OLIVEHURST PUBLIC UTILITY DISTRICT

RESOLUTION NO. 2229

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE OLIVEHURST PUBLIC UTILITY DISTRICT ESTABLISHING A CROSS CONNECTION CONTROL PROGRAM

WHEREAS, the Board of Directors of the Olivehurst Public Utility District deem it necessary to establish a Cross Connection Control Program for the purpose of protecting the District's potable water supply against actual or potential contamination through cross-connections or backflow and identifying unknown cross-connections.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Olivehurst Public Utility District, a Cross Connection Control Program is hereby established as provided in Exhibit A attached hereto.

PASSED AND ADOPTED THIS 21st DAY OF OCTOBER 2010.

OLIVEHURST PUBLIC UTILITY DISTRICT

Mike Morin
President, Board of Directors

ATTEST:

Cindy Lee
District Clerk & ex-officio Secretary

APPROVE AS TO FORM AND LEGAL SUFFICIENCY

Legal Counsel

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I hereby certify that the foregoing is a full, true, and correct copy of an Ordinance duly adopted and passed by the Board of Directors of the Olivehurst Public Utility District, Yuba County, California, at a meeting thereof held on the 21st day of October 2010, by the following vote:

AYES, AND IN FAVOR THEREOF:		DIRECTOR PATTY, KING, HOLLIS, DOUGHERTY, AND MORRISON.
NOES	:	NONE.
ABSTAIN	:	NONE.
ABSENT	:	NONE.

District Clerk and ex-officio Secretary

EXHIBIT A

CROSS-CONNECTION CONTROL PROGRAM

FOR

OLIVEHURST PUBLIC UTILITY DISTRICT

October 21, 2010

By

Affinity Engineering Inc.

CROSS-CONNECTION CONTROL PROGRAM

FOR

OLIVEHURST PUBLIC UTILITY DISTRICT

October 23, 2010

By

Affinity Engineering Inc.

Table of Contents

1.0 **Purpose**

This document presents the Cross-Connection Control Program implemented by Olivehurst Public Utility District (District). The program has the twofold purpose of protecting the District's potable water supply against actual or potential contamination through cross-connections or backflow and identifying unknown cross-connections.

2.0 **Scope**

The Cross-Connection Control Program is made up of the following elements to ensure compliance with the California Code of Regulations, Title 17, Public Health, Sections 7585 through 7605.

- Definition of related terms
- List of approved backflow prevention devices and their application
- Policies and Procedures for testing backflow prevention devices
- Requirements for new and existing services along with service termination requirements
- Recordkeeping of backflow prevention devices and their testing

3.0 **Administration and Authority**

The District's Cross-Connection Control Program is administered under the direction of the General Manager. This position has formal oversight of the program under the direction of the California Department of Health Services. This also includes the day-to-day management of the program. The County of Yuba Building Department and Fire Department will work with the District to ensure that appropriate external assemblies are installed on all new construction projects and tenant improvements.

The authority for the Cross-Connection Control Program is with the Federal Safe Drinking Water Act Amendments of 1996, the California Health and Safety Code, Section 116800, the California Code of Regulations, Title 17, Sections 7583 - 7605, and the District's Requirements.

4.0 **Responsibility**

Under the rules of Title 17 relating to cross-connection, the Director of Public Works has the responsibility to prevent water from unapproved sources or any other substances, from entering the District's water distribution system. The following is a breakdown of the responsibilities of the District and Customer:

<u>District Responsibilities:</u>

- Prevention of contamination and pollution of the Community's water system. Such responsibility begins at the point of origin being groundwater wells and includes adequate treatment facilities and water mains, and ends at the point of connection to the customer's water service.
- Ensure adequate backflow prevention devices are maintained on customer water lines, which pose a hazard, that are directly connected to the District's water distribution system.

Customer Responsibilities

- Any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair, or maintenance of, or interfering with, any approved backflow prevention assembly, required by this program, by any customer or any other person.

- All costs associated with the installation of pumps or renovation of existing customer piping, as a result of any decreases in line pressure attributed to the upgrading of existing backflow prevention assemblies or the installation of approved backflow prevention assemblies.

- Any losses or damages incurred as a result of upgrading existing backflow prevention assemblies or the installation of approved backflow prevention assemblies to meet this program.

- Prevention of contamination and pollution from the customer's onsite water lines and plumbing. This includes installing and maintaining private backflow prevention devices such as, but not limited to, air gaps on sinks and tubs, anti-siphons on hose bibs and vacuum breakers on irrigation control valves.

5.0 **Definitions**

The following definitions describe the terms and phrases that are pertinent to the District's Cross-Connection Control Program.

Air-Gap Separation (AG)

The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of said vessel. An approved air-gap shall be at least double the diameter of the supply pipe, measured vertically, above the top of the rim of the vessel, and in no case less than one inch.

Approved backflow prevention assemblies

Assemblies which have passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the California Department of Public Health

Approved water supply

A water source that has been approved by the California Department of Public Health for domestic use and designated as such in a domestic water supply permit

Auxiliary water supply

This is any water source that is either used, or equipped to be used, as a water supply and located on, or piped to, the premises of a water user. The term equipped means that appurtenances such as

inactive wells, pumps, power supply, intakes, suction lines, pipelines, connection fittings, or storage tanks are in place and readily available for use.

AWWA

American Water Works Association

Backflow

A flow condition caused by a differential in pressure that causes the flow of water or other liquid, gases, mixtures or substances to flow back into the water distribution system of a potable supply from any source or sources other than an approved water supply source. Back siphonage is one cause of backflow and is caused by negative or reduced pressure in the water distribution system. Back pressure is the other cause. Back pressure is defined as a higher pressure than the water distribution system, caused by a pump, elevated storage, fire suppression equipment, or any other means.

Certified Tester

This is a person who has proven their competency in testing, repair, and making test reports on approved backflow prevention assemblies to the satisfaction of the Director of Public Works. Individuals are typically certified through the American Backflow Prevention Association or California-Nevada Section of the American Water Works Association

- According to the regulations:

§7605. Testing and maintenance of backflow preventers

(b) Backflow preventers shall be tested by persons who have demonstrated their competency in testing of these devices to the water supplier or health agency.

District

Olivehurst Public Utility District

Contamination

This is the degradation of the quality of the potable water by any foreign substance which creates a hazard to the public health or which may impair the usefulness or quality of the water.

Cross-connection

This is a term as used in this document means any unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which backflow could occur shall be considered to be cross-connections.

Cross-Connection Control Program Specialist

A person certified as a Cross Connection Control Program Specialist by the California-Nevada Section of the American Water Works Association or an organization with equivalent certification requirements.

Critical Services

These are water services that cannot be shut off, even for a few moments, at any time.

Customer

For commercial and industrial services this is the owner or operator of a business. For residential, this is the owner of the residential property.

CDPH

California Department of Public Health

Degree of hazard

This is determined from an evaluation of conditions upon the customer's premises and classified as either a pollution (non-health) or contamination (health) hazard.

Double Check Valve Assembly (DC)

This is an assembly of two independently operating approved check valves with tightly closing shut-off valves on each side of the check valves, plus properly located test ports for the testing of each check valve. Double-check valve assemblies are used in the District prior to the current cross connection control plan. These assemblies have grandfather approval on fire services. The following is the online list of approved double check valve assembly devices by Sacramento County:

http://www.emd.saccounty.net/Documents/lists/WP_ApprovedReducedPressureDetectorAssemblyList.pdf

Double Check with Detector Check Valve Assembly (DCDA)

This is a double check valve assembly has a detector assembly added to it to monitor water use. This type of backflow prevention device is used on fire services.

Health hazard

This is an actual or potential threat of contamination of a physical or toxic nature to the District's water system.

Non-domestic irrigation

Use of the public water system for any irrigation other than domestic irrigation or any irrigation system into which fertilizers, herbicides, or pesticides are, or can be, injected.

Person

This is an individual, corporation, company, association, partnership, municipality, public utility, or other public body or institution.

Point of connection

This is the water service point of connection where the District's responsibility and liability stops. This is also known as the point where the District can no longer control the potability of the water.

Pollution

Impairment of water quality to a degree that does not create a hazard to the public health, but does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Potable water

This is any water which, according to the California Department of Public Health's regulations, is safe for human consumption.

Premises

Any and all areas on a customer's property which are served or have potential to be served by the District's water distribution system.

Public water system

This is a water distribution system that provides for the piping of water to the public for human consumption that has five or more service connections or regularly serves an average of 25 individuals daily at least 60 days out of the year.

Reclaimed water

The term "reclaimed water" means a wastewater which, as a result of treatment, is suitable for uses other than potable use.

Reduced Pressure Principle Assembly (RP)

This is an assembly of two independently operating approved check valves with an automatically operating differential relief valve between the two check valves, tightly closing shut-off valves on either side of the check valves, plus properly located test ports for the testing of the check and relief valves. The device shall operate to maintain the pressure in the zone between the two check valves at a pressure less than the pressure on the public water supply side of the device. At cessation of normal flow, the pressure between the two check valves shall be less than the pressure on the public water supply side of the device. In case of leakage of either of the check valves, the differential relief valve shall operate to maintain the reduced pressure in the zone between the check valves by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere.

The following is the online list of approved double check valve assembly devices by Sacramento County:

http://www.emd.saccounty.net/Documents/lists/WP_ApprovedReducedPressurePrincipleAssemblyList.pdf

Reduced Pressure Principle Detector Assembly (RPDA)

This is a reduced pressure principle assembly that has a detector assembly added to it to monitor water use. This type of backflow prevention device is used on fire services.

Service connection

Pipeline, angle meter stop, meter box, and meter used to extend water service from the District's water distribution main to the premises.

Title 17

State of California, California Code of Regulations, Title 17 - Public Health

USC Foundation

The University of Southern California Foundation for Cross-Connection Control and Hydraulic Research

Pressure Vacuum Breaker (PVB)

These devices are not an approved backflow prevention device by the District.

Water supplier

This is the entity that owns or operates the approved water supply system. As cited in this document shall mean Olivehurst Public Utility District.

Water user

This is any person obtaining water from the District's water distribution system and related appurtenances.

6.0 Implementation

The installation of approved backflow prevention assemblies on new or existing services shall be installed in accordance with Section 7603, Title 17, of the California Administrative Code of Regulations and District standard drawings and construction standards. All costs for the installation shall be by the customer. The following section describes requirements for approved backflow prevention devices on new and existing services.

6.1 Location of Backflow Prevention Assembly

The backflow prevention assembly shall be installed at the point of connection on each service line to a customer's water system, or as close as practical, but in all cases before the first branch line leading off the service line. The District shall have the final authority to determine the location of a backflow assembly. Point of connection is further defined as follows:

- Back of curb for all streets with planter strips
- Back of sidewalk for streets with sidewalk contiguous with curb and gutter
- Rights-of-way line on all alleys and unimproved streets

6.2 Backflow Prevention Assembly Freeze Protection

It is the responsibility of the property owner to install freeze protection. If the backflow prevention assembly cannot be inspected due to the presence of freeze protection material, the freeze protection may be removed. The District shall not be responsible for reinstallation of freeze protection.

The relief port at the bottom of the reduced pressure principle backflow assembly must not be covered over by freeze protection. All test ports must be easily accessible along with the serial number and model number. Freeze protection shall be maintained in a neat, aesthetically pleasing condition. Torn or dislodged freeze protection may be removed by the District.

6.3 Critical Services

In cases where water service cannot be shut off, even for a few moments, at any time, the District will recommend that two services be established to the premise. In such case, the same level of backflow protection will be required for each service. In cases where water system configuration facilitates only a single point of connection two backflow prevention assemblies shall be installed in parallel. This shall apply only to the domestic water service and shall not apply to the fire protection system point of connection.

6.4 New Services and Service Upgrades

Applications for new water service, or enlarging existing services, are processed at the District's office. The following Cross-Connection Control Program requirements will be enforced for all applications:

- Residential Water Service:
  Effective January 1, 2011, A Reduced Pressure Principle Assembly (RP) backflow prevention device will be required on all residential services unless the owner can provide documentation that shows to the District's satisfaction that there is no onsite hazard that would require a backflow device.
  - Residential Fire Service:
    Reduced Pressure Principle Detector Assembly (RPDA)
  - Commercial Water Service:
    Reduced Pressure Principle Assembly (RP)
  - Commercial Fire Service:
    Reduced Pressure Principle Detector Assembly (RPDA)
  - Irrigation (non-domestic):
    Reduced Pressure Principle Detector Assembly (RPDA)
  - Agricultural:
    Reduced Pressure Principle Detector Assembly (RPDA)

- Temporary Water Service / Hydrant Service:
  Reduced Pressure Principle Detector Assembly (RPDA)

Individual water meter protection is required on all services that require a backflow prevention device. In no case shall a cut, tee, or tap be made between the user's meter and the backflow prevention assembly.

6.5 Existing Services

For existing water services, the type of protection that shall be provided to prevent backflow into the District's water supply shall be commensurate with the actual or potential degree of hazard that exists on the customer's premises. An air gap provides the highest degree of protection. The RP is the minimum level of protection for all commercial domestic use services and residential services that require backflow prevention. The DCDA is the minimum level protection for grandfathered fire services and the RPDA is the minimum level of protection for fire services installed as of this program. This section covers the inspection of premises, hazard assessment, the grandfathering of DCDA devices on existing fire services and conditions for retrofitting devices on existing services.

1. Inspection of Premises

The customer's premises shall be open for inspection at all reasonable times to authorized representatives of the District to determine whether cross-connections or other sanitary hazards exist. When such a condition is identified, the Director of Public Works may deny or immediately discontinue water service to the customer's premises by providing for a physical breach in the water service line until the customer has corrected the condition(s) in conformance with Title 17, Uniform Plumbing Code and Yuba County Codes relating to plumbing and water supplies.

Each customer's premises requiring a backflow prevention assembly will be notified in writing. The customer will be informed of their responsibility to provide backflow protection and the type of backflow prevention assembly required in accordance with the District's Standards.

2. Hazard Assessment (Cross-Connection Survey)

At the request of the District, the Owner shall use a licensed, independent Cross Connection Control Specialist (approved by the District) to perform a cross connection survey of their property to identify locations where cross-connections are likely to occur locations. If a location with a water service is identified where an actual or potential cross-connection or backflow condition is likely to exist, then installation of an approved RP or RPDA will be required. The customer shall receive written notification which will prescribe a time period during which the customer must install the device or devices at their own expense. Failure, refusal, or inability on the part of the customer to install the device or devices within the prescribed time period shall result in the termination of water service to the premises. The water service shall remain terminated until the

device(s) are properly installed and tested. In the event that an existing backflow prevention assembly already installed does not comply with the current installation requirements or meet the appropriate level of protection as required by the program, then at the discretion of the General Manager, the installation of the assembly shall be changed at the customer's expense to an approved RP or RPDA. A written notification will be sent to the affected customer informing them of their responsibility to correct, install, or upgrade an existing backflow prevention assembly to resolve an actual or potential backflow or cross-connection condition. Failure, refusal, or inability on the part of the customer to install the device or devices within the prescribed time period shall result in the termination of water service to the premises. The water service shall remain terminated until the device(s) are properly installed and tested.

3. **Groundwater Wells - Domestic Auxiliary Supply**

For water service by the District, one of the following alternatives shall be implemented for customers with onsite groundwater wells:

- Install a RP backflow prevention assembly.
- Pull the pump and weld a watertight cap on top of the well casing.
- Abandon the well per Yuba County requirements

4. **Existing Grandfathered DCDA Fire Service Backflow Prevention Devices**

The District recognizes the economic cost of upgrading Double Check Detector Assembly Backflow Prevention Devices (DCDA) to Reduced Pressure Principle Detector Assembly Backflow Prevention Devices (RPDA) for fire service connections. The District will allow backflow prevention assemblies that were approved at the time they were installed but do not meet the current requirements of this Program. These devices will be allowed to remain in service provided they are:

- Maintained
- Commensurate with the degree of hazard
- Inspected and tested annually
- Performing satisfactorily
- Able to pass annual testing

If the customer's water use changes in a way that increases its hazard to the District's water system, the customer must replace the existing DCDA with an approved RPDA.

5. **Conditions Which Require Retrofitting of a RP Prevention Device**

A RP or RPDA backflow prevention device shall be retrofitted at the point of connection between the District's water service(s) and the Customer water line(s) wherever the following conditions exist:

- In the case of premises having an auxiliary water supply.
- Multiple water services providing water to a premises
- In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the District's water system.
- Process water and waters originating from the District's water system which have been subjected to deterioration in quality.
- Premises having (1) internal cross-connections that cannot be permanently corrected and controlled, (2) intricate plumbing and piping arrangements, or (3) where entry to all portions of the premises is not readily accessible for inspection purposes, making it impractical or impossible to ascertain whether or not cross-connections exist.

6.6 Water Service Termination

When the General Manager is notified of a water use that represents a clear and immediate hazard to the District's water supply that cannot be immediately abated, the Water Utility will institute the procedure for discontinuing water service to the premises.

1. Basis for Termination

Conditions or water uses that create a basis for water termination shall include, but are not limited to, the following items:

- Refusal to install a required approved backflow prevention assembly
- Refusal to allow access onto premise for inspection purposes
- Refusal to allow testing of an approved backflow prevention assembly
- Refusal to repair a faulty backflow prevention assembly
- Refusal to replace a faulty backflow prevention assembly
- Removing or bypassing of a required approved backflow preventer
- Direct or indirect connection between the District's water system and sewer line
- Unprotected direct or indirect connection between the District's water system and a system or equipment containing contaminants
- Unprotected direct or indirect connection with the District's water system which presents an immediate health hazard

2. Water Service Termination and Restoration Procedure

The District will terminate service to customer's premises after two written notices have been sent specifying the corrective action needed and the time period in which it must be completed. The first letter is an information letter which outlines the requirements and a specific period of time to respond. If no response is received in that specified time period, a second letter will be sent. The second letter contains much of the same information as the first letter plus the added statement that the customer's water service

will be terminated if no response is received after a specified period of time. For service termination, the District will take the following steps:

a. Make a reasonable effort to advise the customer of the intent to terminate water service.
b. Attempt to contact the responsible party listed on the account by telephone and follow-up door hanger giving ten days to comply before water service is terminated. Yuba County Department of Public Health will be notified of the situation.
c. Terminate water supply and lock service valve. The water service will remain inactive until corrective action is taken or a backflow prevention assembly is installed and operating correctly.
d. Exception to termination may be made for critical facilities such as child day care and hospitals at the discretion of the General Manager.

Any notices prescribed shall be deemed to have been given when personally delivered or when placed in the United States mail, postage fully prepaid, addressed to the owner of the premises or, if different, to the water user as shown from the records of the District.

Notwithstanding the above, when conditions create an immediate danger to the District's water supply, water service to the customer's premise(s) may be immediately terminated without notice. However, where practical, the customer or their agent shall be given oral notice of the danger and the water service shut off. The customer shall be entitled to an emergency meeting with the General Manager. Water service shall promptly be restored following an inspection that reveals that compliance has been attained.

6.7 Backflow Prevention Assembly Maintenance and Testing

As provided in the California Code of Regulations Title 17, Section 7583 - 7605 requires backflow prevention devices to be tested at least annually and immediately after installation, relocation, or repair by the District. All backflow protection assemblies shall be tested in accordance with the procedures outlined in Section 9 of the University of Southern California Manual of Cross-Connection Control, Ninth Edition. No assembly shall be placed back in service unless it is functioning as required. A report form will be supplied to the Customer by the District each time an assembly is tested. These assemblies shall be serviced, overhauled, or replaced at the customer's expense whenever they are found to be defective. The General Manager may require more frequent testing if it is determined to be necessary. If additional testing is required due to the device failing the first test, the District will charge the customer for the additional testing.

A list of backflow prevention devices currently installed within the District with their last test date and test outcome is included as Appendix A. The list shall be continuously updated to reflect number and description of each approved backflow prevention device along with the date last tested and if it passed its last test.

The District shall be responsible for administering the testing of backflow prevention devices within the water distribution system using a person that has demonstrated their competency in

the testing of these devices. Competency is demonstrated by the possession of a valid tester certification as defined in Section 6.23. Each customer with backflow devices on their premises will be notified by mail when the annual testing of an assembly is scheduled.

1. **Tester Competency Requirements**

   The District's testers shall be responsible for the competency and accuracy of all tests and reports. Their Minimum Competency Requirements are as follows or as required by the General Manager:

   - Hold a valid general tester's certification from the American Water Works Association California-Nevada Section, the American Backflow Prevention Association, or an organization with equivalent certification requirements.
   - Each tester must use the testing procedures outlined in the Manual of Cross-Connection, 9th edition, University of Southern California - Foundation for Cross-Connection Control and Hydraulic Research, Chapter 9
   - Each tester shall have available the necessary tools and equipment to properly test backflow devices.
   - Each tester must be familiar with the District Cross Connection Control Program processes and procedures

7.0 Recordkeeping

7.1 Backflow Prevention Device Records

Records of assembly type, size, manufacturer, installation date, location, account number, customer of record, and repair history shall be continuously maintained electronically.

7.2 Testing Records

Test results on all assemblies shall be kept both electronically and in hard copy form.

7.3 Life of Records

Assembly records shall be kept for the life of the assembly. Hardcopies of the test results shall be kept for the mandatory three (3) years (as per Title 17), plus 2 years per District policy for a total of 5 years. Electronic copies of all records shall be kept indefinitely.