assembly designed to prevent backsiphonage that can be used under continuous pressure; the assembly includes an independently operating spring loaded check valve and an independently loaded air inlet valve located on the discharge side of the check with shut-off valves located on the inlet and outlet side of the assembly, a resilient seated test cock located downstream of the shut-off valve and upstream of the check valve with a properly located air vent above the check valve and below the air inlet valve.

i) Hose Bibb Vacuum Breaker: A device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.

9. Contamination: Means an impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual hazard to the public health through poisoning or through the spread of disease.

10. Cross-Connection: Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems one of which contains potable water and the other non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow by backpressure or backsiphonage may occur into the potable water system. A water service connection between a public water distribution system and a customer's water distribution system which is cross-connection to a system constitutes one type of cross-connection. Other types of cross-connections include connectors such as swing connections, removable sections, four-way valves, spools, dummy sections of pipe, swivel or change-over devices, sliding multi-port tube, solid connections, etc.

11. Cross-Connections –Controlled: A connection between a potable water system and non-potable water system with an approved backflow prevention assembly properly installed that will continuously afford the protection commensurate with the degree of hazard.

12. Cross-Connection Control by Containment: The installation of an approved backflow prevention assembly at the water service connection to any customer's premises where it is physically and economically infeasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-

connections which cannot be effectively eliminated or controlled at the point of cross-connection.

13. Customer's System: Shall include those parts of the facilities beyond the termination of the utility distribution system that are utilized in conveying utility-delivered domestic water to points of use.

14. Hazard, Degree of: The term is derived from an evaluation of the potential risk to public health and the adverse affect of the hazard upon the potable water system.
    a) Hazard - Health: Any condition, device or practice in the water supply system and its operation which could create, or in the judgment of the Manager, or his designee may create a danger to the health and well-being of the Town's water customers. An example of a health hazard is a structural defect, including cross-connection, in a water supply system.

    b) Hazard - Plumbing: A plumbing type cross-connection in a consumer's potable water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

    c) Hazard - Pollution: An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

    d) Hazard-System: An actual or potential threat of severe damage to the physical properties of the public potable water system or the consumer's potable water system or of pollution or contamination which would have a protracted affect on the quality of the potable water in the system.

15. Industrial Fluids System: Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollution or plumbing hazard is introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and "used water" originating from the public potable water system which may have deteriorated in sanitary quality; chemical in fluid form; plating acids and alkalies, circulated cooling water connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural water such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerin, paraffin, caustic and acid solutions and other liquids gaseous fluids used industrial or other purposes or for fire-fighting purposes.

16. Isolation: Isolation consists of two types, fixture isolation and area or zone isolation. Isolation at a fixture means installing an approved backflow preventer at the source of the potential contamination. Isolation at an area or zone is confining the potential source of contamination within a specific area. Isolation may be appropriate with or without containment depending on the whether the conditions create a health or non-health hazard.

17. Manager: The Manalapan Town Manager, or his designee who may be in charge of the Water Department with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provisions of the Town's Code relative to Cross-Connection Control.

18. Pollution: Means the presence of any foreign substance (organic, inorganic or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

19. Utility System: Shall consist of the source of supply facilities, treatment facilities and the distribution system, and shall include all those facilities of the water system under the complete control of the distribution system, up to the point where the customer's system begins.

20. Water-Potable: Any water, which, according to recognized standards is safe for human consumption.

21. Water-Non Potable: Water which is not safe for human consumption or which is of questionable sanitary quality.

22. Water Purveyor: The term water purveyor shall mean the Town of Manalapan whose potable water system supplies approved water to the public. As used herein, the terms water purveyor and Town of Manalapan may be used synonymously.

23. Water Service Connections: The terminal end of a service connection from the public potable water i.e., where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the customer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any meter or backflow prevention assembly located at the point of delivery to the customer's water system. Service connections shall also include any water service connections from a fire hydrant and all other temporary or emergency water service connection from the public water system.

SERVICE POLICY

The Town has conducted an inventory of all water system customers (Appendix D). Based on this inventory, it has been determined that several customers could, because of the nature of their establishment, have some potential of having a cross-connection(s). These include commercial establishments, some single family dwellings, and some multi-family buildings.

The premises of each customer that has the potential for having a cross-connection has or will be visited by Town personnel who are trained in the determination and elimination of potential cross-connections and a report of findings for each potential establishment will be prepared and provided to the customer along with actions that must be taken to enable compliance with the Town's Code. Although the Town maintains the authority to enter private property to investigate the existence of cross-connections, the Town may simply require the customer to install a backflow prevention device that will protect the public water supply system from contamination from a cross-connection.

The Town shall provide the customer information on how to obtain an approved cross-connection control device that may be installed to protect the public water supply. The customer shall retain the services of a licensed plumber who also is a certified Backflow Technician, to furnish and install the cross-connection control device or method. The Town shall review and accept the installation prior to turning on water service to the property.

The cross-connection control device shall be constructed on the customer's property in conjunction with the customer's water meter. Site specific adjustments may be necessary. The cross-connection control device will be the property of the customer. The customer will maintain and have the device tested no less than annually, unless otherwise stipulated, and provide to the Town a certified test report. There will be no charge unless customer fails to timely (within 30 days of notice) submit annual certification documents upon notice from the Town, in which case there is a $25.00 administrative fee.

Various form letters for Notice to Customers are provided in Appendix "F", along with a list of companies who regularly install and certify backflow prevention systems.

CUSTOMERS REQUIRING CROSS-CONNECTION CONTROL

The Town requires mandatory service protection for high-hazard customer categories, such as, but not limited to, the following:

- All multi-story buildings
- All commercial establishments
- All services that are comprised of 1 ½ inch or larger meters
- All construction and/or hydrant meters
- Any other customer that the Town determines to have an actual or potential risk for backflow.

NOTIFICATION

Once the Town has determined that a property that is provided water has a cross-connection or is a high-hazard category customer, a "Notice to Correct" form (Appendix D) with instructions on what action is required to bring the customer's property into compliance with the Town's code and this Manual & forms are available on the Town's website, www.manalapan.org.

If the high-hazard is such that it poses an immediate threat to the public water supply system, it may be necessary to immediately discontinue service until the immediate threat is removed. The time to correct noticed violators may vary depending on the degree of the existing problems.

CROSS-CONNECTION CONTROL METHODS AND/OR DEVICE

There are several methodologies and mechanical devices that may be employed to correct existing or to avoid future cross-connections. These include, but are not limited to, the following (See Appendix G):

- Air Gap
- Reduced-Pressure Principle Backflow – Prevention Assembly
- Reduced-Pressure Principle Detector Backflow – Prevention Assembly
- Double Check Valve Backflow – Prevention Assembly
- Double Detector Check Valve Backflow – Prevention Assembly
- Pressure Vacuum Breaker Assembly
- Spill Resistant Vacuum Breaker

REFERENCES

There are several publications available that provide significant details on the application, installation, testing and maintenance of cross-connection control systems, including the following:

1. Recommended Practice for Backflow Prevention and Cross-Connection Control. AWWA Manual M14, Third Edition, 2004, American Water Works Association (AWWA), Published by the AWWA, 6666 W. Quincey Avenue, Denver, CO 80233

2. Cross-Connection Control Manual. Compiled by the Florida Rural Water Association, 2970 Wellington Circle W, Suite 101, Tallahassee, FL 32309, Revised November 2006

3. Cross-Connection Control Manual. United States Environmental Protection Agency, Office of Water, Office of Ground Water and Drinking Water, Last Reprint 1995, Technical Corrections 2003, WH-550, Washington, DC 20460

These readily available documents may be used as guides by the Town or the Town's customers to aid in providing solutions for existing or potential cross-connections.

APPENDICIES

A. Florida Department of Environmental Protection, Rule 62-555.360, F.A.C. Cross-Connection Control for Public Water Systems

B. Manalapan Ordinance No. 284 and Article 51, Section 51.16 Manalapan Code of Ordinances

C. Application for Water Service Manalapan Utility Department

D. Survey Forms and Customer Data Base

E. Public Education - Frequently Asked Questions

F. Notification Forms, test & maintenance report and List of Companies with Certified Technicians

G. A Description of the Most Commonly Used Cross-Connection Control Devices

APPENDIX "A"

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
RULE 62-555.360, FAC
CROSS-CONNECTION CONTROL FOR PUBLIC WATER SYSTEMS

62-555.360 Cross-Connection Control for Public Water Systems.

(1) Cross-connections, as defined in Rule 62-550.200, F.A.C., are prohibited unless appropriate backflow protection is provided to prevent backflow through the cross-connection into the public water system. This does not prohibit a public water system from being interconnected to another public water system of the same type without backflow protection (i.e., a community water system [CWS] may be interconnected to another CWS without backflow protection, a non-transient non-community water system [NTNCWS] may be interconnected to another NTNCWS without backflow protection, and a transient non-community water system [TWS] may be interconnected to another TWS without backflow protection).

(a) Appropriate backflow protection for various applications is described in *Recommended Practice for Backflow Prevention and Cross-Connection Control: AWWA Manual M14*, Third Edition, as clarified and modified in paragraphs (b) and (c), below, and in Table 62-555.360-2, which appears at the end of this section. The third edition of *AWWA Manual M14* is incorporated herein by reference; is available from the American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235, www.awwa.org; and is available for review at the Department of Environmental Protection, Source and Drinking Water Program, MS 3520, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, at the Department of Environmental Protection district offices, and at the Approved County Health Departments.

(b) Except for the temporary cross-connections described in paragraph (c), below, cross-connections between a public water system and a wastewater system or reclaimed water system are prohibited (i.e., an air gap shall be maintained between any public water system and any wastewater system or reclaimed water system). The Department shall allow an exception to this requirement if the supplier of water provides justification for the exception and provides alternative backflow protection that achieves a level of reliability and public health protection similar to that achieved by an air gap (e.g., two biannually-tested reduced-pressure principle assemblies installed in series); however, in no case shall the Department allow a single, annually-tested mechanical backflow preventer to be used as the only protection against backflow of wastewater or reclaimed water into a public water system.

(c) Temporary cross-connections may be made between a public water system and a wastewater system or reclaimed water system for either of the following purposes:

1. To supply water for flushing or testing a new wastewater force main or new reclaimed water main, in which case a double check valve assembly or reduced-pressure principle assembly shall be provided at the cross-connection.

2. To supply water for temporarily operating a new reclaimed water main that has not yet been connected to a reclaimed water supply, in which case a reduced-pressure principle assembly shall be provided at the cross-connection.

(2) Each community water system (CWS) shall establish and implement a cross-connection control program utilizing backflow protection at or for service connections from the CWS in order to protect the CWS from contamination caused by cross-connections on customers' premises. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control: AWWA Manual M14*, Third Edition, as clarified and modified in paragraph (a), below. The third edition of *AWWA Manual M14* is incorporated herein by reference and is available as indicated in paragraph 62-555.360(1)(a), F.A.C.

(a) The minimum components that each CWS shall include in its written cross-connection control plan are listed and described in Table 62-555.360-1, which appears at the end of this section. The categories of customers for which each CWS shall ensure backflow protection is provided at or for the service connection from the CWS to the customer are listed in Table 62-555.360-2, which appears at the end of this section.

(b) Each CWS serving more than 10,000 persons shall prepare and submit cross-connection control program annual reports. The first annual report shall cover calendar year 2016, and subsequent annual reports shall cover each calendar year thereafter. These reports shall be prepared using Form 62-555.900(13), Cross-Connection Control Program Annual Report, effective 5-5-14, which is incorporated herein by reference and which is available as described in Rule 62-555.900, F.A.C., and at http://www.flrules.org/Gateway/reference.asp?No=Ref-04104. These reports shall be submitted to the appropriate Department of Environmental Protection district office or Approved County Health Department within three months after the end of the calendar year covered by the report.

(3) Upon discovery of a prohibited or inappropriately protected cross-connection, public water systems either shall ensure that the cross-connection is eliminated, shall ensure that appropriate backflow protection is installed to prevent backflow into the public water system, or shall discontinue water service. If the discovered cross-connection is on the premises of a customer of a community water system (CWS) and if the customer's premises is in a category described in Table 62-555.360-2, which appears at the end of this section, the CWS shall ensure that appropriate backflow protection is provided at or for the water service connection to the

customer regardless of whether the cross-connection is eliminated or whether internal backflow protection is installed at the cross-connection to the customer's plumbing system.

Table 62-555.360-1: Minimum Components that Each Community Water System (CWS) Shall Include in Its Written Cross-Connection Control (CCC) Plan (Effective 5-5-14)
Component Number and Description
I. Legal authority for the CWS's CCC program – i.e., an ordinance, a bylaw or resolution, or water service rules and regulations. The legal authority shall include or reference Components 2 and 3, below.
II. The CWS's policy establishing where backflow protection at or for service connections from the CWS is mandatory.
A. This policy shall identify categories of customers for which the CWS is requiring backflow protection at or for the service connection to the customer and shall specify the minimum backflow protection that the CWS is requiring for each such category of customers.
B. This policy shall be no less stringent than Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C.
III. The CWS's policy regarding ownership, installation, inspection/testing, and maintenance of backflow protection that the CWS is requiring at or for service connections from the CWS.
A. This policy shall specify whether the CWS or customer is responsible for installation, inspection/testing, and maintenance of backflow protection being required at or for service connections.
B. This policy shall specify design and performance standards, and shall specify installation criteria, for new backflow protection being required at or for service connections. Installation criteria shall be consistent with installation criteria in *AWWA Manual M14* as incorporated into subsection 62-555.360(2), F.A.C., and shall assure the backflow protection is installed as close as practical to the CWS's meter or customer's property line but, in all cases, before the first distribution line off of the customer's water service line.
C. This policy shall specify the frequency for inspecting air gaps (AGs) being required at or for service connections and shall specify qualifications for persons inspecting such AGs. All AGs being required at or for service connections pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be inspected at least annually.
D. This policy shall specify the frequency for testing backflow preventer assemblies[1] being required at or for service connections, shall specify qualifications for persons testing such assemblies, and shall specify test procedures for such assemblies. Assemblies being required at or for non-residential service connections[2] pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be tested after installation or repair and at least annually thereafter and shall be repaired if they fail to meet performance standards. Assemblies being required at or for residential service connections[2] pursuant to Table 62-555.360-2 shall be tested after installation or repair and at least biennially thereafter and shall be repaired if they fail to meet performance standards.
E. This policy shall specify the frequency for refurbishing or replacing dual check devices (DuCs) being required at or for service connections. DuCs being required at or for service connections pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be refurbished or replaced at least once every 5 to 10 years or at a lesser frequency determined by the CWS if the CWS documents that the lesser frequency is appropriate based on data from spot-testing DuCs in its system or based on data from backflow sensing meters in its system.
IV. The CWS's procedures for evaluating customers' premises to establish the category of customer and the backflow protection being required at or for the service connection(s) from the CWS to the customer.[3]
A. The CWS shall evaluate the customer's premises at a newly constructed service connection before the CWS begins supplying water to the service connection.
B. The CWS shall evaluate the customer's premises at an existing – i.e., previously constructed – service connection whenever the customer connects to a reclaimed water distribution system, whenever an auxiliary water system is discovered on the customer's premises, whenever a prohibited or inappropriately protected cross-connection is discovered on the customer's premises, and whenever the customer's premises is altered under a building permit in a manner that could change the backflow protection required at or for a service connection to the customer.
V. The CWS's procedures for maintaining CCC program records.[4]
A. The CWS shall maintain a current inventory of backflow protection being required at or for service connections from the CWS.

B. The CWS shall maintain records of the installation, inspection/testing, and repair of backflow protection being required at or for service connections from the CWS.

[1] Backflow preventer assemblies include the following: double check valve assemblies (DCs) and double check detector assemblies (DCDAs); pressure vacuum breaker assemblies (PVBs); and reduced-pressure principle assemblies (RPs) and reduced-pressure principle detector assemblies (RPDAs).

[2] For the purpose of this table, "residential service connection" means any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units; and "non-residential service connection" means any other service connection.

[3] CWSs may evaluate customers' premises using questionnaires, reviews of construction plans or pertinent records, on-site inspections, or any combination thereof.

[4] CWSs may maintain all records in either electronic or paper format.

Table 62-555.360-2: Categories of Customers for Which Each Community Water System (CWS) Shall Ensure Minimum Backflow Protection Is Provided at or for the Service Connection from the CWS to the Customer (Effective 5-5-14)	
Category of Customer	Minimum Backflow Protection[1] to Be Provided at or for the Service Connection from the CWS to the Customer
Beverage processing plant, including any brewery	DC if the plant presents a low hazard[2]; or RP if the plant presents a high hazard[2]
Cannery, packing house, rendering plant, or any facility where fruit, vegetable, or animal matter is processed, excluding any premises where there is only restaurant or food service facility	RP
Car wash	RP
Chemical plant or facility using water in the manufacturing, processing, compounding, or treatment of chemicals, including any facility where a chemical that does not meet the requirements in paragraph 62-555.320(3)(a), F.A.C., is used as an additive to the water	RP
Dairy, creamery, ice cream plant, cold-storage plant, or ice manufacturing plant	RP[3]
Dye plant	RP
Film laboratory or processing facility or film manufacturing plant, excluding any small, noncommercial darkroom facility	RP
Hospital; medical research center; sanitarium; autopsy facility; medical, dental, or veterinary clinic where surgery is performed; or plasma center	RP
Laboratory, excluding any laboratory at an elementary, middle, or high school	RP
Laundry (commercial), excluding any self-service laundry or Laundromat	RP
Marine repair facility, marine cargo handling facility, or boat moorage	RP
Metal manufacturing, cleaning, processing, or fabricating facility using water in any of its operations or processes, including any aircraft or automotive manufacturing plant	DC if the facility presents a low hazard[2]; or RP if the facility presents a high hazard[2]
Mortuary	RP
Premises where oil or gas is produced, developed, processed, blended, stored, refined, or transmitted in a pipeline or where oil or gas tanks are repaired or tested, excluding any premises where there is only a fuel dispensing facility	RP
Premises where there is an auxiliary or reclaimed water system[4,5]	A. At or for a residential service connection[6]: DuC[7]

	B. At or for a non-residential service connection[6]: DC if the auxiliary or reclaimed water is a low hazard[8,9]; or RP if the auxiliary or reclaimed water is a high hazard[8,9]
Premises where there is a cooling tower	RP
Premises where there is an irrigation system that is using potable water and that: I. Is connected directly to the CWS's distribution system via a dedicated irrigation service connection	I. At or for a residential or non-residential dedicated irrigation service connection[6]: PVB if backpressure cannot develop in the downstream piping[10]; or RP if backpressure could develop in the downstream piping[10]
II. Is connected internally to the customer's plumbing system	II. None[11]
Premises where there is a wet-pipe sprinkler, or wet standpipe, fire protection system that is using potable water and that: I. Is connected directly to the CWS's distribution system via a dedicated fire service connection[12]	I.A. At or for a residential dedicated fire service connection[6]: DuC if the fire protection system contains no chemical additives and is not connected to an auxiliary water system[4]; or RP or RPDA if the fire protection system contains chemical additives or is connected to an auxiliary water system[4,13]
	I.B. At or for a non-residential dedicated fire service connection[6]: DC or DCDA if the fire protection system contains no chemical additives and is not connected to an auxiliary water system[4]; or RP or RPDA if the fire protection system contains chemical additives or is connected to an auxiliary water system[4,13]
II. Is connected internally to the customer's plumbing system	II. None[11]
Radioactive material processing or handling facility or nuclear reactor	RP
Paper products plant using a wet process	RP
Plating facility, including any aircraft or automotive manufacturing plant	RP
Restricted-access facility	RP
Steam boiler plant	RP
Tall building – i.e., a building with five or more floors at or above ground level	DC if the customer has no potable water distribution lines connected to the suction side of a booster pump; or RP if the customer has one or more potable water distribution lines connected to the suction side of a booster pump

Wastewater treatment plant or wastewater pumping station	RP
Customer supplied with potable water via a temporary or permanent service connection from a CWS fire hydrant	Varies[14]

[1] Means of backflow protection, listed in an increasing level of protection, include the following: a dual check device (DuC); a double check valve assembly (DC) or double check detector assembly (DCDA); a pressure vacuum breaker assembly (PVB); a reduced-pressure principle assembly (RP) or reduced-pressure principle detector assembly (RPDA); and an air gap. A PVB may not be used if backpressure could develop in the downstream piping.

[2] The CWS shall determine the degree of hazard. "Low hazard" or "non-health hazard" and "high hazard" or "health hazard" are defined in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.

[3] A DC may be provided if it was installed before 5-5-14; and if such a DC is replaced on or after 5-5-14, it may be replaced with another DC.

[4] For the purpose of this table, "auxiliary water system" means a pressurized system of piping and appurtenances using auxiliary water, which is water other than the potable water being supplied by the CWS and which includes water from any natural source such as a well, pond, lake, spring, stream, river, etc., includes reclaimed water, and includes other used water or industrial fluids described in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.; however, "auxiliary water system" specifically excludes any water recirculation or treatment system for a swimming pool, hot tub, or spa. (Note that reclaimed water is a specific type of auxiliary water and a reclaimed water system is a specific type of auxiliary water system.)

[5] The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential service connection from a CWS to premises where there is an auxiliary or reclaimed water system if all of the following conditions are met:

- The CWS is distributing water only to land owned by the owner of the CWS.
- The owner of the CWS is also the owner of the entire auxiliary or reclaimed water system up to the points of auxiliary or reclaimed water use.
- The CWS conducts at least biennial inspections of the CWS and the entire auxiliary or reclaimed water system to detect and eliminate any cross-connections between the two systems.

[6] For the purpose of this table, "residential service connection" means any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units; and "non-residential service connection" means any other service connection.

[7] A DuC may be provided only if there is no known cross-connection between the plumbing system and the auxiliary or reclaimed water system on the customer's premises. Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated. Upon discovery of any cross-connection between the plumbing system and any auxiliary water system other than a reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated or shall ensure that the backflow protection provided at or for the service connection is equal to that required at or for a non-residential service connection.

[8] Reclaimed water regulated under Part III of Chapter 62-610, F.A.C., is a low hazard unless it is stored with surface water in a pond that is part of a stormwater management system, in which case it is a high hazard; well water is a low hazard unless determined otherwise by the CWS; industrial fluids and used water other than reclaimed water are high hazards unless determined otherwise by the CWS; reclaimed water not regulated under Part III of Chapter 62-610, F.A.C., and surface water are high hazards.

[9] Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated.

[10] A DC may be provided if both of the following conditions are met:

- The dedicated irrigation service connection initially was constructed before 5-5-14.
- No chemicals are fed into the irrigation system.

[11] The CWS may rely on the internal backflow protection required under the *Florida Building Code* or the predecessor State plumbing code. The CWS may, but is not required to, ensure that such internal backflow protection is inspected/tested and maintained the same as backflow protection provided at or for service connections from the CWS.

[12] The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential dedicated fire service connection from a CWS to a wet-pipe sprinkler, or wet standpipe, fire protection system if both of the following conditions are met:

- The fire protection system was installed and last altered before 5-5-14.
- The fire protection system contains no chemical additives and is not connected to an auxiliary water system as defined in Footnote 4.

[13] Upon discovery of any cross-connection between the fire protection system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated.

[14] The CWS shall ensure that backflow protection commensurate with the degree of hazard is provided at or for the service connection from its fire hydrant.

Rulemaking Authority 403.086(8), 403.853(3), 403.861(9) FS. Law Implemented 403.086(8), 403.852(12), 403.853(1), 403.855(3), 403.861(17) FS. History–New 11-19-87, Formerly 17-22.660, Amended 1-18-89, 1-3-91, 1-1-93, Formerly 17-555.360, Amended 8-28-03, 5-5-14.

APPENDIX "B"

MANALAPAN ORDINANCE NO. 284
SECTION 51.16 MANALAPAN CODE OF ORDINANCES

ORDINANCE NO. 284

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF MANALAPAN, FLORIDA, AMENDING TITLE 5: PUBLIC WORKS. AT CHAPTER 51. WATER. BY REPEALING AND READOPTING SECTION 51.16 INSTALLATION REQUIREMENTS. AS REVISED, IN ORDER TO ADOPT A BACKFLOW-PREVENTION MANUAL, REQUIRING APPROVED BACKFLOW-PREVENTION DEVICES TO BE INSTALLED IN SPECIFIC LOCATIONS UNDER CERTAIN CONDITIONS, PROHIBITING CROSS CONNECTIONS AND PROVIDING FOR VIOLATIONS AND PENALTIES; PROVIDING THAT EACH AND EVERY OTHER SECTION AND SUBSECTION OF CHAPTER 51. WATER. SHALL REMAIN IN FULL FORCE AND EFFECT AS PREVIOUSLY ENACTED; PROVIDING A CONFLICTS CLAUSE, A SEVERABILITY CLAUSE AND AUTHORITY TO CODIFY; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, the Town Commission of the Town of Manalapan desires to amend Chapter 51. Water. in order to comply with Sections 403.850 – 403.864, *Florida Statutes*, known as the "Florida Safe Drinking Water Act" and Section 62-555.360(2), *Florida Administrative Code*, by establishing and implementing a routine cross-connection control program to detect and control cross-connections and prevent backflow of contaminants into the water system and by adopting a Backflow-Prevention Manual as developed using the recommended practices of the American Water Works Association; and

WHEREAS, the Town Commission of the Town of Manalapan believes these revisions to its Code of Ordinances to be in the best interest of the health, safety and welfare of the citizens of Manalapan.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COMMISSION OF THE TOWN OF MANALAPAN, FLORIDA, THAT:

Section 1: Title 5: Public Works. Chapter 51. Water. of the Code of Ordinances of the Town of Manalapan, Florida is hereby amended by repealing and readopting Section 51.16, as revised; providing that this section shall hereafter read as follows:

§ 51.16 INSTALLATION REQUIREMENTS.

(A) All water meters shall be installed and all connections made only by the duly authorized agents and employees of the town. Before a meter shall be installed by the town, the

applicant shall place a grade stake at the desired location of the meter, which will accurately indicate the finish grade of the yard or lot, so that the meter may be set at the proper level.

(B) In accordance with 403.850 – 403.864, *Florida Statutes*, known as the "Florida Safe Drinking Water Act" and Appendix D of the Standard Plumbing Code, the Town of Manalapan hereby adopts a Backflow-Prevention Manual, by reference, and made a part hereof as if fully set forth herein which may be amended from time to time by the Town of Manalapan Utility Department as state law or technological development may require. A copy of the Town's Backflow-Prevention Manual will be kept on file at town hall.

(C) Backflow prevention devices are hereby required at all premises likely to have cross connections as described in the American Waterworks Association M-14 Backflow Prevention Manual, 1972 Edition, as amended by the town. This manual sets forth potential cross connections between the consumer's water system and certain types of equipment, specialized installations, and water uses which afford opportunity for backflow into the public water system. All such facilities and systems as set forth in the manual shall have backflow prevention devices unless it is demonstrated to the satisfaction of the town that no opportunity exists for backflow of water from the consumer's system into the public water supply of the town. This requirement applies to commercial buildings, buildings over three (3) stories and new construction.

In addition, backflow prevention devices shall be installed at the service connection on the consumer's side of the meter upon any premises where the nature and extent of the activities on the premises, or the materials used in connection with the activities or materials stored on the premises present an immediate and dangerous hazard to health should a cross connection occur, even though such cross connection does not exist at the time the backflow prevention device is to be installed. Decisions regarding replacement of backflow prevention devices shall be made by the town in accordance with the guidelines set forth in the Backflow-Prevention Manual.

(D) The type of backflow prevention device to be installed shall depend on the degree of hazard which exists or may occur. A double check-valve assembly, atmospheric vacuum breaker, pressure vacuum breaker or reduced pressure backflow preventer shall meet or exceed any of the following standards and specialized installation methods:

(1) University of Southern California Foundation for Cross Connection

Control and Hydraulic Research, Specifications of Backflow Prevention Devices No. 69-2, or the most current issue; or

(2) American Waterworks Association Standard C506-78 (Revision of C506-69).

(E) Types of backflow prevention devices and installation locations:

(1) *Types of devices.* An air gap separation or a reduced pressure principle backflow prevention device shall be installed where the water supply may be contaminated with sewage, industrial waste of a toxic nature, or other contamination which would cause a health or water system hazard. In the case of a substance which may be objectionable but not hazardous to health, a double checkvalve assembly, air gap separation, atmospheric vacuum breaker, pressure vacuum breaker or a reduced pressure principle backflow prevention device shall be installed.

(2) *Installation location.* Backflow prevention devices shall be installed on the consumer's side of the water meter at the location designated by the town. The device shall be located so as to be readily accessible for maintenance and testing, and where no part of the device will be submerged.

(3) *Consumer's expense.* Backflow prevention devices shall be installed by a certified backflow prevention device technician or licensed plumber at the consumer's expense. All installations will be completed in accordance with plans and specifications approved by the town.

(4) *Annual inspection required.* Backflow prevention devices shall be inspected annually or more frequently as the degree of hazard mandates, and tested by a certified backflow prevention device technician. A nominal inspection and/or reinspection fee shall be charged by the town; the amount of which fee shall be set by resolution of the town council.

(F) All cross connections, whether or not such cross connections are controlled by automatic devices such as checkvalves or by hand operated mechanisms such as gate valves or stop cocks are hereby prohibited from future installation and on existing installations. All cross connections shall be removed and approved backflow prevention devices installed.

(G) Failure of the consumer to install, maintain, or permit the testing and inspection of

backflow prevention devices by the town as required in this article shall be grounds for termination of the water service to the premises by the town. In the case of an immediate hazard to the public health, the water service may be terminated without notice to the consumer immediately although a hearing before the utilities superintendent shall be immediately scheduled upon the request of the consumer to determine whether the water service termination was just and appropriate. Customer's request to the utility department for hearing must be made in writing within five (5) days of termination or notice thereof. The town may call upon the chief of police to assist in enforcing any of the provision of this article.

The owner or general agent of a building or premises where a violation of any provisions of this article has been committed or still exists, or the lessee or tenant of the entire building or leased premises where such violation has been committed or shall exist or the owner, general agent, lessee or tenant of any part of a building or premise in which such violation has been committed or shall exist, or the general agent of any other person who commits, takes part in, or assists in any such violation, or maintains any building or premises in which such violation shall exist, shall be guilty of violating this section; and shall be subject to termination of water supply and all applicable fees as set forth by resolution of the town council.

Section 2: The Town of Manalapan Backflow-Prevention Manual is attached hereto as Exhibit "A".

Section 3: Each and every other Section and Sub-section of Title 5: Public Works. Chapter 51. Water. shall remain in full force and effect as previously enacted.

Section 4: All Ordinances or parts of Ordinances in conflict herewith be and the same are hereby repealed.

Section 5: Should any Section or provision of this Ordinance or any portion thereof, any paragraph, sentence or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the remainder of this Ordinance.

Section 6: Specific authority is hereby granted to codify and incorporate this Ordinance into the existing Code of Ordinances of the Town of Manalapan.

Section 7: This Ordinance shall take effect immediately upon passage.

FIRST READING this 28th day of August, 2008.

SECOND READING this 25th day of September, 2008.

TOWN OF MANALAPAN

MAYOR, Wilbert T. General

(SEAL)

ATTEST:

KATHRYN P. SIMS, TOWN CLERK

Y \docs\Manalapan\Ordinances\2008\Ord 284-Backflow Prevention doc

APPENDIX "C"

APPLICATION FOR WATER SERVICE
MANALAPAN UTILITY DEPARTMENT

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: dsanabia@manalapan.org

UTILITY DEPARTMENT APPLICATION FOR SERVICE

PLEASE COMPLETE, SIGN, AND NOTARIZE*. RETURN WITH CHECK, COPY OF LEASE OR PROOF OF OWNERSHIP AND COPY OF DRIVERS LICENSE AS SOON AS POSSIBLE

NAME_____ METER SIZE _____

BILLING ADDRESS_____ DATE OF SERVICE _____

CUSTOMER # _____

_____

TELEPHONE #_____ FAX #_____

E-MAIL_____ CELL #_____

By signing this application, the applicant agrees to observe all of the Town Ordinances and regulations now or hereafter adopted relating to utility service including the right of the Town to access the premises for all lawful activity related to the provision of utility service. The applicant also acknowledges that all bills are due and payable on or before the date set forth on the bill. If any bill is not paid by or before that date, a second bill will be mailed containing a cutoff notice stating that failure to pay the bill within five days of the due date of the second bill will result in service being automatically discontinued for nonpayment. Customers disputing the accuracy of their bill have a right to contest said bill under the provisions of 50.55 & 51.51 of the Manalapan Town Code.

SERVICE ADDRESS_____

Owner Signature_____

Agent Signature_____

STATE OF _____
COUNTY OF _____

Subscribed and sworn to (or affirmed) before me this _____ by _____,
(Date)

Who is/are personally known to me or has/have produced _____ as identification.

(Seal)

_____ Notary Public
(Signature)

_____ (Name of Notary typed, printed or stamped)

***IF RETURNING FORM IN PERSON, MUST BE NOTARIZED AT TOWN HALL**

(Office Use Only)
Impact Fee_____
Meter Connection Fee_____
Water Deposit_____
Sewer Deposit_____

Franchise Fee_____
Total_____

Account No._____

APPENDIX "D"

CUSTOMER SURVEY FORMS AND DATA BASE

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

Re: Manalapan Water Dept.
Cross Connection Control Program

Dear Manalapan Water Customer:

In an effort to protect the community water system from actual or potential backflow situations or health hazards, we are implementing a cross-connection control program. Please fill out the attached survey and return it to the Manalapan Water Dept., 600 S. Ocean Blvd., Manalapan FL 33462 as soon as possible.

Sincerely,

Manalapan Water Dept.

RESIDENTIAL SURVEY FORM

Name_____
Address:_____
Number of Water Meters_____

One or more of my water meters provides water for: (Please check all that apply.)

____Lawn Irrigation System _____Swimming Pool _____Fire System
____Solar Energy System _____ A/C Cooling Tower _____Fish Pond
____Decorative Fountain _____Boat Dock _____Multi-story Building

This property _____does_____does not have a private well.

Signature_____Date_____

Town of Manalapan Data

Town of Manalapan

Number	Street	Meter Size
20	AUDUBON CAUSEWAY	1
25	AUDUBON CAUSEWAY	0.63
25	AUDUBON CAUSEWAY	1
30	AUDUBON CAUSEWAY	1
35	AUDUBON CAUSEWAY	1
40	AUDUBON CAUSEWAY	1
45	AUDUBON CAUSEWAY	1
50	AUDUBON CAUSEWAY	1
100	CHURCHILL WAY	2
105	CHURCHILL WAY	, 1 1/2
120	CHURCHILL WAY	1
130	CHURCHILL WAY	2
	CHURCHILL WAY IRR	1
25	CURLEW ROAD	1
30	CURLEW ROAD	1
35	CURLEW ROAD	, 1 1/2
40	CURLEW ROAD	, 1 1/2
45	CURLEW ROAD	, 1 1/2
50	CURLEW ROAD	, 1 1/2
55	CURLEW ROAD	, 1 1/2
60	CURLEW ROAD	, 1 1/2
63	CURLEW ROAD	, 1 1/2
61	CURLEW ROAD	, 1 1/2
65	CURLEW ROAD	, 1 1/2
67	CURLEW ROAD	, 1 1/2
69	CURLEW ROAD	, 1 1/2
70	CURLEW ROAD	, 1 1/2
71	CURLEW ROAD	, 1 1/2
80	CURLEW ROAD	1
85	CURLEW ROAD	, 1 1/2
90	CURLEW ROAD	1
95	CURLEW ROAD	, 1 1/2
105	CURLEW ROAD	, 1 1/2
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	2

Number	Street	Meter Size
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	2
100	EVANS LANE	2
100	EVANS LANE	2
1225	LANDS END ROAD	1
1235	LANDS END ROAD	, 1 1/2
1245	LANDS END ROAD	1
1255	LANDS END ROAD	1
1265	LANDS END ROAD	, 1 1/2
1275	LANDS END ROAD	, 1 1/2
1285	LANDS END ROAD	, 1 1/2
1295	LANDS END ROAD	, 1 1/2
1300	LANDS END ROAD	1
1300	LANDS END ROAD	4
1377	LANDS END ROAD	, 1 1/2
1377	LANDS END ROAD	, 1 1/2
1385	LANDS END ROAD	, 1 1/2
1400	LANDS END ROAD	1
1401	LANDS END ROAD	, 1 1/2
1405	LANDS END ROAD	, 1 1/2
1417	LANDS END ROAD	1
1420	LANDS END ROAD	, 1 1/2
1425	LANDS END ROAD	1
1430	LANDS END ROAD	, 1 1/2
1435	LANDS END ROAD	, 1 1/2
1440	LANDS END ROAD	, 1 1/2
1445	LANDS END ROAD	1
1450	LANDS END ROAD	1
1455	LANDS END ROAD	1
1460	LANDS END ROAD	, 1 1/2
1465	LANDS END ROAD	1
1470	LANDS END ROAD	, 1 1/2
1475	LANDS END ROAD	1
1480	LANDS END ROAD	, 1 1/2
1485	LANDS END ROAD	0.625
1495	LANDS END ROAD	, 1 1/2
1500	LANDS END ROAD	, 1 1/2
1515	LANDS END ROAD	, 1 1/2
1520	LANDS END ROAD	, 1 1/2
1525	LANDS END ROAD	, 1 1/2
1535	LANDS END ROAD	, 1 1/2

Number	Street	Meter Size
1545	LANDS END ROAD	, 1 1/2
1555	LANDS END ROAD	, 1 1/2
1565	LANDS END ROAD	1
1575	LANDS END ROAD	, 1 1/2
1585	LANDS END ROAD	, 1 1/2
1595	LANDS END ROAD	1
1605	LANDS END ROAD	, 1 1/2
1615	LANDS END ROAD	, 1 1/2
1620	LANDS END ROAD	, 1 1/2
1625	LANDS END ROAD	, 1 1/2
1630	LANDS END ROAD	, 1 1/2
1635	LANDS END ROAD	, 1 1/2
1640	LANDS END ROAD	, 1 1/2
1645	LANDS END ROAD	, 1 1/2
1650	LANDS END ROAD	, 1 1/2
1655	LANDS END ROAD	, 1 1/2
1665	LANDS END ROAD	, 1 1/2
1670	LANDS END ROAD	, 1 1/2
1675	LANDS END ROAD	, 1 1/2
1680	LANDS END ROAD	, 1 1/2
1685	LANDS END ROAD	1
1690	LANDS END ROAD	1
1695	LANDS END ROAD	2
1700	LANDS END ROAD	, 1 1/2
1705	LANDS END ROAD	, 1 1/2
1710	LANDS END ROAD	, 1 1/2
1725	LANDS END ROAD	, 1 1/2
1735	LANDS END ROAD	, 1 1/2
3	LITTLE POND PARK	, 1 1/2
7	LITTLE POND PARK	1
	LITTLE POND PARK	, 1 1/2
	LITTLE POND PARK	1
6	LITTLE POND ROAD	0.625
8	LITTLE POND ROAD	0.625
10	LITTLE POND ROAD	0.625
12	LITTLE POND ROAD	0.625
14	LITTLE POND ROAD	0.625
16	LITTLE POND ROAD	0.625
18	LITTLE POND ROAD	0.625
2	LITTLE POND ROAD	0.625
4	LITTLE POND ROAD	0.625
1	LOGGERHEAD LANE	2
2	LOGGERHEAD LANE	, 1 1/2

Number	Street	Meter Size
3	LOGGERHEAD LANE	1
4	LOGGERHEAD LANE	1
5	LOGGERHEAD LANE	1
6	LOGGERHEAD LANE	1
1	OCEAN LANE	, 1 1/2
1	OCEAN LANE	1
2	OCEAN LANE	, 1 1/2
2	OCEAN LANE	1
3	OCEAN LANE	1 1/2
3	OCEAN LANE	, 1 1/2
4	OCEAN LANE	1
4	OCEAN LANE	, 1 1/2
	OCEAN LANE	, 1 1/2
1444	PASLAY PLACE	2
1450	PASLAY PLACE	2
1500	PASLAY PLACE	3
1520	PASLAY PLACE	2
	SOUTH OCEAN BLVD	1 ½
	SOUTH OCEAN BLVD	¾
	SOUTH OCEAN BLVD	¾
131	SOUTH OCEAN BLVD	1 ½
	SOUTH OCEAN BLVD	2
247/246	SOUTH OCEAN BLVD	0.625
244	SOUTH OCEAN BLVD	0.625
248	SOUTH OCEAN BLVD	0.625
245	SOUTH OCEAN BLVD	0.625
BLDG B	SOUTH OCEAN BLVD	0.625
238	SOUTH OCEAN BLVD	0.625
220	SOUTH OCEAN BLVD	0.625
220	SOUTH OCEAN BLVD	0.625
220	SOUTH OCEAN BLVD	0.625
220	SOUTH OCEAN BLVD	0.625
220	SOUTH OCEAN BLVD	0.625
201	SOUTH OCEAN BLVD	1
204	SOUTH OCEAN BLVD	1
	SOUTH OCEAN BLVD	0.625
211	SOUTH OCEAN BLVD	0.625
205	SOUTH OCEAN BLVD	0.625
208	SOUTH OCEAN BLVD	0.625
	SOUTH OCEAN BLVD	0.625
216	SOUTH OCEAN BLVD	. 3/4
	SOUTH OCEAN BLVD	. 3/4
214	SOUTH OCEAN BLVD	. 3/4

Number	Street	Meter Size
218	SOUTH OCEAN BLVD	1
224	SOUTH OCEAN BLVD	. 3/4
230	SOUTH OCEAN BLVD	0.625
226	SOUTH OCEAN BLVD	. 3/4
232	SOUTH OCEAN BLVD	0.625
242A 242 B	SOUTH OCEAN BLVD	0.625
236A 236B	SOUTH OCEAN BLVD	0.625
250	SOUTH OCEAN BLVD	2
260	SOUTH OCEAN BLVD	0.625
	SOUTH OCEAN BLVD	. 3/4
	SOUTH OCEAN BLVD	. 3/4
255 254	SOUTH OCEAN BLVD	0.625
255 254	SOUTH OCEAN BLVD	0.625
257	SOUTH OCEAN BLVD	0.625
258	SOUTH OCEAN BLVD	0.625
	SOUTH OCEAN BLVD	0.625
252	SOUTH OCEAN BLVD	0.625
254	SOUTH OCEAN BLVD	0.625
264	SOUTH OCEAN BLVD	2
262	SOUTH OCEAN BLVD	. 1 1/2
C	SOUTH OCEAN BLVD	. 3/4
	SOUTH OCEAN BLVD	. 3/4
266	SOUTH OCEAN BLVD	0.625
267	SOUTH OCEAN BLVD	0.625
271	SOUTH OCEAN BLVD	0.625
270	SOUTH OCEAN BLVD	0.625
	SOUTH OCEAN BLVD	0.625
277	SOUTH OCEAN BLVD	. 3/4
278	SOUTH OCEAN BLVD	. 3/4
277A	SOUTH OCEAN BLVD	. 3/4
277	SOUTH OCEAN BLVD	. 3/4
280	SOUTH OCEAN BLVD	. 3/4
	SOUTH OCEAN BLVD	. 1 1/2
	SOUTH OCEAN BLVD	0.625
	EVANS LANE	2
	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	. 3/4
100	SOUTH OCEAN BLVD	2
100	SOUTH OCEAN BLVD	4
100	SOUTH OCEAN BLVD	. 1 1/2
620	SOUTH OCEAN BLVD	2
620	SOUTH OCEAN BLVD	2
700	SOUTH OCEAN BLVD	. 1 1/2

Number	Street	Meter Size
800	SOUTH OCEAN BLVD	2
820	SOUTH OCEAN BLVD	2
840	SOUTH OCEAN BLVD	2
840	SOUTH OCEAN BLVD	1
840	SOUTH OCEAN BLVD	2
860	SOUTH OCEAN BLVD	2
860	SOUTH OCEAN BLVD	2
880	SOUTH OCEAN BLVD	2
920	SOUTH OCEAN BLVD	2
940	SOUTH OCEAN BLVD	1
940	SOUTH OCEAN BLVD	. 1 1/2
960	SOUTH OCEAN BLVD	1
960	SOUTH OCEAN BLVD	2
980	SOUTH OCEAN BLVD	1
1000	SOUTH OCEAN BLVD	. 1 1/2
1020	SOUTH OCEAN BLVD	. 1 1/2
1040	SOUTH OCEAN BLVD	2
1100	SOUTH OCEAN BLVD	4
1110	SOUTH OCEAN BLVD	2
1120	SOUTH OCEAN BLVD	2
1140	SOUTH OCEAN BLVD	2
1140	SOUTH OCEAN BLVD	2
1160	SOUTH OCEAN BLVD	2
1160	SOUTH OCEAN BLVD	2
1180	SOUTH OCEAN BLVD	0.625
1180	SOUTH OCEAN BLVD	2
1200	SOUTH OCEAN BLVD	2
1200	SOUTH OCEAN BLVD	1
1220	SOUTH OCEAN BLVD	2
1220	SOUTH OCEAN BLVD	2
1260	SOUTH OCEAN BLVD	2
1280	SOUTH OCEAN BLVD	2
1280	SOUTH OCEAN BLVD	2
1300	SOUTH OCEAN BLVD	. 1 1/2
1300	SOUTH OCEAN BLVD	1
1340	SOUTH OCEAN BLVD	2
1370	SOUTH OCEAN BLVD	2
1400	SOUTH OCEAN BLVD	2
1420	SOUTH OCEAN BLVD	1
1420	SOUTH OCEAN BLVD	2
1440	SOUTH OCEAN BLVD	2
1460	SOUTH OCEAN BLVD	. 1 1/2
1500	SOUTH OCEAN BLVD	2

Number	Street	Meter Size
1500	SOUTH OCEAN BLVD	0.625
1500	SOUTH OCEAN BLVD	2
1550	SOUTH OCEAN BLVD	. 1 1/2
1555	SOUTH OCEAN BLVD	2
1555	SOUTH OCEAN BLVD	1
1560	SOUTH OCEAN BLVD	2
1600	SOUTH OCEAN BLVD	3
1640	SOUTH OCEAN BLVD	2
1680	SOUTH OCEAN BLVD	2
1720	SOUTH OCEAN BLVD	2
1720	SOUTH OCEAN BLVD	¾
1740	SOUTH OCEAN BLVD	2
1760	SOUTH OCEAN BLVD	2
1780	SOUTH OCEAN BLVD	2
1800	SOUTH OCEAN BLVD	. 1 1/2
1820	SOUTH OCEAN BLVD	2
1840	SOUTH OCEAN BLVD	. 1 1/2
1860	SOUTH OCEAN BLVD	1
1880	SOUTH OCEAN BLVD	2
1890	SOUTH OCEAN BLVD	2
1900	SOUTH OCEAN BLVD	. 1 1/2
1920	SOUTH OCEAN BLVD	. 1 1/2
1920	SOUTH OCEAN BLVD	. 1 1/2
1940	SOUTH OCEAN BLVD	0.63
1940	SOUTH OCEAN BLVD	. 1 1/2
1960	SOUTH OCEAN BLVD	2
1960	SOUTH OCEAN BLVD	. 1 1/2
1980	SOUTH OCEAN BLVD	2
2000	SOUTH OCEAN BLVD	2
2000	SOUTH OCEAN BLVD	2
2000	SOUTH OCEAN BLVD	2
2000	SOUTH OCEAN BLVD	2
3040	SOUTH OCEAN BLVD	2
3050	SOUTH OCEAN BLVD	. 1 1/2
3060	SOUTH OCEAN BLVD	0.625
3070	SOUTH OCEAN BLVD	0.625
3090	SOUTH OCEAN BLVD	2
4000	SOUTH OCEAN BLVD	1
4020	SOUTH OCEAN BLVD	. 1 1/2
1	SPOONBILL ROAD	1
7	SPOONBILL ROAD	. 1 1/2
15	SPOONBILL ROAD	. 1 1/2
20	SPOONBILL ROAD	1

Number	Street	Meter Size
255 254	SPOONBILL ROAD	. 1 1/2
30	SPOONBILL ROAD	1
35	SPOONBILL ROAD	. 1 1/2
40	SPOONBILL ROAD	1
45	SPOONBILL ROAD	1
50	SPOONBILL ROAD	1
55	SPOONBILL ROAD	. 1 1/2
60	SPOONBILL ROAD	1
65	SPOONBILL ROAD	1
70	SPOONBILL ROAD	1
75	SPOONBILL ROAD	1
80	SPOONBILL ROAD	1
90	SPOONBILL ROAD	1
95	SPOONBILL ROAD	. 1 1/2
100	SPOONBILL ROAD	1
105	SPOONBILL ROAD	1
110	SPOONBILL ROAD	. 1 1/2
115	SPOONBILL ROAD	1
120	SPOONBILL ROAD	. 1 1/2
600	SOUTH OCEAN BLVD	2

Town of Hypoluxo Data

Town of Hypoluxo

Number	Street	Meter Size
101	HALFMOON BAY CIRCLE	2
125	HYPOLUXO RD	1
1	WAREHOUSE RD	¾
115	EAST COAST AVE	1
115	EAST COAST AVE	1 ½
115	EAST COAST AVE	
51	HYPOLUXO RD	2
51	HYPOLUXO RD	
7570	SO.FEDERAL HWY.	1 ½
7848	SO.FEDERAL HWY.	1 ½
7848	SO.FEDERAL HWY.	1 ½
7848	SO.FEDERAL HWY.	2
7848	SO.FEDERAL HWY.	1 ½
7848	SO.FEDERAL HWY.	1 ½
7892	SO.FEDERAL HWY.	2
8250	SO.FEDERAL HWY.	2
8250	SO.FEDERAL HWY.	
104	LUCINA DR	1
105	LUCINA DR	5/8
108	LUCINA DR	1
112	LUCINA DR	5/8
113	LUCINA DR	5/8
116	LUCINA DR	5/8
116	LUCINA DR	5/8
117	LUCINA DR	5/8
119	LUCINA DR	5/8
120	LUCINA DR	5/8
121	LUCINA DR	5/8
124	LUCINA DR	5/8
130	LUCINA DR	5/8
131	LUCINA DR	5/8
136	LUCINA DR	5/8
137	LUCINA DR	1
143	LUCINA DR	3/4
150	LUCINA DR	5/8
151	LUCINA DR	5/8
154	LUCINA DR	5/8

Number	Street	Meter Size
157	LUCINA DR	5/8
158	LUCINA DR	1
165	LUCINA DR	5/8
166	LUCINA DR	3/4
170	LUCINA DR	3/4
171	LUCINA DR	5/8
177	LUCINA DR	3/4
180	LUCINA DR	1
183	LUCINA DR	1
100	NEPTUNE DR	5/8
101	NEPTUNE DR	1
109	NEPTUNE DR	1
110	NEPTUNE DR	5/8
118	NEPTUNE DR	5/8
119	NEPTUNE DR	5/8
124	NEPTUNE DR	5/8
125	NEPTUNE DR	1
128	NEPTUNE DR	5/8
131	NEPTUNE DR	5/8
132	NEPTUNE DR	5/8
137	NEPTUNE DR	5/8
140	NEPTUNE DR	5/8
146	NEPTUNE DR	5/8
147	NEPTUNE DR	5/8
154	NEPTUNE DR	5/8
155	NEPTUNE DR	5/8
161	NEPTUNE DR	5/8
162	NEPTUNE DR	5/8
167	NEPTUNE DR	5/8
170	NEPTUNE DR	3/4
174	NEPTUNE DR	3/4
175	NEPTUNE DR	1 ½
180	NEPTUNE DR	5/8
181	NEPTUNE DR	5/8
184	NEPTUNE DR	1
185	NEPTUNE DR	1
		3/4
		5/8
7580	SO.FEDERAL HWY.	1 ½
106	PERIWINKLE DR	5/8
110	PERIWINKLE DR	5/8
116	PERIWINKLE DR	5/8
126	PERIWINKLE DR	5/8

Number	Street	Meter Size
128	PERIWINKLE DR	5/8
132	PERIWINKLE DR	1
136	PERIWINKLE DR	1
140	PERIWINKLE DR	3/4
150	PERIWINKLE DR	5/8
160	PERIWINKLE DR	3/4
170	PERIWINKLE DR	5/8
172	PERIWINKLE DR	5/8
174	PERIWINKLE DR	1
180	PERIWINKLE DR	1
7570	SO.FEDERAL HWY.	1
7540	SO.FEDERAL HWY.	1
103	YACHT CLUB WAY	2
103	YACHT CLUB WAY	
107	YACHT CLUB WAY	2
107	YACHT CLUB WAY	
110	YACHT CLUB WAY	2
110	YACHT CLUB WAY	
111	YACHT CLUB WAY	2
111	YACHT CLUB WAY	
117	YACHT CLUB WAY	2
117	YACHT CLUB WAY	
120	YACHT CLUB WAY	2
120	YACHT CLUB WAY	
123	YACHT CLUB WAY	2
123	YACHT CLUB WAY	
127	YACHT CLUB WAY	2
127	YACHT CLUB WAY	
131	YACHT CLUB WAY	2
131	YACHT CLUB WAY	
135	YACHT CLUB WAY	2
135	YACHT CLUB WAY	
140	YACHT CLUB WAY	2
140	YACHT CLUB WAY	
145	YACHT CLUB WAY	2
145	YACHT CLUB WAY	
157	YACHT CLUB WAY	2
157	YACHT CLUB WAY	
160	YACHT CLUB WAY	2
160	YACHT CLUB WAY	
162	YACHT CLUB WAY	1
167	YACHT CLUB WAY	2
167	YACHT CLUB WAY	

Number	Street	Meter Size
177	YACHT CLUB WAY	1
177	YACHT CLUB WAY	
180	YACHT CLUB WAY	2
180	YACHT CLUB WAY	
	YACHT CLUB WAY	2
	YACHT CLUB WAY	
	YACHT CLUB WAY	3/4
7200	SO.FEDERAL HWY.	1
101	PARKLANE E	5/8
102	PARKLANE E	5/8
103	PARKLANE E	5/8
104	PARKLANE E	5/8
105	PARKLANE E	5/8
106	PARKLANE E	5/8
107	PARKLANE E	5/8
108	PARKLANE E	5/8
109	PARKLANE E	3/4
110	PARKLANE E	5/8
111	PARKLANE E	5/8
113	PARKLANE E	3/4
114	PARKLANE E	5/8
115	PARKLANE E	1
116	PARKLANE E	5/8
117	PARKLANE E	1
118	PARKLANE E	5/8
120	PARKLANE E	5/8
121	PARKLANE E	5/8
123	PARKLANE E	1
124	PARKLANE E	1
125	PARKLANE E	3/4
126	PARKLANE E	5/8
127	PARKLANE E	1
129	PARKLANE E	5/8
130	PARKLANE E	3/4
140	PARKLANE E	1
101	HALFMOON BAY CIRCLE	2
102	HALFMOON BAY CIRCLE	2
103	HALFMOON BAY CIRCLE	2
104	HALFMOON BAY CIRCLE	2
105	HALFMOON BAY CIRCLE	2
106	HALFMOON BAY CIRCLE	2
107	HALFMOON BAY CIRCLE	2
108	HALFMOON BAY CIRCLE	2

Number	Street	Meter Size
109	HALFMOON BAY CIRCLE	2
110	HALFMOON BAY CIRCLE	2
7050	HALFMOON BAY CIRCLE	2
	HALFMOON BAY CIRCLE	2
	HALFMOON BAY CIRCLE	5/8
	HALFMOON BAY CIRCLE	1
	HALFMOON BAY CIRCLE	1 ½
110	BAREFOOT COVE	5/8
111	BAREFOOT COVE	5/8
112	BAREFOOT COVE	5/8
113	BAREFOOT COVE	5/8
114	BAREFOOT COVE	5/8
115	BAREFOOT COVE	5/8
116	BAREFOOT COVE	5/8
117	BAREFOOT COVE	5/8
118	BAREFOOT COVE	5/8
119	BAREFOOT COVE	5/8
120	BAREFOOT COVE	5/8
121	BAREFOOT COVE	5/8
122	BAREFOOT COVE	5/8
123	BAREFOOT COVE	5/8
124	BAREFOOT COVE	5/8
125	BAREFOOT COVE	5/8
126	BAREFOOT COVE	5/8
127	BAREFOOT COVE	5/8
128	BAREFOOT COVE	5/8
129	BAREFOOT COVE	5/8
130	BAREFOOT COVE	5/8
131	BAREFOOT COVE	5/8
132	BAREFOOT COVE	5/8
133	BAREFOOT COVE	5/8
134	BAREFOOT COVE	5/8
135	BAREFOOT COVE	5/8
136	BAREFOOT COVE	5/8
137	BAREFOOT COVE	5/8
138	BAREFOOT COVE	5/8
139	BAREFOOT COVE	5/8
140	BAREFOOT COVE	5/8
141	BAREFOOT COVE	5/8
142	BAREFOOT COVE	5/8
143	BAREFOOT COVE	5/8
144	BAREFOOT COVE	5/8
145	BAREFOOT COVE	5/8

Number	Street	Meter Size
146	BAREFOOT COVE	5/8
147	BAREFOOT COVE	5/8
148	BAREFOOT COVE	5/8
149	BAREFOOT COVE	5/8
150	BAREFOOT COVE	5/8
151	BAREFOOT COVE	5/8
152	BAREFOOT COVE	5/8
153	BAREFOOT COVE	5/8
154	BAREFOOT COVE	5/8
155	BAREFOOT COVE	5/8
156	BAREFOOT COVE	5/8
157	BAREFOOT COVE	5/8
158	BAREFOOT COVE	5/8
159	BAREFOOT COVE	5/8
160	BAREFOOT COVE	5/8
161	BAREFOOT COVE	5/8
162	BAREFOOT COVE	5/8
163	BAREFOOT COVE	5/8
164	BAREFOOT COVE	5/8
165	BAREFOOT COVE	5/8
166	BAREFOOT COVE	5/8
167	BAREFOOT COVE	5/8
168	BAREFOOT COVE	5/8
169	BAREFOOT COVE	5/8
170	BAREFOOT COVE	5/8
172	BAREFOOT COVE	5/8
174	BAREFOOT COVE	5/8
176	BAREFOOT COVE	5/8
	BAREFOOT COVE	5/8
101	LAS BRISAS	5/8
102	LAS BRISAS	5/8
103	LAS BRISAS	5/8
104	LAS BRISAS	5/8
105	LAS BRISAS	5/8
106	LAS BRISAS	5/8
107	LAS BRISAS	5/8
108	LAS BRISAS	5/8
109	LAS BRISAS	5/8
110	LAS BRISAS	5/8
111	LAS BRISAS	5/8
112	LAS BRISAS	5/8
113	LAS BRISAS	5/8
114	LAS BRISAS	5/8

Number	Street	Meter Size
115	LAS BRISAS	5/8
116	LAS BRISAS	5/8
117	LAS BRISAS	5/8
118	LAS BRISAS	5/8
119	LAS BRISAS	5/8
120	LAS BRISAS	5/8
121	LAS BRISAS	5/8
122	LAS BRISAS	5/8
123	LAS BRISAS	5/8
124	LAS BRISAS	5/8
125	LAS BRISAS	5/8
126	LAS BRISAS	5/8
127	LAS BRISAS	5/8
128	LAS BRISAS	5/8
129	LAS BRISAS	5/8
130	LAS BRISAS	5/8
131	LAS BRISAS	5/8
132	LAS BRISAS	5/8
133	LAS BRISAS	5/8
134	LAS BRISAS	5/8
135	LAS BRISAS	5/8
136	LAS BRISAS	5/8
137	LAS BRISAS	5/8
138	LAS BRISAS	5/8
139	LAS BRISAS	5/8
140	LAS BRISAS	5/8
141	LAS BRISAS	58
142	LAS BRISAS	5/8
143	LAS BRISAS	5/8
144	LAS BRISAS	5/8
145	LAS BRISAS	5/8
146	LAS BRISAS	5/8
147	LAS BRISAS	5/8
148	LAS BRISAS	5/8
149	LAS BRISAS	5/8
150	LAS BRISAS	5/8
151	LAS BRISAS	5/8
152	LAS BRISAS	5/8
153	LAS BRISAS	5/8
154	LAS BRISAS	5/8
155	LAS BRISAS	5/8
156	LAS BRISAS	5/8
157	LAS BRISAS	5/8

Number	Street	Meter Size
158	LAS BRISAS	5/8
159	LAS BRISAS	5/8
160	LAS BRISAS	5/8
161	LAS BRISAS	5/8
162	LAS BRISAS	5/8
163	LAS BRISAS	5/8
164	LAS BRISAS	5/8
165	LAS BRISAS	5/8
166	LAS BRISAS	5/8
167	LAS BRISAS	5/8
168	LAS BRISAS	5/8
169	LAS BRISAS	5/8
170	LAS BRISAS	5/8
171	LAS BRISAS	5/8
172	LAS BRISAS	5/8
173	LAS BRISAS	5/8
174	LAS BRISAS	5/8
175	LAS BRISAS	5/8
176	LAS BRISAS	5/8
177	LAS BRISAS	5/8
178	LAS BRISAS	5/8
179	LAS BRISAS	5/8
180	LAS BRISAS	5/8
181	LAS BRISAS	5/8
182	LAS BRISAS	5/8
183	LAS BRISAS	5/8
184	LAS BRISAS	5/8
185	LAS BRISAS	5/8
186	LAS BRISAS	5/8
187	LAS BRISAS	5/8
188	LAS BRISAS	5/8
189	LAS BRISAS	5/8
190	LAS BRISAS	5/8
191	LAS BRISAS	5/8
192	LAS BRISAS	5/8
193	LAS BRISAS	5/8
194	LAS BRISAS	5/8
195	LAS BRISAS	5/8
196	LAS BRISAS	5/8
	LAS BRISAS	58
	LAS BRISAS	5/8
50	SCOTIA DR	1
100	SCOTIA DR	2

Number	Street	Meter Size
100	SCOTIA DR	
200	SCOTIA DR	2
200	SCOTIA DR	
300	SCOTIA DR	2
300	SCOTIA DR	
400	SCOTIA DR	2
400	SCOTIA DR	
500	SCOTIA DR	2
500	SCOTIA DR	
600	SCOTIA DR	1 ½
600	SCOTIA DR	
700	SCOTIA DR	2
700	SCOTIA DR	
800	SCOTIA DR	2
800	SCOTIA DR	
900	SCOTIA DR	2
900	SCOTIA DR	
1000	SCOTIA DR	3
1000	SCOTIA DR	
1100	SCOTIA DR	1 ½
1100	SCOTIA DR	
1150	SCOTIA DR	1 ½
1150	SCOTIA DR	
1200	SCOTIA DR	3
1200	SCOTIA DR	
	SCOTIA DR	58
	SO.FEDERAL HWY.	1 ½
98	SO.FEDERAL HWY.	2
100	OCEAN CAY WAY	1 ½
101	OCEAN CAY WAY	1
102	OCEAN CAY WAY	1
103	OCEAN CAY WAY	1 ½
104	OCEAN CAY WAY	1
106	OCEAN CAY WAY	1
106	OCEAN CAY WAY	1
107	OCEAN CAY WAY	1
108	OCEAN CAY WAY	1
109	OCEAN CAY WAY	1
110	OCEAN CAY WAY	1
111	OCEAN CAY WAY	1
112	OCEAN CAY WAY	1
113	OCEAN CAY WAY	1
114	OCEAN CAY WAY	1

Number	Street	Meter Size
115	OCEAN CAY WAY	1
116	OCEAN CAY WAY	1
117	OCEAN CAY WAY	1
118	OCEAN CAY WAY	1
119	OCEAN CAY WAY	1
120	OCEAN CAY WAY	1
121	OCEAN CAY WAY	1
122	OCEAN CAY WAY	1
123	OCEAN CAY WAY	1
124	OCEAN CAY WAY	1
125	OCEAN CAY WAY	1
126	OCEAN CAY WAY	1
127	OCEAN CAY WAY	1
128	OCEAN CAY WAY	1
129	OCEAN CAY WAY	1
130	OCEAN CAY WAY	1
131	OCEAN CAY WAY	1
132	OCEAN CAY WAY	1
133	OCEAN CAY WAY	1
134	OCEAN CAY WAY	1
135	OCEAN CAY WAY	1
136	OCEAN CAY WAY	1
137	OCEAN CAY WAY	1
138	OCEAN CAY WAY	1
139	OCEAN CAY WAY	1
140	OCEAN CAY WAY	1
141	OCEAN CAY WAY	1
142	OCEAN CAY WAY	1
143	OCEAN CAY WAY	1
144	OCEAN CAY WAY	1
145	OCEAN CAY WAY	1
146	OCEAN CAY WAY	1
147	OCEAN CAY WAY	1
148	OCEAN CAY WAY	1
149	OCEAN CAY WAY	1
150	OCEAN CAY WAY	1
151	OCEAN CAY WAY	1
152	OCEAN CAY WAY	1
153	OCEAN CAY WAY	1
154	OCEAN CAY WAY	1
155	OCEAN CAY WAY	1
	OCEAN CAY WAY	1
110	VIA VILLAGIO	5/8

Number	Street	Meter Size
115	VIA VILLAGIO	5/8
120	VIA VILLAGIO	5/8
125	VIA VILLAGIO	5/8
210	VIA VILLAGIO	5/8
215	VIA VILLAGIO	5/8
220	VIA VILLAGIO	5/8
225	VIA VILLAGIO	5/8
310	VIA VILLAGIO	5/8
315	VIA VILLAGIO	5/8
320	VIA VILLAGIO	5/8
325	VIA VILLAGIO	5/8
410	VIA VILLAGIO	5/8
415	VIA VILLAGIO	5/8
420	VIA VILLAGIO	5/8
425	VIA VILLAGIO	5/8
510	VIA VILLAGIO	5/8
515	VIA VILLAGIO	5/8
520	VIA VILLAGIO	5/8
525	VIA VILLAGIO	5/8
610	VIA VILLAGIO	5/8
615	VIA VILLAGIO	5/8
620	VIA VILLAGIO	5/8
625	VIA VILLAGIO	5/8
710	VIA VILLAGIO	5/8
715	VIA VILLAGIO	5/8
720	VIA VILLAGIO	5/8
725	VIA VILLAGIO	5/8
810	VIA VILLAGIO	5/8
815	VIA VILLAGIO	5/8
820	VIA VILLAGIO	5/8
825	VIA VILLAGIO	5/8
910	VIA VILLAGIO	1
915	VIA VILLAGIO	1
920	VIA VILLAGIO	1
1010	VIA VILLAGIO	1
1015	VIA VILLAGIO	1
1020	VIA VILLAGIO	1
	VIA VILLAGIO	1 ½
42	NO.LAKESHORE DR	5/8
43	NO.LAKESHORE DR	5/8
44	NO.LAKESHORE DR	5/8
45	NO.LAKESHORE DR	5/8
46	NO.LAKESHORE DR	5/8

Number	Street	Meter Size
125	NO.LAKESHORE DR	5/8
127	NO.LAKESHORE DR	5/8
129	NO.LAKESHORE DR	5/8
131	NO.LAKESHORE DR	5/8
133	NO.LAKESHORE DR	5/8
135	NO.LAKESHORE DR	5/8
137	NO.LAKESHORE DR	5/8
139	NO.LAKESHORE DR	5/8
141	NO.LAKESHORE DR	5/8
143	NO.LAKESHORE DR	5/8
145	NO.LAKESHORE DR	5/8
147	NO.LAKESHORE DR	5/8
149	NO.LAKESHORE DR	5/8
151	NO.LAKESHORE DR	5/8
153	NO.LAKESHORE DR	5/8
155	NO.LAKESHORE DR	5/8
159	NO.LAKESHORE DR	5/8
161	NO.LAKESHORE DR	5/8
163	NO.LAKESHORE DR	5/8
165	NO.LAKESHORE DR	5/8
167	NO.LAKESHORE DR	5/8
169	NO.LAKESHORE DR	5/8
171	NO.LAKESHORE DR	5/8
173	NO.LAKESHORE DR	5/8
175	NO.LAKESHORE DR	5/8
177	NO.LAKESHORE DR	5/8
179	NO.LAKESHORE DR	5/8
181	NO.LAKESHORE DR	5/8
183	NO.LAKESHORE DR	5/8
185	NO.LAKESHORE DR	5/8
187	NO.LAKESHORE DR	¾
189	NO.LAKESHORE DR	¾
191	NO.LAKESHORE DR	5/8
193	NO.LAKESHORE DR	5/8
195	NO.LAKESHORE DR	5/8
197	NO.LAKESHORE DR	5/8
198	NO.LAKESHORE DR	5/8
199	NO.LAKESHORE DR	5/8
201	NO.LAKESHORE DR	5/8
205	NO.LAKESHORE DR	5/8
207	NO.LAKESHORE DR	5/8
209	NO.LAKESHORE DR	5/8
211	NO.LAKESHORE DR	5/8

Number	Street	Meter Size
213	NO.LAKESHORE DR	5/8
215	NO.LAKESHORE DR	5/8
217	NO.LAKESHORE DR	5/8
219	NO.LAKESHORE DR	5/8
221	NO.LAKESHORE DR	5/8
223	NO.LAKESHORE DR	5/8
225	NO.LAKESHORE DR	5/8
227	NO.LAKESHORE DR	5/8
229	NO.LAKESHORE DR	5/8
231	NO.LAKESHORE DR	5/8
233	NO.LAKESHORE DR	5/8
235	NO.LAKESHORE DR	5/8
237	NO.LAKESHORE DR	5/8
	LAKE SHORE DR	2
	LAKE SHORE DR	1 ½
1	SO. LAKESHORE DR	5/8
2	SO. LAKESHORE DR	5/8
3	SO. LAKESHORE DR	5/8
4	SO. LAKESHORE DR	5/8
5	SO. LAKESHORE DR	5/8
6	SO. LAKESHORE DR	5/8
7	SO. LAKESHORE DR	5/8
8	SO. LAKESHORE DR	5/8
9	SO. LAKESHORE DR	5/8
10	SO. LAKESHORE DR	5/8
11	SO. LAKESHORE DR	5/8
12	SO. LAKESHORE DR	5/8
13	SO. LAKESHORE DR	5/8
14	SO. LAKESHORE DR	5/8
15	SO. LAKESHORE DR	5/8
16	SO. LAKESHORE DR	5/8
17	SO. LAKESHORE DR	5/8
18	SO. LAKESHORE DR	5/8
19	SO. LAKESHORE DR	5/8
21	SO. LAKESHORE DR	5/8
22	SO. LAKESHORE DR	5/8
23	SO. LAKESHORE DR	5/8
24	SO. LAKESHORE DR	5/8
25	SO. LAKESHORE DR	5/8
26	SO. LAKESHORE DR	5/8
29	SO. LAKESHORE DR	5/8
30	SO. LAKESHORE DR	5/8
31	SO. LAKESHORE DR	5/8

Number	Street	Meter Size
32	SO. LAKESHORE DR	5/8
33	SO. LAKESHORE DR	5/8
34	SO. LAKESHORE DR	5/8
35	SO. LAKESHORE DR	5/8
36	SO. LAKESHORE DR	5/8
37	SO. LAKESHORE DR	5/8
38	SO. LAKESHORE DR	5/8
39	SO. LAKESHORE DR	5/8
40	SO. LAKESHORE DR	5/8
41	SO. LAKESHORE DR	1
20A	SO. LAKESHORE DR	5/8
20B	SO. LAKESHORE DR	5/8
20C	SO. LAKESHORE DR	5/8

APPENDIX "E"

PUBLIC EDUCATION – FREQUENTLY ASKED QUESTIONS

Programs
- Water Home
- Beaches
- Drinking Water
- Everglades
- Grants & Loans
- Ground Water
- Mining & Minerals
- Monitoring
- Special Projects
- Springs
- Stormwater
- TMDLs
- Underground Injection
- Wastewater
- Water Policy
- Watersheds
- Wetlands

Information
- Forms & Applications
- Rules
- Permits
- Contacts
- Data
- Publications
- Public Notices

Navigation
- Sitemap

Get ADOBE READER

Documents are Adobe Acrobat files, which will open in a new window, unless indicated, and require the free Reader Software.

Drinking Water

Cross Connection Control and Backflow Prevention Program

QUESTION: What is a cross-connection?
ANSWER: A cross-connection is any temporary or permanent connection between a public water system or consumer's potable (i.e., drinking) water system and any source or system containing nonpotable water or other substances. An example is the piping between a public water system or consumer's potable water system and an auxiliary water system, cooling system, or irrigation system.
Back to Top

QUESTION: What is backflow?
ANSWER: Backflow is the undesirable reversal of flow of nonpotable water or other substances through a cross-connection and into the piping of a public water system or consumer's potable water system. There are two types of backflow--backpressure backflow and backsiphonage.
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QUESTION: What is backpressure backflow?
ANSWER: Backpressure backflow is backflow caused by a downstream pressure that is greater than the upstream or supply pressure in a public water system or consumer's potable water system. Backpressure (i.e., downstream pressure that is greater than the potable water supply pressure) can result from an increase in downstream pressure, a reduction in the potable water supply pressure, or a combination of both. Increases in downstream pressure can be created by pumps, temperature increases in boilers, etc. Reductions in potable water supply pressure occur whenever the amount of water being used exceeds the amount of water being supplied, such as during water line flushing, fire fighting, or breaks in water mains.
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QUESTION: What is backsiphonage?
ANSWER: Backsiphonage is backflow caused by a negative pressure (i.e., a vacuum or partial vacuum) in a public water system or consumer's potable water system. The effect is similar to drinking water through a straw. Backsiphonage can occur when there is a stoppage of water supply due to nearby fire fighting, a break in a water main, etc.
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QUESTION: Why do water suppliers need to control cross-connections and protect their public water systems against backflow?
ANSWER: Backflow into a public water system can pollute or contaminate the water in that system (i.e., backflow into a public water system can make the water in that system unusable or unsafe to drink), and each water supplier has a responsibility to provide water that is usable and safe to drink under all foreseeable circumstances. Furthermore, consumers generally have absolute faith that water delivered to them through a public water system is always safe to drink. For these reasons, each water supplier must take reasonable precautions to protect its public water system against backflow.
Back to Top

QUESTION: What should water suppliers do to control cross-connections and protect their public water systems against backflow?
ANSWER: Water suppliers usually do not have the authority or capability to repeatedly inspect every consumer's premises for cross-connections and backflow protection. Alternatively, each water supplier

should ensure that a proper backflow preventer is installed and maintained at the water service connection to each system or premises that poses a significant hazard to the public water system. Generally, this would include the water service connection to each dedicated fire protection system or irrigation piping system and the water service connection to each of the following types of premises: (1) premises with an auxiliary or reclaimed water system; (2) industrial, medical, laboratory, marine or other facilities where objectionable substances are handled in a way that could cause pollution or contamination of the public water system; (3) premises exempt from the State Plumbing Code and premises where an internal backflow preventer required under the State Plumbing Code is not properly installed or maintained; (4) classified or restricted facilities; and (5) tall buildings. Each water supplier should also ensure that a proper backflow preventer is installed and maintained at each water loading station owned or operated by the water supplier.
Back to Top

QUESTION: What is a backflow preventer?
ANSWER: A backflow preventer is a means or mechanism to prevent backflow. The basic means of preventing backflow is an air gap, which either eliminates a cross-connection or provides a barrier to backflow. The basic mechanism for preventing backflow is a mechanical backflow preventer, which provides a physical barrier to backflow. The principal types of mechanical backflow preventer are the reduced-pressure principle assembly, the pressure vacuum breaker assembly, and the double check valve assembly. A secondary type of mechanical backflow preventer is the residential dual check valve.
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QUESTION: What is an air gap?
ANSWER: An air gap is a vertical, physical separation between the end of a water supply outlet and the flood-level rim of a receiving vessel. This separation must be at least twice the diameter of the water supply outlet and never less than one inch. An air gap is considered the maximum protection available against backpressure backflow or backsiphonage but is not always practical and can easily be bypassed.
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QUESTION: What is a reduced-pressure principle assembly (RP)?
ANSWER: An RP is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves with a hydraulically operating, mechanically independent, spring-loaded pressure differential relief valve between the check valves and below the first check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. An RP is effective against backpressure backflow and backsiphonage and may be used to isolate health or nonhealth hazards.
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QUESTION: What is a pressure vacuum breaker assembly (PVB)?
ANSWER: A PVB is a mechanical backflow preventer that consists of an independently acting, spring-loaded check valve and an independently acting, spring-loaded air inlet valve on the discharge side of the check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. A PVB may be used to isolate health or nonhealth hazards but is effective against backsiphonage only.
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QUESTION: What is a double check valve assembly (DC)?
ANSWER: A DC is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves. It includes shutoff valves at each end of the assembly and is equipped with test cocks. A DC is effective against backpressure backflow and backsiphonage but should be used to isolate only nonhealth hazards.
Back to Top

QUESTION: What is a residential dual check valve (rdc)?
ANSWER: An rdc is similar to a DC in that it is a mechanical backflow preventer consisting of two independently acting, spring-loaded check valves. However, it usually does not include shutoff valves, may or may not be equipped with test cocks or ports, and is generally less reliable than a DC. An rdc is effective against backpressure backflow and backsiphonage but should be used to isolate only nonhealth hazards and is intended for use only in water service connections to single-family homes.
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QUESTION: Why do backflow preventers have to be tested periodically?
ANSWER: Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested with properly calibrated gauge equipment.
Back to Top

QUESTION: Where can I get more information about cross-connection control and backflow prevention?
ANSWER:

1. The University of Florida TREEO Center maintains a Backflow Prevention and Cross-Connection Control Program Page. In addition to information about training and recertification, you can also find useful information about backflow case histories, find assistance for a cross-connection control program, contact information for organizations involved in water quality, and more.
2. One excellent reference manual is the second (1990) edition of the American Water Works Association's (AWWA's) Manual M14, Recommended Practice for Backflow Prevention and Cross-Connection Control,

which is available from the AWWA Bookstore; 6666 West Quincy Avenue; Denver, Colorado 80235; telephone 800-926-7337.

3. Another excellent reference manual is the ninth (1993) edition of the University of Southern California's Manual of Cross-Connection Control, which is available from the Foundation for Cross-Connection Control and Hydraulic Research; University of Southern California; KAP-200 University Park MC-2531; Los Angeles, California 90089-2531; telephone 213-740-2032.

Last updated: June 10, 2008

2600 Blair Stone Road M.S. 3500 Tallahassee, Florida 32399 850-245-8336 (phone) / 850-245-8356 (fax)

Town of Manalapan 2010 WATER QUALITY REPORT

Construction on Well 16 was completed in 2010. It is now online and fully operational.

Manalapan has two deep wells that draw water from the Floridan Aquifer. This brackish water is filtered by our reverse osmosis system, which is able to produce approximately 1,650,000 gallons per day. The water is forced though membranes with high pressure pumps, producing a highly purified "permeate" water. The permeate is then piped into the degasifier to remove the volatile substances such as hydrogen sulfide. As pure reverse osmosis water tends to be very corrosive, we blend it with water from our conventional plant. This part of the system uses our four shallower fresh water wells that draw water from the surficial Biscayne Aquifer. We aerate, disinfect (with chloramine) and filter the water from the shallow wells and then blend it with the reverse osmosis permeate in the clearwell. A small amount of zinc orthophosphate is added to protect both distribution pipes and customer's plumbing systems.

IF YOU HAVE ANY QUESTIONS about this report or concerning your water, please feel free to call Craig Shugar or Valerie May at the water plant, at 561-586-3699. You can also email us at wplant@manalapan.org. Manalapan Town Commission meetings are usually held on the fourth Tuesday of each month at 9:30am at the Manalapan Town Hall, located at 600 South Ocean Boulevard, Manalapan, FL.
Actual dates can be found on our website, Manalapan.org.

The 300,000 gallon steel ground storage tank has been completely refurbished.

THIS REPORT HAS BEEN PREPARED to inform you about the quality of your drinking water.
Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2010. All other data is from the most recent testing done in accordance with rules, regulations and laws.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water include:

A) **Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.**
B) **Inorganic Contaminants such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.**
C) **Pesticides and herbicides, which may come from a variety of sources such as agricultural, urban stormwater runoff, and residential use.**
D) **Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.**
E) **Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Manalapan Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

The FDEP conducted a statewide assessment of public drinking water systems in 2009. The purpose of the assessment is to provide information about potential sources of contamination in the vicinity of our wells. The report states that there are 11 moderate potential sources of contamination. Six petroleum storage tanks are located near our wells on Hypoluxo Road . The assessment is available to view on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp."

Water Quality Results

Contaminant and Unit of Measure	Sample Dates Month/Year	MCL/AL Violation Yes / No	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium PPM	Apr. 2009	NO	0.0018	N/A	2	2	Discharge of drilling wastes and metal refineries. Erosion of natural deposits.
Fluoride PPB	Apr. 2009	NO	0.09	N/A	4.0	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate PPM (as Nitrogen)	March 2010	NO	0,27	N/A	10	10	Runoff from fertilizer; Leaching from septic tanks; Erosion of natural deposits. Sewage.
Nitrite PPM (As Nitrogen)	March 2010	NO	0.20	N/A	1	1	Same as above...
Sodium PPM	Apr. 2009	NO	81.2	N/A	N/A	160	Salt water intrusion; Leaching from soil.
Stage 1 Disinfectants and Disinfection By-products							
Chloramines PPM	Jan. - Dec. 2010	NO	3.06 Running annual average	0.8ppm-3.9ppm	MRDLG 4.0	MRDL 4.0	Water additive used to control microbes.
TTHM PPB Total Trihalomethanes	Aug. 2010	NO	4.4	N/A	N/A	80	By-product of drinking water disinfection.
Haloacetic PPB Acids	Aug. 2010	NO	5.5	N/A	N/A	60	By-product of drinking water disinfection.
Lead & Copper (Tap Water)	Dates of Sampling	AL Exceeded Yes / No	90th Percentile results	Number of samples exceeding AL	MCLG	AL (Action Level)	Likely Source of Contamination
Lead PPB (10 Samples taken)	Aug. 2010	NO	5.9	0	0	15	Corrosion of household plumbing systems. Erosion of natural deposits.
Copper PPM (10 Samples taken)	Aug. 2010	NO	0.23	0	1.3	1.3	Corrosion of household plumbing systems. Erosion of natural deposits. Leaching from wood preservatives.

DEFINITIONS

AL (Action Level) : The concentration of a contaminant which, if exceeded, triggers mandatory treatment or other requirements which a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial Contaminants.

Maximum residual disinfectant level goal or MRDLG : The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

PPM (Parts per million) : One part by weight of analyte to one million parts by weight of the water sample.

PPB (Parts per billion) : One part by weight of analyte to one billion parts by weight of the water sample.

Manalapan's Backflow Prevention Program

The Town of Manalapan, in accordance with regulations created by the EPA and the Florida Departartment of Environmental Regulation, currently implements a Cross Connection Control program. A cross connection is a temporary or permanent piping arrangement that can allow your drinking water to be contaminated if a backflow condition occurs. Backflow is water flowing in the opposite direction from it's normal flow. This situation can take place due to changes in pressures.

Without a backflow prevention device between the meter and your home or business, the contents of the customer's plumbing system and anything connected to it has the potential to backflow into the customer's pipes and/or the distribution system and contaminate the water. Irrigation systems, swimming pools, fire sprinkler systems, ornamental fountains and garden hoses are just a few potential cross connections that could present a dangerous situation under the right circumstances.

Currently the Town requires that all businesses, condominiums, dedicated irrigation meters, and multi-story buildings be equipped with an approved device, depending upon the degree of hazard.

It also requires that all metered services 1 ½ inch and larger be fitted with backflow prevention devices.

Backflow prevention devices must be installed and inspected by a certified technician. To insure that it continues to work properly and protect the drinking water, it must be inspected annually thereafter. It is the responsibility of the property owner to have this test done and to make sure a copy of the test report is sent to the Water Dept.

Hopefully, the backflow prevention device you install will never be needed. However, once installed and properly maintained, backflow prevention measures help keep the water safe. More information on this subject can be found at www.dep.state.fl.us/water/drinkingwater/bfp.htm. If you have questions about the program, please call Robert Dufresne, project administrator, at 561-383-2573.

PRESORTED STANDARD
U S POSTAGE
PAID
WEST PALM BEACH FL
PERMIT NO. 4872

APPENDIX "F"

NOTIFICATION FORMS
AND
LIST OF COMPANIES WITH CERTIFIED TECHNICIANS

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

May 11, 2011

Resident:
Manalapan, Florida 33462

Re: Backflow Prevention Device Installation
Account # 1010076000

Dear Customer:

In an effort to protect the public from possible water contamination from cross-connections and potential backflow issues, the federal and state governments require all public water systems to implement a backflow prevention program. The Town of Manalapan, in accordance with these mandates and the American Water Works Association's Manual M-14 (Recommended Practice for Backflow Prevention and Cross Connection Control), requires that backflow prevention devices be installed on commercial water services, all multi-story building water services, and all water meter services 1 ½ inches and larger. These devices must be installed and initially inspected by certified personnel. An inspection by certified personnel must be conducted annually thereafter.

The above referenced water service account currently does not have a backflow device installed. The minimum required device as mandated by the Towns Cross Connection manual must be installed by a certified backflow technician within the next 30 days.
Please send a copy of the testing certification for your device to the Town as soon as the work is complete. If not complete within thirty days, the Town will charge a $25.00 administrative fee.

Please direct all questions to the project administrator Robert Dufresne, 561-383-2573 or bdufresne@manalapan.org. Thank you in advance for your cooperation.

Sincerely,

V. May
Water Plant Operations Manager

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

May 11, 2011

Resident:
Manalapan, Florida 33462

Re: Backflow Prevention Device Annual Inspection
Account Number: 1010076000

Dear Water Customer:

The Town of Manalapan has surveyed the metered services in your area. The above referenced meter was found to have the required backflow prevention device installed. In an effort to insure the health, safety, and welfare of all the consumers of Manalapan's water system, and also to comply with Section 403 of Florida Statutes known as the "Florida Safe Drinking Water Act", the Town's Utility Department requires that such devices be inspected and certified by licensed personnel on an annual basis. We have no record of a current inspection report for your device.

It is your responsibility to have your backflow device inspected and registered with the Town in order to avoid possible disconnection of water service and additional charges for such disconnections. We will provide you with 30 days to complete the inspection and forward to us a copy of the certification of your backflow preventer. If not complete within 30 days, the Town will charge a $25.00 administrative fee.

Your cooperation in this matter is greatly appreciated. Should you have any questions regarding this notice, please contact the project administrator Robert Dufresne at 561-383-2573 or email him at bdufresne@manalapan.org.

Sincerely,

V.May
Water Plant Operations Manager

Backflow Prevention Device – Test and Maintenance Report

To: Town of Manalapan Water Department

600 South Ocean Boulevard

Manalapan, FL 33462-3398

The cross-connection control assembly detailed hereon has been tested and maintained as required by the Town of Manalapan and is certified to comply with the Town's Rules and Regulations.

Make of assembly _____ size _____

Model Number _____ located at _____

Serial Number _____

Type	Reduced Pressure Assemblies			Pressure Vacuum Breaker	
Date_____	Double Check Assemblies		Relief Valve	Air Inlet	Check Valve
	1st Check	2nd Check			
Initial Test	DC – Closed Tight ____ RP ____ psid Leaked ____	Closed Tight ____ Leaked ____	Opened ____ psid	Opened ____ psid Did not Open ____	____ psid Leaked ___
Repairs and Matls. Used					
Test After Repairs	DC – Closed Tight ____ RP ____ psid	Closed Tight ____	Opened ____ psid	Opened ____ psid	____ psid

The above is certified to be true. Date: _____

Firm Name _____

Address _____

Certified Tester _____ Cert. Tester No. _____

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

Notice to Customer – Requirements for Backflow Prevention Inspection

May 11, 2011

Dear Customer,

Our records indicate that your Backflow Prevention Assembly is due for testing and inspection on (date) _____.

To prevent possible contamination of the Manalapan Public Water Supply System, Chapter 92-555.360, FAC requires your backflow prevention assembly be inspected and tested yearly. It is your responsibility to have this test completed.

A list of certified backflow prevention testing companies is attached to this notice. Should you choose to use one of these companies, they will perform the inspection and testing and provide this office with a copy of the test results.

If you choose to use another certified tester to perform the inspection and testing of your device, please provide a certified copy of the results to this office.

We appreciate your cooperation and look forward to receiving the results of your testing and inspection soon.

Sincerely,

Town of Manalapan Water Department

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@ manalapan.org www.manalapan.org

Notification to Customer
Intent to Perform Inspection of Existing Water System Connections

May 11, 2011

In accordance with Florida Administrative Code 62-555.360 the Town of Manalapan must ensure that there are no interconnections that can possibly back feed into the water system.

A program of cross-connection inspection and control has been initiated to provide for reasonable protection of the public drinking water from possible contamination caused by backpressure or backsiphonage conditions on your premises that might cause contamination to the public drinking water.

To assist you with identifying actual or potential cross-connections on your premises, a cross-connection inspector will contact you in the near future to arrange for a time when an inspection can be made of your water system connection. Following the inspection, you will receive a written report of any significant findings.

Town of Manalapan Water Department

TOWN OF MANALAPAN
600 South Ocean Boulevard. Manalapan. Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

Notice to Customer – Requirements for Backflow Prevention Replacement

May 11, 2011

Dear Customer:

Our records indicate that your Backflow Prevention Assembly or Assembly is due for replacement on (date) _____.

To prevent possible contamination of the Manalapan Public Water Supply System, Chapter 92-555.360, FAC requires your particular backflow prevention device or assembly be replaced every five years. It is your responsibility to have this device or assembly replaced.

A list of certified backflow prevention testing companies is attached to this notice. Should you choose to use one of these companies, they will replace the device or assembly and provide this office with a copy of the completed installation.

If you choose to use another certified tester to perform the replacement of your device or assembly, please provide a certified copy of the results to this office.

We appreciate your cooperation and look forward to receiving the confirmation that your backflow prevention device or assembly has been replaced.

Sincerely,

Town of Manalapan Water Department

TOWN OF MANALAPAN
600 South Ocean Boulevard, Manalapan, Florida 33462-3398
Telephone (561) 585-9477 Fax (561) 585-9498
Email: townhall@manalapan.org www.manalapan.org

Notification to Customer of Findings of Violation of

Cross-Connection Program Inspection Report

Dear_____, (Customer)

On _____, The Town of Manalapan Water Department made an inspection of the water facilities on your premises for the purpose of detecting any existing or potential cross-connection to the public water supply.

The inspection revealed that some revisions, as indicated on the attached sheet, must be made to protect the Public Water System. However, it should be pointed out that our inspection is not an absolute guarantee that all cross-connection hazards have been located.

Provisions of the Town of Manalapan Code, Chapter 51, Section 51.16 and Chapter 62-555.360, FAC prohibit the existence of cross-connections within the public water supply. Since the Town of Manalapan is committed to ensuring the safety of the public water system in the future, periodic inspections will be made to determine if your on-site water facilities are in compliance with these laws. If you have any questions, please contact me between 8:00 A.M. and 3:00 P.M. at _____.

Yours very truly,

_____
Town of Manalapan Water Department

Partial Listing of Plumbing Companies Who Can Provide Backflow Device Construction and Certified Testing

Able Plumbing
(561) 582-1819

J.A. Adams, Inc.
(561) 832-5902

Buckeye Plumbing
(561) 758-6237

Du-All
(561) 712-8642

North County Plumbing
(561) 625-9414

Plumbing Experts
(561) 574-1300

Roto Rooter
(561) 586-2157

NOTE: There are other companies who provide similar services that may be consulted. They must maintain an up to date certified testing technician on payroll to provide the required annual testing services.

APPENDIX "G"

A DESCRIPTION OF THE MOST COMMONLY USED CROSS-CONNECTION CONTROL DEVICES

TOWN OF MANALAPAN BACKFLOW PREVENTION MANUAL

III. Who Needs a Backflow Prevention Device

The following water customers will be required to have a backflow device installed after the meter:

1. Any commercial property with any size meter
2. Any multi-story building (residential or commercial)
3. Any residential customer with an 1 ½ or larger meter including any extra meters of any size on the property

III. Who Needs a Backflow Prevention Device

Recommended Protection for Specific Categories of Customers:

1. Auxiliary Water Supplies
   The Town of Manalapan requires that all service connections where premises have an auxiliary water supply system to install and maintain a backflow assembly. The term *auxiliary water supply* is commonly used to describe water supplies or sources that are not under the water purveyor's control or direct supervision. This includes not only water derived from wells, springs, lakes and oceans, but also all used waters that have passed beyond the Town's control. Typical used water supplies include irrigation reservoirs, swimming pools, fish ponds, mirror pools, decorative fountains and cascades, and cooling towers. Even if no connection exists between the auxiliary system and the public water supply, installation of an approved backflow preventer is mandatory.

   An air-gap separation or a reduced-pressure principle backflow assembly is recommended at a service connection where the auxiliary water supply is or may be contaminated to a degree that would constitute a high hazard. A double check valve assembly is recommended at the service connection when the auxiliary supply is being operated under a public health permit but is not acceptable to the Town as a source.

2. Cooling Systems: Open or Closed
   Due to the toxic chemicals frequently used for this purpose, an air-gap separation or a reduced-pressure principle backflow-prevention assembly is required.

3. Fire Suppression Systems
   Dry-pipe pressurized systems are required to have a reduced pressure principle backflow prevention assembly installed if there is chemical addition. A double check valve is required for all other systems.

   Dry-Pipe nonpressurized systems require no backflow protection if there is not an addition of chemicals.

Because of the wide variety of system designs, backflow protection will be based on the type of cross connection and the degree of hazard presented.

4. Fire Hydrants
   Fire Hydrants that are used for purposes other than fighting fires, e.g., for construction water, dust control, water hauling, pressure testing and temporary services are required to be equipped with backflow prevention commensurate to the degree of hazard presented. If there is any question regarding the degree of hazard, a reduced-pressure principle backflow prevention assembly is recommended.

5. Fire Sprinkler Systems, Commercial
   A detailed assessment of each type and instance of commercial fire sprinkler system will be made for both new and existing systems. A determination will be made at that time as to what type of backflow prevention will be required.

6. Laboratories, Medical Offices, Medical Research Centers and Other Human or Animal Clinics

   An air-gap separation or a reduced-pressure principle backflow prevention assembly shall be installed on any multi-storied medical building listed above, or where any of the internal potable water system is found to be of a higher elevation than the service connection.

7. Irrigation Systems
   For irrigation systems connected to the public water system, an air-gap separation or a reduced-pressure principle backflow prevention assembly must be installed.

8. Marine Facilities and Dockside Watering Points
   Where water is delivered directly to vessels for any purpose, a reduced pressure principle backflow prevention assembly must be installed at pier hydrants. All hydrants in the dockside area that are used (or available to be used) to provide water to vessels must also be protected. If an auxiliary water supply, such as a saltwater fire system, is used, the entire dockside area will be isolated from the water supplier's system by an approved air gap. Where water is delivered to a marine facility and no auxiliary supply is present, all service connections are required to be protected by a reduced pressure principle backflow prevention

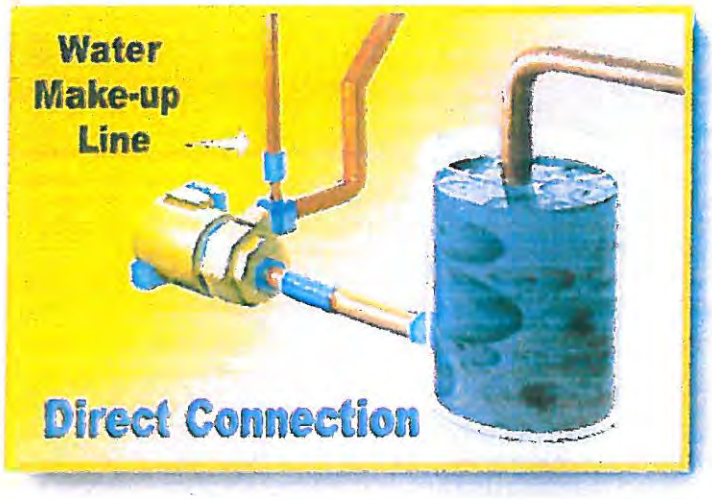
assembly. If hydrants are available for connection to a vessel's fire system, a reduced pressure principle backflow prevention assembly should be installed at the user connections as well.
Where water is delivered to a marine repair facility, a reduced principle backflow assembly will be installed at the user connection. Where water is delivered to small-boat moorages that maintain hose bibs on a dock or float, a reduced pressure principle backflow prevention assembly must be installed at the user connection and a hose connection vacuum breaker must be installed on each hose bib. If a sewage pump station is provided, the area should be isolated by installation of a reduced pressure principle backflow prevention assembly. Water used for fire protection aboard ship, connected to dockside fire hydrants, shall not be taken aboard from fire hydrants unless the hydrants are on a fire system that is separated from the domestic system by an approved reduced pressure principle backflow prevention assembly or unless the hydrants are protected by portable, approved reduced pressure principle backflow prevention assemblies.

9. Multistoried Buildings
   Single family residential buildings that are two or more stories will be required to install and maintain a double check valve assembly as a minimum requirement.
   Condominiums, apartment buildings, and hotels of two or more stories will be required to install and maintain an air-gap separation or a reduced pressure principle backflow prevention assembly.
   Multistoried commercial properties of any other nature will require individual assessment of potential hazards, and a recommendation for protection will be made at that time.

10. Residential Water Services
    Individual assessments will be made to establish degree of hazard and to determine required backflow protection. Items to be considered will be, but not limited to, pets, pools, fountains, tanks, irrigation, dialysis equipment, auxiliary water supply, heating and cooling equipment, solar water heating, and other equipment or operations that use water. The elevation of the site's plumbing system above the water service connection will also be considered. An air gap or reduced pressure principle backflow prevention assembly will be required on each water service line deemed to present a high hazard. A double check valve assembly will be required on each water service line when a low hazard exists.

11. Solar Domestic Hot-Water Systems
    Depending upon the degree of hazard and whether or not a toxic transfer medium is used, and also the classification of the liquid-to-liquid heat exchanger, an assessment will be made to determine the type of protection required. Single walled units will generally require a double check valve or a reduced pressure principle backflow prevention assembly. Double walled units may require no additional protection.

12. Water Department Distribution System and Treatment Plant
    Onsite Irrigation systems must be equipped with vacuum breaker backflow prevention.
    All metered services at the treatment plant shall be equipped with approved devices, depending on degree of hazard.
    All hose bibs shall be equipped with vacuum breakers.



There are two basic types of cross-connections: a direct cross-connection and an indirect cross-connection. The difference between these two types of cross-connections is very simple. A direct cross-connection is subject to backpressure (as shown above); an indirect cross-connection is not subject to backpressure. An example of a direct cross-connection would be the make-up water line feeding a recirculating system. An over-the-rim inlet used to fill an open receiving vessel would be an example of an indirect cross-connection. Backpressure could not be introduced into the supply line with this type of connection.

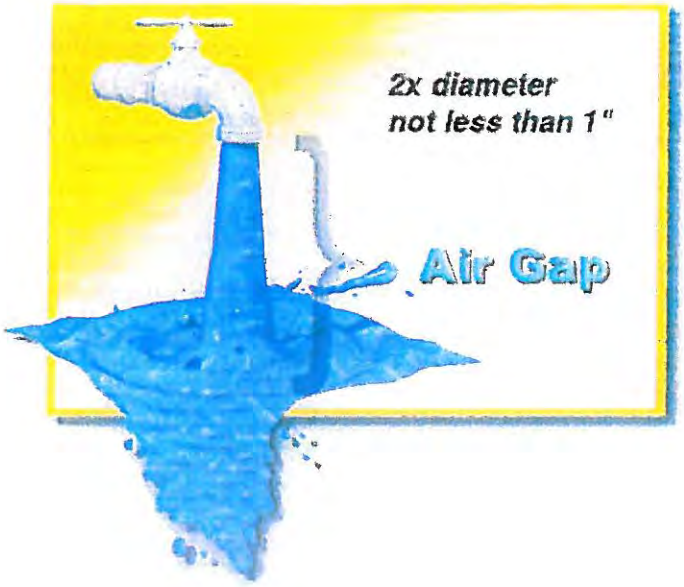
Degree of Hazard

The type of backflow preventer used to prevent backflow from occurring at the point of a cross-connection depends on the type of substance which may flow into the potable water supply. A pollutant is considered to be any substance which would affect the colour or odor of the water, but would not pose a health hazard. This is also considered a non-health hazard. A substance is considered a health hazard if it causes illness or death if ingested. This health hazard is called a contaminant.

Sewage and radioactive materials are considered Lethal Hazards. This is because of the epidemic possibilities associated with sewage and the tremendous dangers associated with radioactive material.

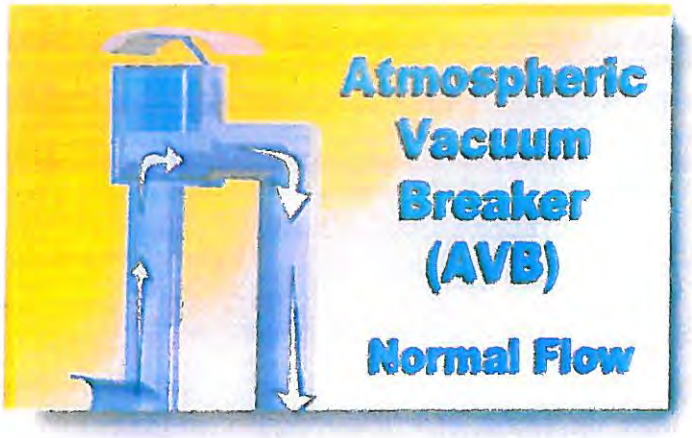
Types of Backflow Preventers

There are five distinct types of piping or mechanical assemblies which are considered to be backflow prevention assemblies; but, it must be stressed that these are not all equally acceptable as protection against all types of hazards. The degree of hazard must be assessed along with they type of cross-connection present to determine which type of backflow prevention assembly is most suitable to the situation.



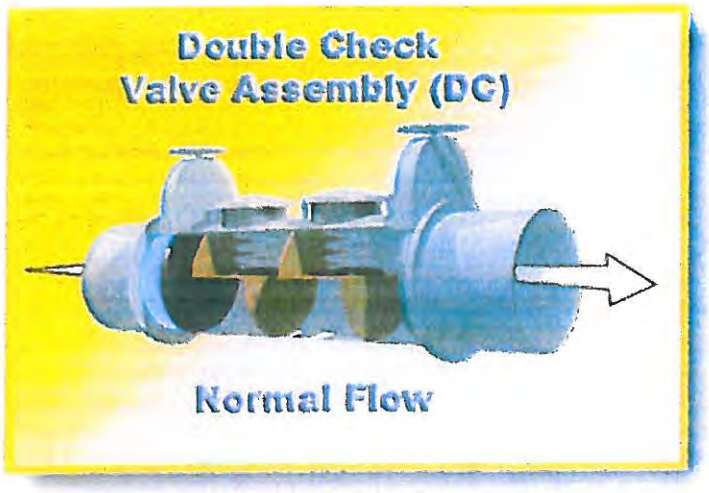
Air Gap

An Air Gap is a physical separation of the supply pipe by at least two pipe diameters (never less than one inch) vertically above the overflow rim of the receiving vessel. In this case line pressure is lost. Therefore, a booster pump is usually needed downstream, unless the flow of the water by gravity is sufficient for the water use. With an air gap there is no direct connection between the supply main and the equipment. An air gap may be used to protect against a contaminant or a pollutant, and will protect against both backsiphonage and backpressure. An air gap is the only acceptable means of protecting against lethal hazards.



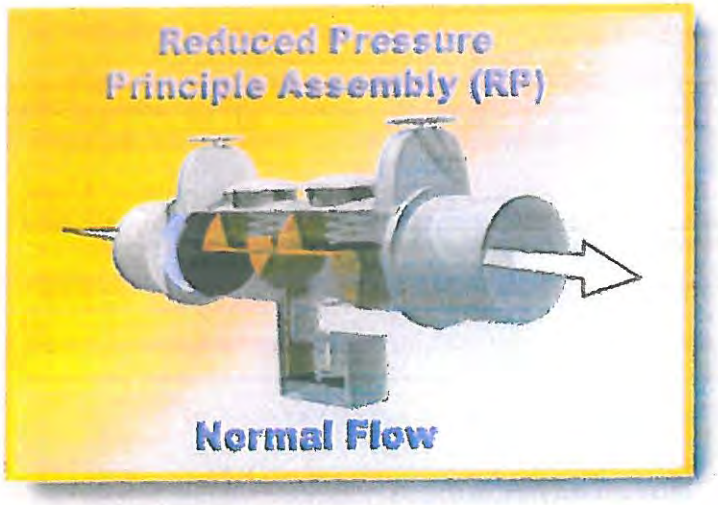
Atmospheric (non-pressure) Type Vacuum Breaker {AVB}

The AVB is always placed downstream from all shut-off valves. Its air inlet valve closes when the water flows in the normal direction. But, as water ceases to flow the air inlet valve opens, thus interrupting the



Double Check Valve Assembly {DC}

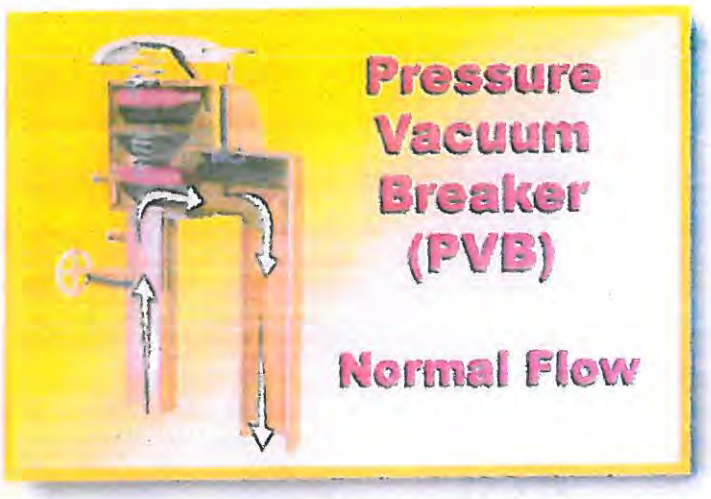
The Double Check Valve Assembly consists of two internally loaded, independently operating check valves together with tightly closing resilient seated shut-off valves upstream and downstream of the check valves. Additionally, there are resilient seated testcocks for testing of the assembly. The DC may be used to protect against a pollutant only. However, this assembly is suitable for protection against either backsiphonage or backpressure.



Reduced Pressure Principle Assembly {RP}

This assembly consists of two internally loaded independently operating check valves and a mechanically independent, hydraulically dependent relief valve located between the check valves. This relief valve is designed to maintain a zone of reduced pressure between the two check valves at all times. The RP also contains tightly closing, resilient seated shut-off valves upstream and downstream of the check valves along with resilient seated testcocks. This assembly is used for the protection of the potable water supply

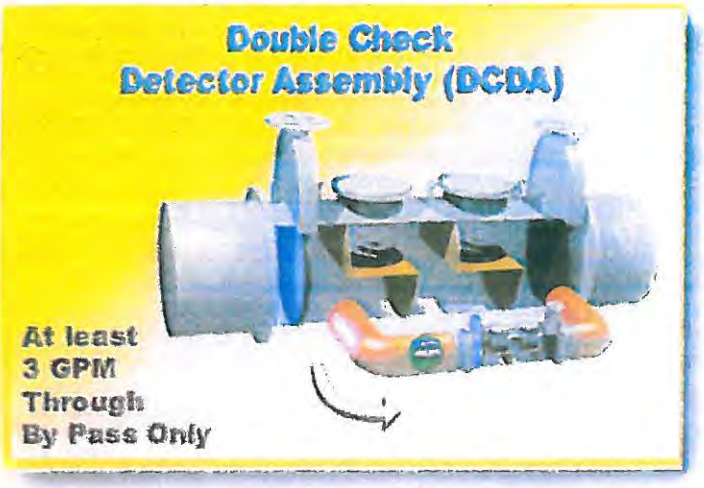
flows in the normal direction. But, as water ceases to flow the air inlet valve opens, thus interrupting the possible backsiphonage effect. If piping or a hose is attached to this assembly and run to a point of higher elevation, the backpressure will keep the air inlet valve closed because of the pressure created by the elevation of water. Hence, it would not provide the intended protection. Therefore, this type of assembly must always be installed at least six (6) inches above all downstream piping and outlets. Additionally, this assembly may not have shut-off valves or obstructions downstream. A shut-off valve would keep the assembly under pressure and allow the air inlet valve (or float check) to seal against the air inlet port, thus causing the assembly to act as an elbow, not a backflow preventer. The AVB may not be under continuous pressure for this same reason. An AVB must not be used for more than twelve (12) out of any twenty-four (24) hour period. It may be used to protect against either a pollutant or a contaminant, but may only be used to protect against a backsiphonage condition.



Pressure Vacuum Breaker (PVB)

The PVB includes a check valve which is designed to close with the aid of a spring when flow stops. It also has an air inlet valve which is designed to open when the internal pressure is one psi above atmospheric pressure so that no non-potable liquid may be siphoned back into the potable water system. Being spring loaded it does not rely upon gravity as does the atmospheric vacuum breaker. This assembly includes resilient seated shut-off valves and testcocks. The PVB must be installed at least twelve (12) inches above all downstream piping and outlets. The PVB may be used to protect against a pollutant or contaminant, however, it may only be used to protect against backsiphonage. It is not acceptable protection against backpressure.

along with resilient seated testcocks. This assembly is used for the protection of the potable water supply from either pollutants or contaminants and may be used to protect against either backsiphonage or backpressure.



Double Check Detector Assembly (DCDA)

The DCDA is composed of a line-sized double check valve assembly with a specific bypass meter and meter-sized double check valve assembly. The meter registers accurately for very low flow rates to detect any unauthorized use of water. This assembly is used when the protection of a double check valve assembly is required, yet where the added requirement of detecting any leakage or unauthorized use of water exists. Normally these assemblies are reserved for use on fire sprinkler lines.

Reduced Pressure Principle Detector Assembly (RPDA)

The RPDA is very similar to the double check detector assembly except that the RPDA is designed for situations requiring the protection of a reduced pressure principle assembly and detection of unauthorized use of water or leaks. As with the DCDA, the bypass meter must register accurately at low flows. This assembly is normally used on fire lines which may contain contaminants, such as anti-freeze additives or foamite.