



**REUSE WATER SYSTEM
PROGRAM MANUAL**

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INTRODUCTION

The purpose of this manual is to describe the City of Pompano Beach (City) Reuse Water System Program, or **OASIS** (*Our Alternative Supply Irrigation System*). The City first began using reuse water for irrigation in 1989, becoming a reuse pioneer in Broward County. Reuse water, or wastewater effluent that is further treated for alternative water use, is a viable method of conserving our precious drinking water and reducing the chance for saltwater intrusion. The City has no wastewater facility and obtains wastewater effluent from the North Broward County Regional Wastewater facility. Broward County effluent is diverted from the Atlantic Ocean outfall and further treated to improve its quality via filtration and disinfection. This water, after careful monitoring to ensure that it meets permit requirements and strict water quality criteria, is used on golf courses, parks, medians and residential properties. Every gallon of reuse water used for irrigation, results in a comparable savings of potable water.

The reuse facility is located on Federal Highway on the south west corner of NE 18th Street. The site consists of two filter structures, a chlorine contact basin, two reuse water storage tanks and associated pumps, air compressors and auxiliary equipment. With a capacity of 7.5 MGD and an expansion capacity of up to 12.5 MGD, the plant is well able to meet the increasing demand for reuse water.

AUTHORITY

The City is proud to be able to provide an alternative water supply, such as reuse, to save our potable water and to help protect the environment. However, a reuse program requires strict safeguards to protect the integrity of the potable water system and to protect the health of our Pompano Beach residents and visitors. These safeguards include an active and effective backflow prevention and cross-connection control program on the potable water system, as well as reuse system inspections. State regulations cited in 62-555.360 of the Florida Administrative Code require that all reuse providers have a backflow prevention and cross-connection control program in place for the potable water system.

The American Water Works Association (AWWA) Manual M14, *Recommended Practice for Backflow Prevention and Cross-Connection Control*, defines a cross-connection as "an actual or potential connection between any part of a potable water system and any other environment that contains other substances that, under any circumstances, would allow such substances to enter the potable water system. Other substances include gases, liquids or solids such as chemicals, water products, steam, water from other sources (potable or nonpotable), and any matter that may change the color or taste of water or add odor to water."

As directed by FAC 62-555.360, the City has adopted and developed procedures for backflow prevention and a cross-connection control program. The basic elements of this program are found in City Ordinances Chapter 50 (See Appendix A), Water, and City Ordinance Chapter 54 (See Appendix B), Reuse Water and Cross-Connection Control. As the purveyor of the potable water, the City of Pompano Beach Utilities Department is the sole arbitrator as to the level of protection needed to protect the water system beyond federal, state and local requirements. Possible enforcement action includes turning off water service in the event that backflow prevention requirements are not met. Whenever this manual references sections of the City of Pompano Beach Code of Ordinances, Florida Administrative Code, AWWA Manual M14, or any other authoritative document and said referenced document is updated, unless a specific exemption is contained herein, this manual shall be considered updated to reflect those changes.

CROSS-CONNECTION CONTROL/BACKFLOW PREVENTION PROGRAM

The City has an active Cross-Connection/Backflow Prevention program. This program includes documentation and record keeping procedures, material and installation standards, backflow testing and maintenance policies, inspections, and public education/public interaction goals.

Basic program requirements for reuse include the following:

- ✓ The program elements are documented and tracked through an automated software program and database (Tokay).
- ✓ Single family residential reuse customers are required to have city owned dual check device installed on the potable system as well as a second protective measure (i.e. customer agreement or automated meter reading) before hooking up to the reuse system. A customer owned double check valve assembly meeting the requirements below is also acceptable.
- ✓ All other reuse customers must obtain a permit from the Building Department to install a double check valve assembly, or greater protection depending on the site conditions, on the potable water system before hooking up to the reuse system (See Appendix C - Customer Instructions/Procedures for Establishing a Reuse Water Connection).
- ✓ Double check valve assemblies must be plumbing code approved. The device must also be nationally approved, testable and in full conformance with the current standards established by the AWWA, the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (FCC HR USC), or the American Society of Sanitary Engineering (ASSE), as well as local building codes.

- ✓ Certification of the double check valve assembly must be performed by a certified backflow technician. The technician must provide the City with the testing results on the Backflow Prevention Assembly Field Test Report (See Appendix D). Certification is required prior to connecting to the reuse system and on an annual basis.
- ✓ The City Building Department inspects all double check valve assemblies and reuse systems before authorizing connection to the reuse system.
- ✓ The City enters all backflow testing results into the Tokay System, runs diagnostic checks and conducts a manual quality control check of the results.
- ✓ As a courtesy, the City sends annual reminders to all backflow preventer assembly owners advising them of their double check valve assembly inspection anniversary date. The Tokay system tracks these dates and prints out the reminder letters. Non-receipt of the reminder does not relieve the customer of the duty of testing the assembly.
- ✓ The City owns the single family residential reuse dual check devices and replaces these according to state standards (currently every five years).
- ✓ Routine on-site inspections are conducted every seven years and upon hookup of a new customer (See Appendix E –Reuse Inspection Form).
- ✓ The City provides important information for customers regarding the reuse program, the backflow prevention and cross-connection control program, rates and fees, and additional information resources upon application for a reuse account and on a periodic basis. The City also presents OASIS information via its cable channel, and through local workshops and presentations. Reuse information, including a list of frequently asked questions, is also found on the City website at www.mypompanobeach.org.

APPENDIX A

The current version of Appendix A, Ordinance Chapter 50 – Water, is available at http://www.amlegal.com/pompano_beach_fl/

APPENDIX B

The current version of Appendix B, Ordinance Chapter 54 – Reuse Water and Cross Connection Control, is available at http://www.amlegal.com/pompano_beach_fl/

Customer Instructions for Multifamily and Commercial Properties

Overview

All eligible owners are sent a letter by Customer Service, explaining the owner's requirement to connect, and links to the connection process instructions, annual backflow testing requirements, requirements regarding the piping and types of equipment, and associated costs.

Procedures for Establishing a Reuse Water Connection:

Step 1: Obtain Plumbing Permit

The owner or their designated plumbing contractor must obtain a permit from the City of Pompano Beach Building Department (located on the 3rd floor of City Hall) for the installation of a potable water supply backflow assembly and for connection of the irrigation system to the reuse system. The plumbing permit application may be found on-line at www.mypompanobeach.org (select Building department, then click on Building Permit Application) or picked up at the Building Department. The completed application and fees may be brought to the Building Department at City Hall or mailed to: Building Department 100 West Atlantic Blvd., Pompano Beach FL 33060. For more information contact (954) 786-4670. **No plumbing work, including the installation of the irrigation piping, may begin until a permit has been issued and a meter is in place.**

Step 2: Apply for Reuse Meter

The owner submits an application for a reuse meter to Customer Service (located on the 1st floor of City Hall). The application may be found on line at www.mypompanobeach.org (select Utilities department, then click on sign up for reuse) or it may be picked up at Customer Service. Please note that this is not the same application as the plumbing permit application. The completed application and fee may be brought to Customer Service or mailed to: Customer Service - Reuse Application, P.O. Box 1300, Pompano Beach, FL 33061. For more information contact (954) 786-4637. **No plumbing work, including the**

installation of the irrigation piping, may begin until a permit has been issued and a meter is in place.

Step 3: Install Backflow Preventer Assembly & Piping

The City Utilities Department will install a reuse meter and lock off curb stop, prior to the contractor installing a pressurized line from the reuse meter to the control valve. All new pipes installed must be the color purple (Pantone #522C). The owner or his contractor will install an approved¹ backflow prevention assembly immediately downstream from the potable water meter. A certified backflow technician needs to provide the homeowner with a copy of the Backflow Prevention Assembly Field Test Report certifying that the back flow assembly is functioning properly after installation. A copy of the certification must be attached to the assembly, along with the permit card and returned to the Building Department. After piping and the backflow assembly are installed, an inspection shall be requested by the contractor or owner.

Step 4: Call for Inspection

The contractor or the owner will request an inspection of the new backflow prevention assembly and the new irrigation supply piping, prior to covering the work. Inspections can be scheduled by contacting the City Building Department by calling (954) 786-4198 or scheduling online at www.mypompanobeach.org (select Building Department, then click on schedule an inspection).

NOTE: To schedule an inspection by telephone be sure to have the phone access code from the yellow copy of the plumbing permit paperwork. After the Building Department approves all work, the Utilities Department will remove lock and turn on system.

¹ Device must be nationally approved, testable, in full conformance with the current standards established by the American Water Works Association, the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California, or the American Society of Sanitary Engineering (ASSE) as well as meeting local building codes.



**Utility Field Operations
Backflow Prevention Program**

Wastewater Pumping
Wastewater Transmission
Stormwater
Water Distribution

APPENDIX D

Backflow Prevention Assembly Test Report

Test Due
/ /

Test Result Passed Failed
Test Date _____
Permit # _____

Mailing Address	Service Address
Correct?	
Location: <input type="checkbox"/>	Meter #: <input type="checkbox"/>
Hazard: <input type="checkbox"/>	Serial #: <input type="checkbox"/>
	Mfg: <input type="checkbox"/>
	Model: <input type="checkbox"/>
	Type: <input type="checkbox"/>
	Size: <input type="checkbox"/>

Reduced Pressure Principle Assembly				Dual Check Replaced Yes <input type="checkbox"/> No <input type="checkbox"/>		RP <input type="checkbox"/> DC <input type="checkbox"/> RPDA <input type="checkbox"/> DCDA <input type="checkbox"/> PVB <input type="checkbox"/> Air Gap <input type="checkbox"/> SVB <input type="checkbox"/> AVB <input type="checkbox"/>		
Double Check Valve Assembly								
	Check Valve #1	Check Valve #2	Relief Valve	PVB/SVB				
Initial Test	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Held at _____ PSID	Leaked <input type="checkbox"/> Closed Tight <input type="checkbox"/> Held at _____ PSID	Did not Open <input type="checkbox"/> Opened at _____ PSID	AIR INLET Did not Open <input type="checkbox"/> Opened at _____ PSID				
Repairs Details	Cleaned <input type="checkbox"/> Replaced <input type="checkbox"/>	Cleaned <input type="checkbox"/> Replaced <input type="checkbox"/>	Cleaned <input type="checkbox"/> Replaced <input type="checkbox"/>	CHECK VALVE Leaked <input type="checkbox"/> Held at _____ PSID Cleaned <input type="checkbox"/> Replaced <input type="checkbox"/>				
Final Test	Closed Tight <input type="checkbox"/> Held at _____ PSID	Closed Tight <input type="checkbox"/> Held at _____ PSID	Opened at _____ PSID	AIR INLET Opened at _____ PSID CHECK VALVE Held at _____ PSID				
Orientation Vertical Up <input type="checkbox"/> Vertical Down <input type="checkbox"/> Horizontal <input type="checkbox"/>		Use Domestic <input type="checkbox"/> Fire <input type="checkbox"/> Irrigation <input type="checkbox"/>		Protection Containment <input type="checkbox"/> Isolation <input type="checkbox"/> Line Pressure _____		New <input type="checkbox"/> Existing <input type="checkbox"/> Replaced <input type="checkbox"/> Date Installed _____ Replaced Serial # _____		Outlet Shutoff Valve Closed Tight <input type="checkbox"/> Leaked <input type="checkbox"/>

Comments

Test Kit Make _____ Model _____ Serial # _____ Calibration Date _____
 Tester certifies that this assembly has been tested and verifies that shut-off valves were returned to pre-test orientation.
 Tester # _____ Certification Expiration Date _____
 Tester Name _____ Tester Signature _____



REUSE INSPECTION FORM

Customer Address: _____ Inspection Date/Time: _____ Inspector: _____

The following items are inspected every seven years, and upon a change in customer, in properties with reuse connections, in conformance with the periodic inspection plan requirement in Rule 62-610.469(7)(h):

Item #	Description	YES	NO	NA
1	Advisory signs are placed in residential areas (beginning and end of area) advising residents that reuse water is in use and bearing the words "Do not drink" in English and Spanish along with the equivalent standard international symbol (Rule 62-610.469(7)(f)).			
2	All reuse water valves and outlets are appropriately tagged or labeled bearing the words "Do not drink" in English and Spanish along with the equivalent standard international symbol (Rule 62-610.469(7)(f)).			
3	All plastic reuse water piping, pipelines, valves, outlets and other appurtenances continuously/consistently color-coded Pantone Purple 522C, or otherwise marked (i.e. meter box) to differentiate reuse water from other water (Rule 62-610.469(7)(f)).			
4	Hose bibs or hand operated systems connected to the reuse system are visible from the street, locked and clearly labeled as per item #2 above.			
5	An approved backflow preventer is installed on the potable water service (Rule 62-555.360)			
6	The above backflow preventer, if testable, has been inspected and certified (with results on file with the City) within the past year			
7	The piping is free of cross-connection between the potable water system and reuse system as demonstrated by shutoff and testing of each system.			
8	Sprinklers are supplied only by reuse water, with no connections to the potable water system (Rule 62-610.476(2)(b)).			
9	The top of the reuse water line is installed at least 12 inches below the bottom of the potable water line (Rule 62-610.469(7)(c)).			
10	If the property borders or is otherwise in close proximity to a water body such as a canal or the intracoastal (Rule 62-610.517(1)(a)), the sprinklers are installed so as to prevent runoff into the water body			

Comments: _____

Inspector Signature _____ Date _____