

LEE COUNTY ORDINANCE NO. 95-21

AN ORDINANCE OF LEE COUNTY RELATING TO A POTABLE WATER CROSS-CONNECTION CONTROL PROGRAM, PROVIDING FOR PURPOSE, PROVIDING FOR DEFINITIONS, PROVIDING FOR RESPONSIBILITIES, PROVIDING FOR AFFECTED AREA; PROVIDING FOR ENFORCEMENT AND PENALTIES, PROVIDING FOR STANDARDS, PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Board of County Commissioners is the governing body in and for Lee County, a political subdivision of the State of Florida, and,

WHEREAS, as part of its authority pursuant to Section 125 01, Florida Statutes, for potable water service delivery, the County owns a potable water system, and,

WHEREAS, in order to provide necessary protection for the County's potable water supply, certain Cross-Connection Control requirements must be implemented to protect the public's health, safety and welfare, and,

WHEREAS, it serves a public purpose, and is to the public's benefit to adopt a Cross-Connection Control Program for the County's potable water system,

NOW THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF LEE COUNTY, that.

SECTION ONE: **PURPOSES**

The purposes of this Ordinance are to:

- 1 Provide legal authority to implement certain standards for the protection of the public water supply,
- 2 provide means for isolating and containing actual or potential

contaminants which may affect the public water supply by backflow through cross-connection,

- 3. provide means for eliminating or regulating cross-connections in a customer's water system, and
- 4. provide a continuous program of cross-connection control and regulation which will systematically prevent contamination of the public potable water system.

SECTION TWO: AFFECTED AREA

This Ordinance shall apply to all customers of the Lee County Utilities Water System

SECTION THREE: DEFINITIONS

The following words, terms and phrases, when used in this Ordinance, shall have the meanings defined herein, except where the context clearly indicates a different meaning.

Back Pressure means a pressure higher than the supply pressure caused by a pump, multi-storied building, or other means which may cause backflow

Back Siphonage means a form of backflow due to a negative or subatmospheric pressure within a water system

Backflow means the flow of water or other liquids, mixtures or substances into the distribution pipes of a potable supply of water from any source other than its intended source

Backflow Prevention Device means a device or means to prevent backflow as described in the current Department of Lee County Utilities Operations Manual Backflow Prevention Device Standards

Cross-Connection means a connection or potential connection between any part of a potable water system and any other water supply systems, sewer drain, conduit, pool, storage reservoir, plumbing fixture or other device which contains or may contain contaminated or polluted water, sewage or liquid of unknown or unsafe quality capable of backflowing into the public water system Bypass arrangements, jumper connections, swivel or changeable devices, hoses and other temporary or permanent devices through which or because of which backflow or backsiphonage could occur.

Cross-Connection Control means the enforcement of an Ordinance or other legal statement regulating cross-connection

Customer means any person, firm or corporation, or government entity, using or receiving water from the Lee County Utilities potable water system

Hazard, Degree of means derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the public water system

Service Connection means the terminal end of service from the public potable water system at the meter installation, which shall include the backflow prevention device when such device is installed adjacent to the water meter That is, it is that point where the water purveyor loses jurisdiction and sanitary control over the water at its delivery to the consumer.

Water, nonpotable means water which is not safe for human

consumption, or which is of questionable potability.

Water, potable means water from any source which has been checked by the health department, and approved for human consumption

Water Purveyor means the owner or operator of a public, potable water system. As used herein, the water purveyor shall be the Department of Lee County Utilities (DLCU), Lee County Utilities, or L C U

SECTION FOUR: RESPONSIBILITIES OF LEE COUNTY UTILITIES

It is the primary responsibility of the water purveyor to evaluate the hazards inherent in supplying a consumer's water system, i.e., to determine whether solid, liquid or gaseous pollutants or contaminants are or may be handled on the customer's premises in such a manner as to possibly permit contamination of the public water system. When a hazard or potential hazard to the public water system is found on the customer's premises, the customer shall be required to install an approved backflow prevention device at each public water service connection to the premises in accordance with this Ordinance's requirements. The type of device shall depend on the degree of hazard involved.

Lee County Utilities will manage and maintain an active and continuous Cross-Connection Control Program, and in furtherance of which, Lee County Utilities is hereby authorized to

1. Inspect and evaluate plans and site conditions for new water service installations, in order to determine the degree of hazard

and type of backflow prevention device assembly required

- 2 Survey and evaluate premises with water service installations existing prior to the effective date of this Ordinance, to determine if actual or potential cross-connections exist and to inform the customer of corrective action, degree of hazard, and proper protective device required
- 3 Ensure proper compliance with Lee County Utilities Cross-Connection Control Policy, standards and procedures concerning
 - A Use of Approved Backflow Prevention Device Assemblies
 - B Installation Specifications
 - C Testing and Reporting
 - D Maintenance and Repair
 - E Inspections
 - F Penalties
- 4 Discontinue potable water service to any property, after notification wherein any connection in violation of Lee County Utilities Cross-Connection Control Ordinance and Policy exists, and to take such other precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water system. ~~Water service to such property will not be restored until the cross-~~ connection has been eliminated and an D L C U approved backflow prevention device has been installed or installation has

been scheduled with D L C.U approval

- 5 Inspect properties served by the public potable water supply where cross-connection with the public potable water supply is deemed possible

Lee County Utilities will not allow any known cross-connection to remain unless it is protected by an approved backflow prevention device which shall be inspected and tested at least once each year

SECTION FIVE RESPONSIBILITIES OF CUSTOMERS

The customer's responsibility begins at the service connection with the public potable water system and includes all of the customer's private water system. The customer shall protect the private water system against actual or potential cross-connection or backflow as required by the Lee County Utilities Cross-Connection Control Policy, the Standard Plumbing Code and all other applicable state or federal regulations

Upon written notification by Lee County Utilities, all new and existing customers shall have a Lee County Utilities approved backflow prevention device installed to serve their premises as provided in this Ordinance. The customer shall provide for routine testing of backflow prevention devices, maintain accurate records of tests and repairs made to the devices, and provide Lee County Utilities with copies of such records. ~~The records shall be on forms provided by Lee County Utilities.~~ All costs incurred for device purchases, installations, maintenance, testing and repairs are to be paid by the customer.

Customers who cannot shut down operation for testing and repair of a backflow prevention device will install parallel devices to allow testing and repairs to take place. The customer shall not have a bypass around any backflow prevention device unless there is a backflow prevention device of the same type on the bypass. The customer is responsible for insuring the proper device size and in determining the need for parallel devices.

It shall be the responsibility of the customer to provide thermal expansion protection for the water supply system on the downstream end of the water meter. The customer will install adequate thermal expansion devices so as to prevent possible excessive pressure increases within water heaters.

The customer shall inform Lee County Utilities of any proposed piping modifications that could cause cross-connections and any existing cross-connections of which Lee County Utilities is not aware.

During inspections, the customer shall inform Lee County Utilities of any auxiliary water supplies on premises (e.g., well water, reclaimed water, or other cross-connections).

In the event of accidental pollution or contamination of the public's or customer's potable water system due to backflow on or from the customer's premises, the customer shall promptly take all reasonable steps necessary to correct and confine further spread of the pollution or contamination, and shall immediately notify Lee County Utilities.

SECTION SIX**ENFORCEMENT**

(A) In emergency situations when the public potable water supply is being contaminated or is in imminent danger of contamination, water service will be immediately discontinued by the water purveyor.

(B) No water service connection shall be installed on the premises of any customer unless the public potable water system is protected as required by this Ordinance

(C) Delivery of water to the premises of any customer may be discontinued by the water purveyor if any protective device required by this division has not been installed, or is defective, or has been removed or bypassed. Discontinued water service shall not be resumed until conditions at the customer's premises have been abated or corrected to the satisfaction of the water purveyor

(D) Upon discovery of a violation which does not present an imminent hazard to the public potable water system, written notice shall be given to the customer. The notice shall be given by delivering such notice to the premises and mailing a copy thereof to the billing address as it appears on the water purveyor's billing records. The notice shall state

- 1) Date and time violation was noted
- 2) The condition or defect which must be corrected
- 3) The manner in which the stated conditions are to be corrected
- 4) Recommended date for reinspection.
- 5) The date on or after which delivery of water will be discontinued,

which shall not be less than fifteen (15) days nor more than forty-five (45) days following the date of delivery or mailing of the notice

The water purveyor may grant the customer an extension of an additional period not to exceed thirty (30) days if the water purveyor determines that the customer, for justifiable reasons, has been unable to comply with the notice within the time originally allowed.

(E) For the purpose of making any inspections or discharging the duties imposed by this Ordinance, the water purveyor shall have the right to reasonably enter upon the premises of any customer. Each customer, as a condition of the continued delivery to his premises of potable water from the public water supply, shall be considered as giving his consent to such entry upon his premises by the water purveyor for the purposes as stated in this Ordinance.

Any person violating or failing to comply with the provisions of this Ordinance shall be deemed guilty of a misdemeanor of the second degree and shall be punishable as provided for by law. For the purpose of this section, each day that a violation of said provisions is permitted to exist shall constitute a separate offense.

Any person violating any provision of the Ordinance shall become liable to Lee County for all expense, loss or damage suffered by Lee County by reason of such violation(s).

SECTION SEVEN**PETITION TO BOARD OF COUNTY COMMISSIONERS**

Any owner of affected real property as the result of an administrative decision or determination by Lee County Utilities, may petition the Board of County Commissioners to correct any asserted error or omission in relation to its property in the application of the Cross-Connection Control Program or in the implementation of this Ordinance, within thirty (30) days from the date the asserted error took place. Such petition shall be initiated by the owner by filing with the Board or its designee, a writing containing the name of the owner, a legal description of the real property affected, a summary description of the asserted error or omission and the relief requested from the Board. Such petition shall be considered subsequently by the Board at any regular or special meeting.

SECTION EIGHT**ACCEPTABLE PLUMBING STANDARDS**

The acceptable plumbing practices for purposes of implementation and enforcement of this Ordinance are set forth in 1. The Standard Plumbing Code as adopted by the Lee County Land Development Code, Chapter 6, Article II, Division 4, "Plumbing Code" and 2. Lee County Utilities Operations Manual, Section 5.6, "Cross-Connection Control Policy", and Section 9, "Standard Drawings", both of which are incorporated herein, in their entirety, as if set out at length, and as both may be amended from time to time.

SECTION NINE **SEVERABILITY**

The provisions of this Ordinance are severable, and it is the intention to confer to the whole or any part of this Ordinance, the powers herein provided for. If any of the provisions of this Ordinance shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the other remaining provisions of this Ordinance. It is hereby declared to be the legislative intent that this Ordinance would have been adopted had such an unconstitutional provision not been included therein

SECTION TEN **REPEAL OF INCONSISTENT ORDINANCES**

Upon adoption of this Ordinance, all ordinance provisions concerning the same issues and matters as outlined herein, are hereby repealed to the extent that the terms therein are inconsistent with this Ordinance

SECTION ELEVEN **SUPPLEMENTAL AUTHORITY**

Except as expressly provided for in Section Nine above, this Ordinance shall be construed as providing alternative or supplemental authority to the County for the exercise of all powers granted and provided for herein, and shall be interpreted in conjunction with all federal regulations and Florida Statutes

SECTION TWELVE **EFFECTIVE DATE**

This Ordinance shall become effective upon receipt of official notice from the

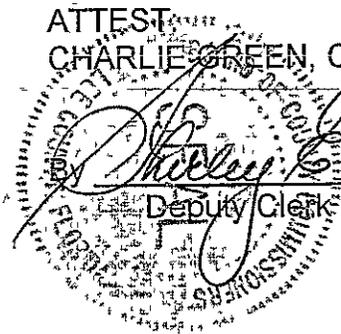
Secretary of State of the State of Florida that this Ordinance has been duly filed with that office.

The foregoing Ordinance was offered by Commissioner Judah, who moved its adoption. The motion was seconded by Commissioner St. Cerny and being put to a vote, the vote was as follows

JOHN MANNING	<u>ABSENT</u>
DOUGLAS ST. CERNY	<u>AYE</u>
RAY JUDAH	<u>AYE</u>
ANDREW COY	<u>AYE</u>
JOHN ALBION	<u>AYE</u>

DULY PASSED AND ADOPTED this 18th day of October, 1995

ATTEST
CHARLIE GREEN, CLERK



Charlie Green
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

By *John E. Albion*
Chairman

APPROVED AS TO FORM.

By *[Signature]*
Office of County Attorney

THE DEPARTMENT OF LEE COUNTY UTILITIES

(OPERATION'S MANUAL INSERTS)

SECTION 5

WATER SYSTEMS

EXHIBIT A

A. Goal

The purpose of the Lee County Utilities Cross Connection Control Policy is to prevent contaminants and pollutants from entering the water distribution system. The program is intended to prevent water that has passed beyond the public water system and into private systems of customers, from re-entering the public distribution system and being subsequently delivered to other customers. The program aim is to protect Lee County Utilities (L.C.U.) and its customers from contaminants which could harm the quality and safety of the community water supply through backflow and/or cross connection.

In order to have an effective Cross Connection Control Policy, input and cooperation must be available between the Department of Lee County Utilities and the customer, but must also include the Division of Codes and Building Services' plumbing official, who has primary responsibility over the customer's water system including new construction, alterations and repairs. The Public Health Officer (HRS Lee County Public Health Unit) has the responsibility of insuring that the water purveyor operates the public potable water system free of actual or potential sanitary hazards, including unprotected cross connections.

B. Definitions**1. Air Gap (AG)**

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 a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel - with a minimum distance of one (1) inch.

2. Auxiliary Water Supply

Any water supply on or available to the premises other than the purveyor's public water supply. Auxiliary water is divided into 2 Categories:

- a. Health Hazard - Pond, Canal, River, and Well Water or Industrial Fluid that may be contaminated and is not tested.
- b. Non-Health Hazard - Water supplied by other water purveyors over which L.C.U. has no sanitary control and re-use water that is under Public Health Dept. control.

3. Atmospheric Vacuum Breaker (AVB)

Consists of a float check, a check seat, and an inlet port, which prevents backsiphonage by creating an atmospheric vent when there is a negative pressure in the water system.

4. Back Pressure

Means a pressure higher than the supply pressure caused by a pump, multi-storied building, or other means which may cause backflow.

5. Back Siphonage

Means a form of backflow due to a negative or subatmospheric pressure within a water system.

6. Backflow

Means the flow of water or other liquids, mixures or substanscs into the distribution pipes of a potable supply of water form a source other than its intended source.

7. Backflow Prevention Device

Means a device or means to prevent backflow as described in the current Department of Lee County Utilities Operations Manual Backflow Prevention Device Standards.

8. Certified Tester

A Backflow Prevention Device Technician having completed an L.C.U. approved training and certification program for the testing and repair of backflow prevention devices.

9. Cross-Connection

Means a connection or potential connection between any part of a potable water system and any other water supply systems, sewer drain, conduit, pool, storage reservoir, plumbing fixture or other device which contains or may contain contaminated or polluted water, sewage or liquid of unknown or unsafe quality capable of backflowing into the public water system. Bypass arrangements, jumper connections, swivel or changeable devices, hoses and other temporary or permanent devices through which or because of which backflow or backsiphonage could occur.

10. Cross Connection Control

Means the enforcement of an Ordinance or other legal statement regulating cross-connections.

11. Customer

Means any person, firm or corporation, or government entity, using or receiving water from the Lee County Utilities potable water system.

12. Double Detector Check Valve (DDCV)

A double check valve in an unmetered main supply line, usually a fireline, with a smaller parallel flow detection line consisting of a meter and a double check having less pressure drop than the main device.

13. Double Check Valve Assembly (DCVA)

A DCVA consists of two internally loaded check valves, either spring loaded or weighted, installed as a unit between two resilient-seated shut off valves with properly located resilient-seated test cocks. This assembly shall only be used to protect against a non-health type hazard.

14. Dual Check Valve (DCV)

A backflow prevention device containing two check valves that are removable for maintenance and cleaning. Used for low hazard residential protection.

15. Hazard, Degree of

Means derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the public water system.

16. Health Hazard

A cross connection or potential cross connection involving any substance that could, if introduced in the potable water supply, cause death, illness, spread disease or have probability of causing such effects. A contaminate.

17. Hose Bib Vacuum Breaker (HBVB)

Small devices used on hose faucets and sink outlets. Consists of a spring loaded check valve that allows the device to vent to atmosphere when water is turned off.

18. Non-health Hazard

A cross connection or potential cross connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable, if introduced into the public water system. A pollutant.

19. Plumbing Official

Lee County Division of Codes and Building Services Code Enforcement Official.

20. Pressure Vacuum Breaker (PVB)

A PVB assembly consists of an independently operating internally loaded check valve, an air inlet valve located on the discharge side of the check valve, with resilient-seated test cocks and resilient-seated shut off valves at each end of the assembly designed to prevent backsiphonage. The PVB may not be subjected to back pressure.

21. Reduced Pressure Principle Assembly (RP)

The RP assembly consists of two independently acting check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and below the first check valve. These units are located between two resilient-seated shut off valves and are equipped with properly located resilient-seated test cocks. Assembly is to be used for High Hazard Protection.

22. Service Connection

Means the terminal end of service from the public potable water at the meter installation, which shall include the backflow prevention device when such device is installed adjacent to the water meter. That is, it is that point where the water purveyor loses jurisdiction and sanitary control over the water at its delivery to the consumer.

23. Water, nonpotable

Means water which is not safe for human consumption, or which is of questionable potability.

24. Water, potable

Means water from any source which has been checked by the health department, and approved for human consumption.

25. Water Purveyor

Means the owner or operator of a public, potable water system. As used herein, the water purveyor shall be the Department of Lee County Utilities (DLCU), Lee County Utilities, or L.C.U.

C. Inspections and Installations

1. General

Due to changes in equipment, methods of manufacturing and additions to plants, buildings, etc., water usage requirements undergo continual change. As a result, new cross connections may be installed and existing protection may be bypassed, removed or otherwise made ineffective. Inspection and/or re-evaluation by L.C.U. of the cross connection hazard and the backflow prevention device effectiveness will be required as deemed necessary by L.C.U.

L.C.U. will utilize the standards established in the American Water Works Association (AWWA) M-14 Manual in determining the types of facilities requiring backflow prevention and the type of device needed at each facility to protect the L.C.U. water distribution system.

L.C.U. reserves the right to make unannounced visits to some premises when conducting cross connection surveys where:

- a. It is felt that advanced notice of the visit would likely result in an unrealistic representation of typical water use practices.
- b. Visits will not be disruptive such as in a small establishment.
- c. No difficulty is expected in locating the occupant or a knowledgeable representative.

Single family residential customers are to be excluded from the requirement to install backflow prevention devices unless their property is served by an auxiliary water supply or unless a cross-connection or potential for a cross-connection is found on a customer's private water system. This does not limit the authority of L.C.U. to inspect single family residential properties for the purpose of protection the public water system.

2. Inspections for New Construction

New construction plans are to have a plan review followed by site inspections by the Plumbing Official to ensure conformance with the Standard Plumbing Codes.

During the pre-construction plan review meeting the Department of Lee County Utilities Engineering Department will detail the customer's responsibilities concerning the requirements for backflow prevention device installation. Plan review and site inspections will be performed when deemed necessary by L.C.U. to ensure Cross Connection Control Policy compliance.

3. Inspections for New Accounts on Existing Facilities

Upon application for water service, Lee County Utilities will initiate a site survey to determine degree of hazard and customer requirements for Lee County Utilities Cross Connection Control Policy compliance. This survey need not be a detailed inspection of the location or disposition of the water lines, but can be confined to establishing the water uses on the premises, the existence of cross connections, and the availability of auxiliary supplies. Should any devices or plumbing changes be required, a follow up inspection will be made of the same facilities at a later date.

Results of the Cross Connection Survey, summarizing the findings, will be made available to the customer. Actual or potential cross connections found will be described along with the backflow prevention device required by L.C.U. The customer will be given a time limit for making the needed corrections. ~~Time for making the corrections may~~ vary depending on the severity of the cross connections involved and the difficulty in correcting the problems.

4. Retrofitting Facilities of Existing Customers

It is the intent of the Lee County Utilities retrofitting program to have backflow prevention protection on all existing water services that, in the opinion of L.C.U., possess a potential backflow hazard.

Lee County Utilities will conduct a system wide survey of its customers in an effort to identify those facilities that present the highest hazard. A prioritized list of customers will be established based of degree of hazard ranging from high to low.

A customer having an auxiliary water supply or other potential health hazard at their facilities will require a backflow prevention device as determined by L.C.U. The customer shall be required to purchase, install, test, and maintain these devices in accordance with L.C.U. standards.

When it has been determined by L.C.U. that a backflow prevention device is necessary due to a hazard or potential hazard to the public water supply, the customer will be notified as to the type of assembly required to meet L.C.U. standards. After notification by L.C.U., either by verified personal contact or certified mail, the customer shall have a L.C.U. approved backflow prevention device installed. The customer shall have one (1) year from the date of notification to comply.

It is the intent of L.C.U. to have an ongoing site inspection and retrofitting program for all facilities requiring backflow prevention with full implementation of the Cross Connection Control Program for existing high hazard facilities within six (6) years of the L.C.U. Cross Connection Control Ordinance approval date.

Any existing backflow prevention device that has been properly installed and functioning will be allowed to continue in service unless the degree of hazard is such as to supersede its effectiveness or results in an unreasonable risk to public health, as determined by L.C.U. In such a case the customer must replace or upgrade the device to current L.C.U. standards. Acceptable devices may remain in service when L.C.U. testing and maintenance requirements are met.

L.C.U. is to provide a shared cost for the installation of a backflow prevention device on an existing water service.

Upon completion of the installation and testing of a backflow prevention device in a manner and time frame approved by L.C.U. on an existing water service, L.C.U. will rebate to the customer up to 1/2 of the cost associated with retrofitting the water service for a single backflow prevention device.

L.C.U. CUSTOMER REBATE SCHEDULE BY BACKFLOW PREVENTION DEVICE SIZE FOR EXISTING CUSTOMERS

Device Size	Maximum Rebate
3/4"	\$188.00
1"	\$218.00
1 1/2"	\$476.00
2"	\$555.00
3"	\$2,058.00
4"	\$2,324.00
6"	\$3,367.00
8"	\$4,541.00

D. Testing of Backflow Prevention Devices

1. General

- a. As part of a complete cross connection control program, it shall be the duty of the customer at any premises where Reduced Pressure backflow assemblies (RP), Double Check Valve assemblies (DCVA), Double Detector Check Valve assemblies (DDCV) and Pressure Vacuum Breakers (PVB) are installed to have thorough inspections and operational tests made at least once a year or more often, where deemed necessary by L.C.U. These inspections and tests shall be at the expense of the customer and be performed by a L.C.U. approved certified backflow prevention device technician using proper field test procedures with calibrated test equipment. - All devices failing to meet the latest performance standards set forth by the American Water Works Association (ANSI/AWWA-C510-92 & C511-92), and the American Society of Sanitary Engineers (ASSE-1013, 1015 & 1020) or the Foundation for Cross Connection Control & Hydraulic Research at the University of Southern California, shall be repaired and retested within 30 days of the last test. Devices which are found to have a history of not meeting these performance standards shall be placed on a semi-annual or quarterly testing schedule. Devices repeatedly found not to meet these standards shall be replaced with new devices at the expense of the customer.

If routine testing indicates wear or other malfunction, the device shall be overhauled. Such an overhaul should consist of the replacement of all seats, diaphragms, gaskets which are subject to wear, and any other parts found to be worn or otherwise in questionable condition.

Any maintenance or repair as a result of testing shall be made at the expense of the customer and shall be performed by a L.C.U. approved certified backflow prevention technician.

- b. Any customers that require an uninterrupted supply of water, L.C.U. will require the installation of parallel backflow prevention assemblies of equal type to allow for testing, maintenance and repair.

During normal flow conditions both assemblies will remain open. During testing, one device is left open while the other is tested. Sizing of parallel assemblies will be governed by customer need. Usually the two parallel assemblies are one size smaller than the service size (e.g. two 3" devices on a 4" service line).

L.C.U. will not allow an unprotected bypass around a backflow prevention device when the device is in need of testing, repair or replacement.

2. Field test procedures

- a. The customer will coordinate with a L.C.U. approved certified tester for a mutually agreeable time for the water service to be shut off during testing. Special arrangements may have to be made so that interruption of service will not create a hardship.
- b. Properly identify the backflow prevention device to be tested by checking ID tag for manufacturer, model and serial number. Inspect the device assembly for the required components:
 - (1) Approved device
 - (2) Approved shut off valves
 - (3) Properly placed test cocks
 - (4) Approved piping of assembly.
- c. The field test will be made using test equipment and test procedures conforming to those outlined in the "Manual of Cross Connection Control" published by the Foundation for Cross Connection Control and Hydraulic Research - University of Southern California. All test data shall be recorded on the proper Lee County Utilities forms with copies forwarded to D.L.C.U.

3. Frequency of testing

- a. It is essential that continuous pressure type backflow prevention devices (RP, DCVA, DDCV & PVB) be tested on a regular basis by a competent tester if these devices are to be relied upon. Testing and/or proper maintenance must be utilized:

- (1) Immediately following installation.
 - (2) At least annually, and more frequently where deemed necessary by L.C.U.
 - (3) Anytime devices have been disassembled for cleaning and repairs.
 - (4) Where there is indication that the device is not functioning properly. (relief valve discharging, leaking, or any suspected damage to internal or external parts).
- b. Lee County Utilities will notify the customer when tests are required and shall supply the necessary test forms. Forms can be obtained from Lee County Utilities Engineering. Forms shall be completed and returned to Lee County Utilities by the date indicated.

4. Approved Certified testers

Certified Backflow Prevention Device Testers must present documentation of training and submit a completed L.C.U. Backflow Prevention Device Tester registration form to L.C.U. Testers approved by Lee County Utilities shall have demonstrated competency in testing and repair of all approved backflow prevention devices to Lee County Utilities satisfaction. Testers shall be knowledgeable of laws, rules and regulations applicable to backflow prevention devices, and have successfully completed the University of Florida Center for Training, Research and Education for Environmental Occupations (TREEO), Florida Water and Pollution Control Operators Association (FWPCOA), or other certification programs approved by Lee County Utilities.

A list of Lee County Utilities approved certified backflow prevention device testers will be supplied to customers upon request.

L.C.U. reserves the right to test any backflow prevention device at anytime as a quality control measure. Testers are required to perform accurate testing and reporting and proper repair procedures. Testers will be removed from the list of L.C.U. approved Backflow Prevention Device testers for failure to perform in accordance with L.C.U. standards or if the Backflow Prevention Device Technician Certification expires.

E. Non-compliance

In the event that the customer does not abide by the standards set forth in the Lee County Utilities Cross Connection Control Policy the water purveyor reserves the right to discontinue water service immediately.

Upon written notification from L.C.U. the customer shall act to install or repair, and/or test the backflow prevention device within the time frame set by L.C.U. Any customer water service not in compliance with the Cross Connection Control Policy at the end of the period allotted by L.C.U. can be terminated immediately. Service will be restored when L.C.U. standards are met.

F. Installers

The backflow prevention device installer's responsibility is to assure proper installation of approved devices in accordance with the manufacturer's installation instructions and those provided by the Lee County Utilities Cross Connection Control Policy. The installer is also responsible for making sure the device is working properly when it is installed. All Reduced Pressure Principle Assemblies, Double Check Valve Assemblies, and Pressure Vacuum Breaker Assemblies shall be tested following installation by a Certified Backflow Backflow Prevention Device Tester approved by L.C.U. The following data shall be supplied by the customer to L.C.U. immediately after installation:

1. Service address where device is located
2. Owner
3. Description of device's location
4. Date of installation
5. Type of device and size
6. Make, Model and serial number of device
7. Test results.

All backflow prevention device installations are to be performed in accordance with Lee County Plumbing Code criteria.

Lee County Utilities may independently inspect and test any new installation at their discretion.

G. Backflow Prevention Device Standards

All backflow prevention devices, as described in "B. Definitions", approved for use by L.C.U. shall be in compliance with the standards set forth by one or more of the following agencies. L.C.U. reserves the right to state which standards apply -if and when a conflict between standards exist.

AWWA - American Water Works Association

ANSI - American National Standards Institute

ASSE - American Society of Sanitary Engineers

FCCC&HR - Foundation of Cross Connection Control and
Hydraulic Research - University of
Southern California

Lee County Utilities will maintain a-list of approved device manufacturers for use in the Lee County Utilities potable water system.

Device specifications:

1. Air Gap (**AG**)

ANSI standard # A112.1.2

Good for toxic and non-toxic substances.
Good for backpressure and backsiphonage.

Air Gap must have a minimum separation of two times the inside diameter of the water supply outlet and the flood rim level of the basin or receptacle. An Air Gap shall not be less than 1 inch.

2. Reduced Pressure Principle Assembly (**RP**)

ANSI/AWWA standard # **C511-92**

ASSE standard # 1013

FCCC&HR standards

Good for toxic and non-toxic substances.
Good against backpressure and backsiphonage.

Installed a minimum of **18"** above ground or flood level, to maximum of **30"**.
Must be tested annually.

3. Double Check Valve Assembly (DCVA)
ANSI/AWWA standard # C510-92
ASSE standard # 1015
FCCC&HR standards
Good for non-toxic substances only.
Good for backpressure and backsiponage.
Installed a minimum of 12" above ground or flood level, to a maximum of 30". Must be tested annually.
4. Double Detector Check Valve Assembly (DDCV)
ANSI/AWWA standard # C510-92
ASSE standard # 1015
FCCC&HR standards
Used in unmetered fire line applications to detect low flow.
Good for non-toxic substances only.
Good for backpressure and backsiponage.
Installed a minimum of 12" above ground or flood level, to a maximum of 30".
Must be tested annually.
5. Pressure Vacuum Breaker (PVB)
ASSE standard # 1020
FCCC&HR standards
Good for toxic and non-toxic substances.
Good for backsiponage only.
Can be installed under continuous pressure (control valves downstream).
Base of the device must be installed a minimum of 12" above the highest outlet.
Must be tested annually.
6. Dual Check Valve (DCV)
ASSE stand-024
For low hazard residential applications

7. Atmospheric Vacuum Breaker (AVB)

ASSE standard # 1001

FCCC&HR standards

Good for toxic and non-toxic substances

Good for backsiponage only

No control valves downstream of device - cannot remain under continuous- pressure, no more than 12 hours service per day

Base of device must be installed a minimum of 6" above highest outlet

8. Hose Bib Vacuum Breaker (HBVB)

ASSE standard # 1011

Good for backsiponage oniy

To & installed on hose threaded faucets -

Not to be subjected to continuous pressure, no more then 12 hours service per day

H. Typical Facilities Requiring Backflow Prevention Devices and Type of Devices Required

1. **Facilities** having the **potential** to contain cross connections which would: under adverse conditions, constitute a serious potential **health hazard to the public** water system that shall require **Reduced Pressure Assemblies (RP)** protection:

Hospitals

Medical Clinics

Veterinarians

Morgues

Film Processing Labs

Chemical **or Biological** Testing Labs

Manufacturing Plants (using toxic substances)

Auto & Truck Service Stations

Car Washes

Pest Control Companies

Dry Cleaners & Laundries

Beauty **Salons**

Super Markets

Strip Malls

Food Processing and Preparation Facilities

Irrigation Systems (using a health hazard auxiliary water supply)

Multi-story Buildings

2. Facilities having a potential of moderate health hazard or low health hazard situations shall require either RP or DCVA protection, as determined by site survey:

Pools & Clubhouses

Large Church Facilities

Lumber Yards

Convenient Stores (not selling gas)

Hardware Stores

Barber Shops

Health Clubs

Department Stores

Motels

Auto Parts Stores

Beverage & Liquor Stores

Used Car Lots

3. Facilities having non-health hazard or nuisance potential requiring DCVA protection:

Banks

Office Buildings

Small Churches

Small Retail Outlets

4. PVB assemblies shall be used typically on irrigation systems not utilizing an auxiliary water supply and not having elevated sprinkler heads.
5. Dual Check Valves (DCV) shall be utilized at the service connections of private residences that pose a low potential health hazard.
6. Use of AVB and HBVB devices will be restricted to use on internal plumbing (lab sinks, garbage can washers, and hose bibs etc.). AVB's are not to be used for containment at the service connection.

I. Tank Trucks

Temporary cross connections are commonly created when water is drawn from the potable water system to fill tank trucks, dilute chemicals and pesticides or to rinse tanks. A properly tested Reduced Pressure Principle Device Assembly (RP) shall be installed on any portable water hauling, spraying or cleaning unit that has the capacity of connection to any potable water supply, which does not contain a built in approved Air Gap.

J. Portable Water Meters

All temporary, portable or hydrant meters furnished by L.C.U. shall have an approved Reduced Pressure Principle Device Assembly installed immediately downstream of the meter. These Backflow Prevention Device Assemblies will be supplied by L.C.U. The contractor or customer will provide the necessary protection and physical support for the meter and backflow prevention device assembly.

No permanently installed meter shall be used for construction purposes without a proper backflow prevention device installed.

K. Fire Line Protection

All new fire lines not having an auxiliary water supply will require Double Detector Check Valve protection.

All new fire lines utilizing the potable water supply with an auxiliary water supply shall be required to have a Reduced Pressure Principle Detector Assembly.

Any unacceptable backflow prevention devices on existing fire lines or those fire lines presently unprotected against backflow shall be required to comply with current L.C.U. fire line protection standards.

L. Residential Customers

Residential customers, including those in multi-family units, having auxiliary water supplies or other potential health hazards on their premises shall require backflow prevention devices, as determined by L.C.U. These customers shall be required to purchase, install, test, and maintain these devices in accordance with L.C.U. standards.

M. Forms

Backflow Prevention Device Field Test & Maintenance Report	5-48
Backflow Prevention Device Tester Registration	5-49
WARNING (Thermal Water Expansion)	5-50

N. Standard Backflow Prevention Device Details

Description	(Section 9 Standard Drawings)
3" or Larger Meter and Backflow Prevention Device	9.10B
Dual Check Valve Assembly 5/8" for Residential Customers	9.40
Pressure Vacuum Breaker	9.41
Air Gap Detail	9.42
3" or Larger Double Detector Check Valve Backflow Prevention Device for Fire Lines	9.6
Backflow Prevention Device <u>3/4" - 2" Customer Owned/Maintained</u>	9.9

LEE COUNTY UTILITIES
CROSS CONNECTION CONTROL PROGRAM
BACKFLOW PREVENTION DEVICE FIELD TEST & MAINTENANCE REPORT

ACCT. NUMBER _____ METER NUMBER _____ CUSTOMER _____

SITE ADDRESS _____ LOCATION _____ SIZE _____

ASSEMBLY TYPE _____ MANUFACTURER _____ MODEL # _____

SERIAL# _____ DATE INSTALLED _____ INSTALLED BY _____

	REDUCED PRESSURE			PRESSURE			DETECTOR LOOP DEVICE		
	: DOUBLE CHECK			: VACUUM BREAKER			: DETECTOR LOOP DEVICE		
	: #1 CHECK	: #2 CHECK	: RELIEF	: AIR	: CHECK	: #1 CHECK	: #2 CHECK	: RELIEF	
	: VALVE	: VALVE	: VALVE	: INLET	: VALVE	: VALVE	: VALVE	: VALVE	
: INITIAL	: PSID _____	: PSID _____	: OPENED @ _____	: OPENED @ _____	: OPENED @ _____	: PSID _____	: PSID _____	: OPENED @ _____	
: TEST	: PASSED _____	: PASSED _____	: DID NOT _____	: DID NOT _____	: DID NOT _____	: LEAKED _____	: LEAKED _____	: DID NOT _____	
			: OPEN _____	: OPEN _____	: OPEN _____			: OPEN _____	

: PARTS & :
: REPAIRS :
: :
: :
: :

	: PSID _____	: PSID _____	: OPENED @ _____	: OPENED @ _____	: OPENED @ _____	: PSID _____	: PSID _____	: OPENED @ _____
: FINAL	: PASSED _____	: PASSED _____	: PSID _____	: PSID _____	: PSID _____	: PASSED _____	: PASSED _____	: PSID _____
: TEST	: LEAKED _____	: LEAKED _____	: DID NOT _____	: DID NOT _____	: DID NOT _____	: LEAKED _____	: LEAKED _____	: DID NOT _____
			: OPEN _____	: OPEN _____	: OPEN _____			: OPEN _____

COMMENTS _____

TESTER _____ CERT. NUMBER _____ TEST DATE _____

COMPANY _____

I hereby certify that this data is accurate and reflects the actual operation and maintenance of the assembly.

TESTER'S SIGNATURE _____

DATE _____

**LEE COUNTY UTILITIES
BACKFLOW PREVENTION DEVICE TESTER
REGISTRATION**

TECHNICIAN NAME: _____

NAME OF BUSINESS: _____

ADDRESS: _____

PHONE: Office: _____ Home: _____

List other **utilities** where you perform **backflow prevention** device testing.

Do you want your name on the approved list of testers available for Lee County Utilities customers? _____

COMMENTS _____

**ATTACH A COPY OF
BACKFLOW PREVENTION **DEVICE TECHNICIAN** TRAINING CERTIFICATION**

WARNING

**BACKFLOW PREVENTION DEVICES INSTALLED UN
CLOSED SYSTEMS WITH WATER HEATERS MAY
CAUSE EXCESSIVE PRESSURE INCREASES DUE TO
THERMAL WATER EXPANSION AND/OR WATER
HAMMER DOWNSTREAM OF THE DEVICES.
EXCESSIVE PRESSURE INCREASES MAY CAUSE
DAMAGE OR FAILURE TO WATER HEATERS
WHICH MAY BE HAZARDOUS. THE CUSTOMER OR
THE PLUMBING CONTRACTOR SHOULD INSTALL
ADEQUATE THERMAL EXPANSION DEVICES TO
PREVENT POSSIBLE EXCESSIVE PRESSURE
INCREASES WITHIN WATER HEATERS.**

THE DEPARTMENT OF LEE COUNTY UTILITIES
(OPERATION'S MANUAL INSERTS)

SECTION 9

STANDARD DRAWINGS

EXHIBIT B

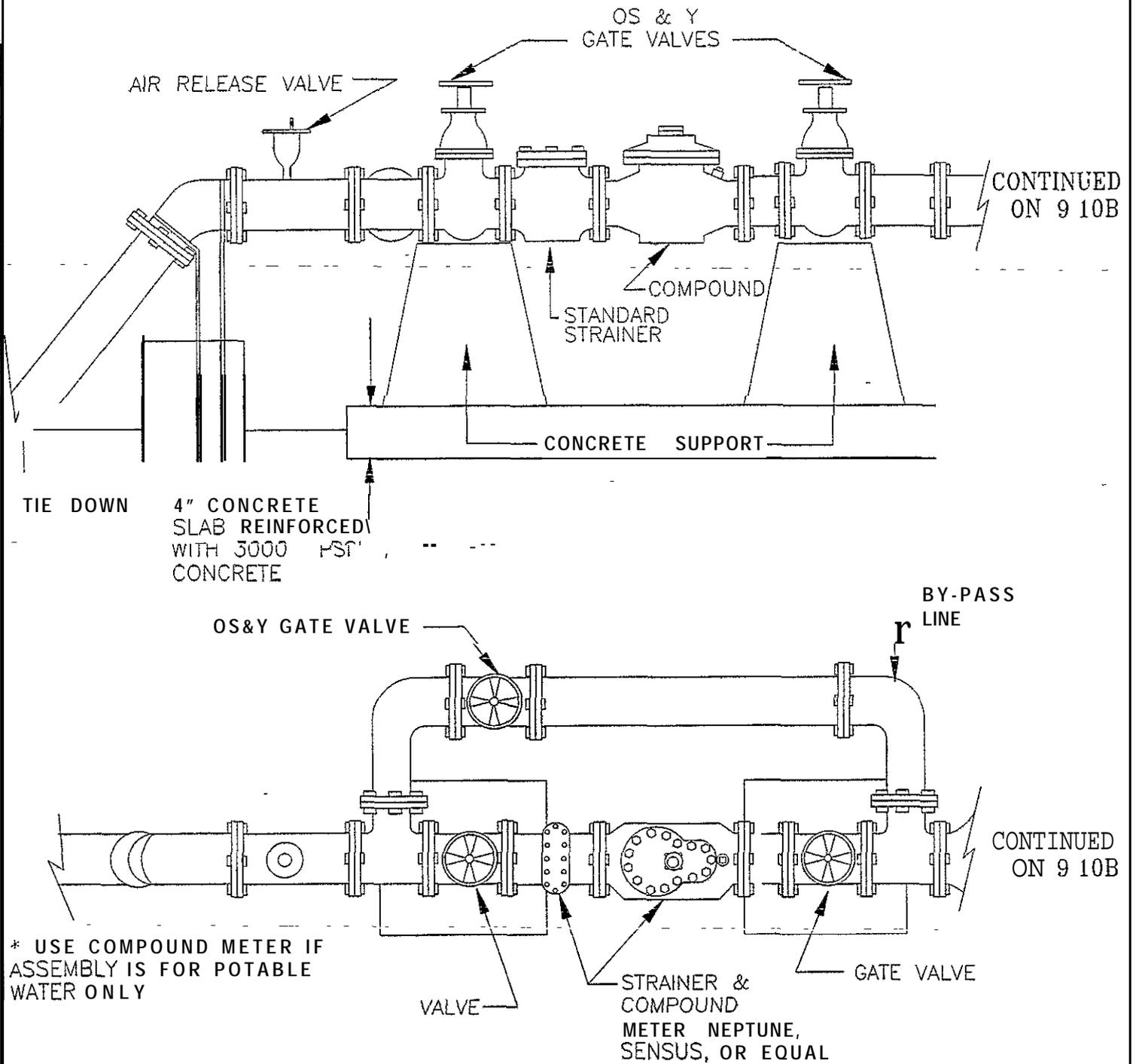
STANDARD DETAIL NO. 9.10A

3896

LEE COUNTY UTILITIES

3" OR LARGER METER

AND BACKFLOW PREVENTOR



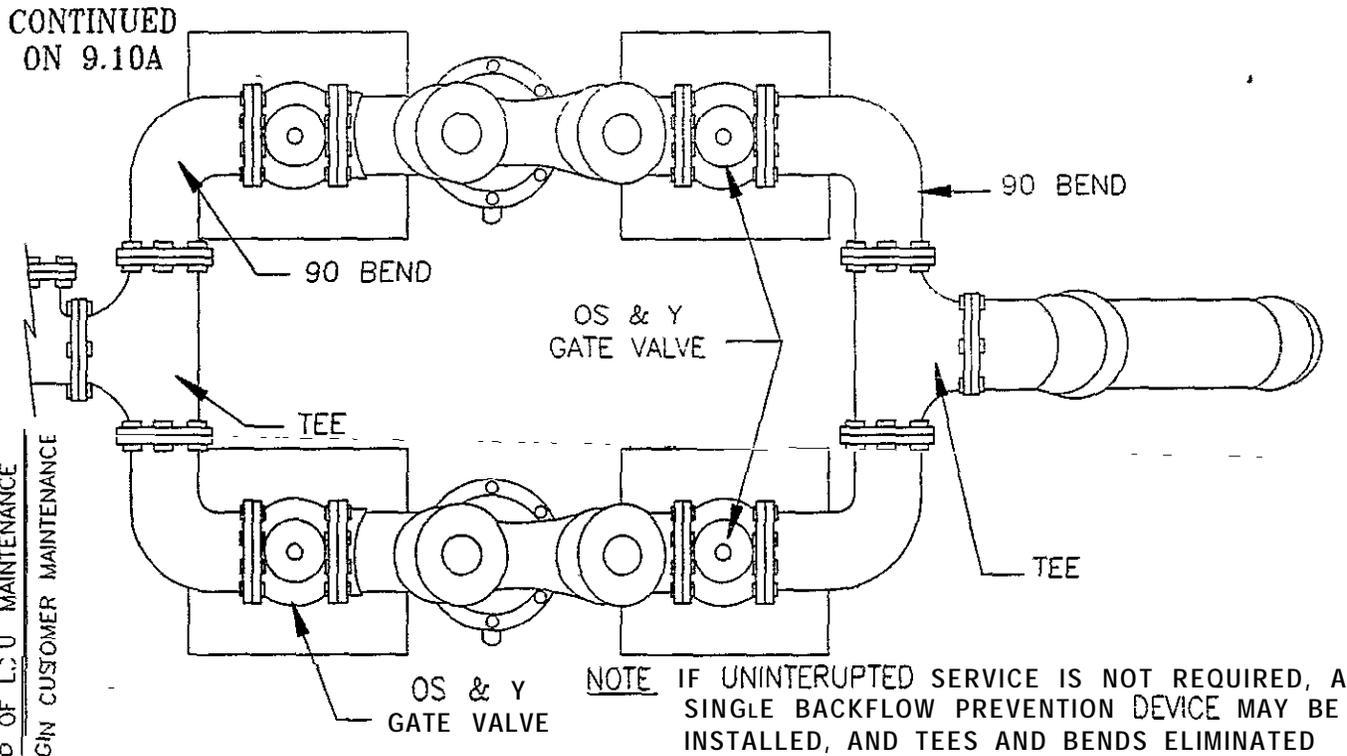
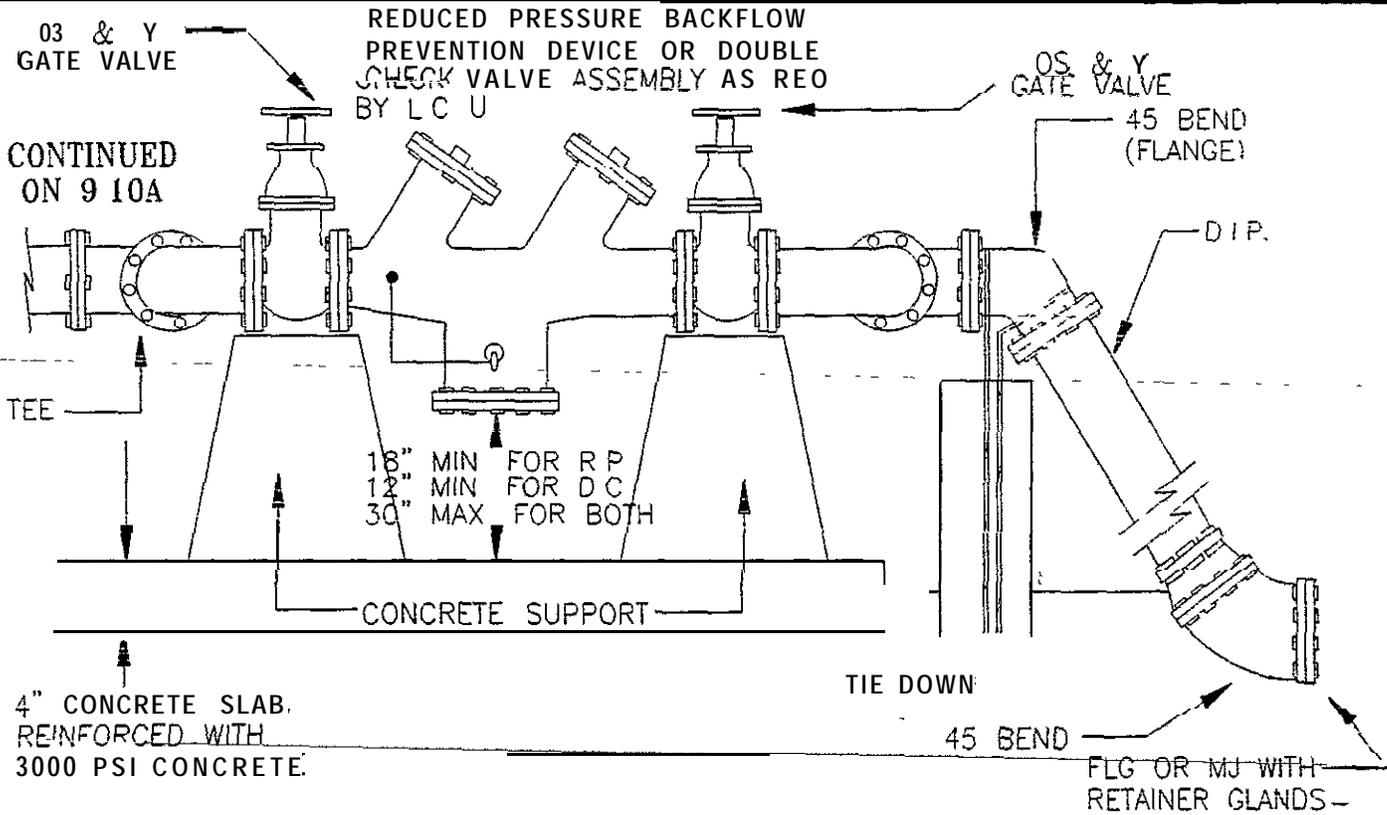
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3897

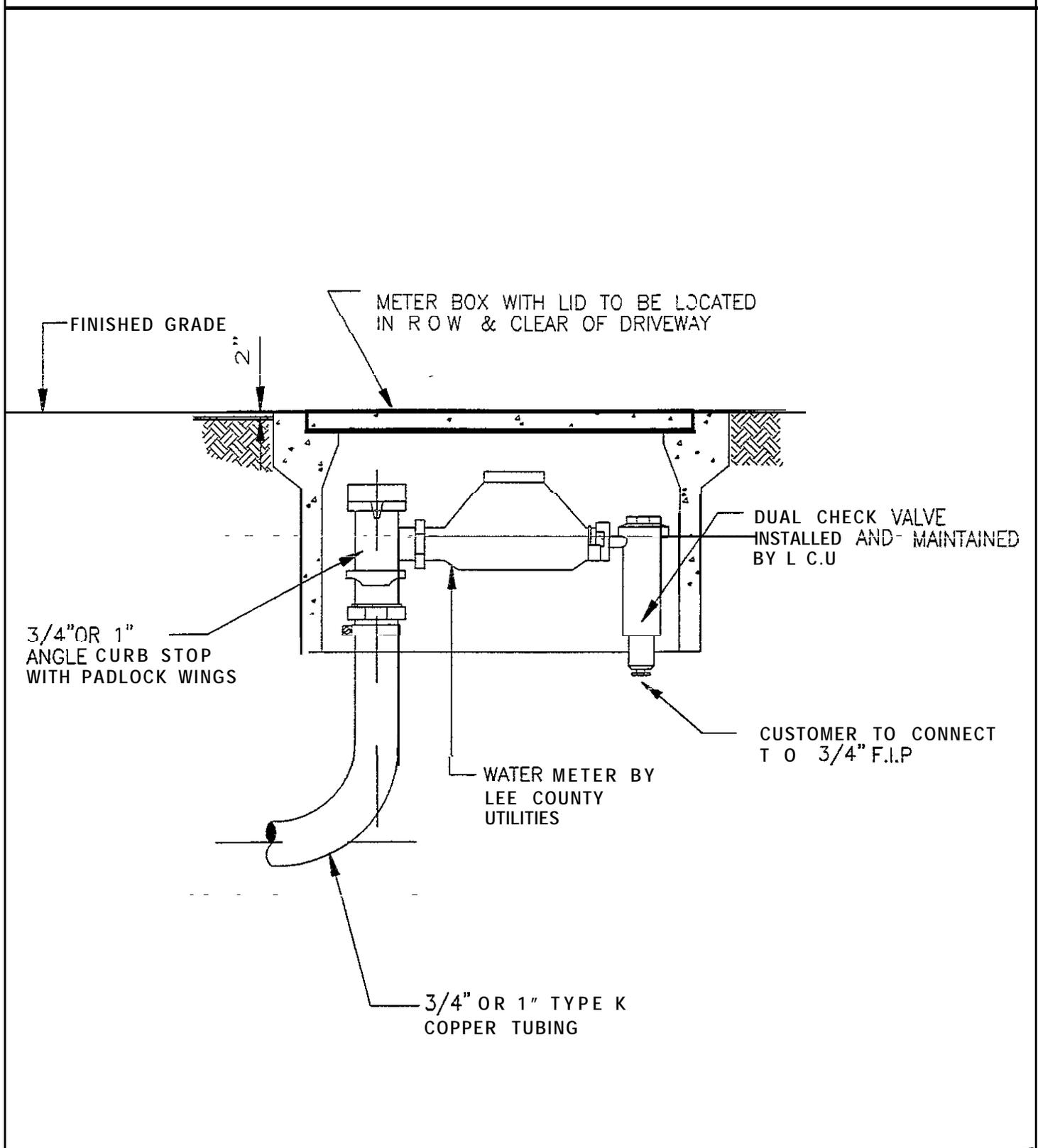
LEE COUNTY UTILITIES

3" OR LARGER METER

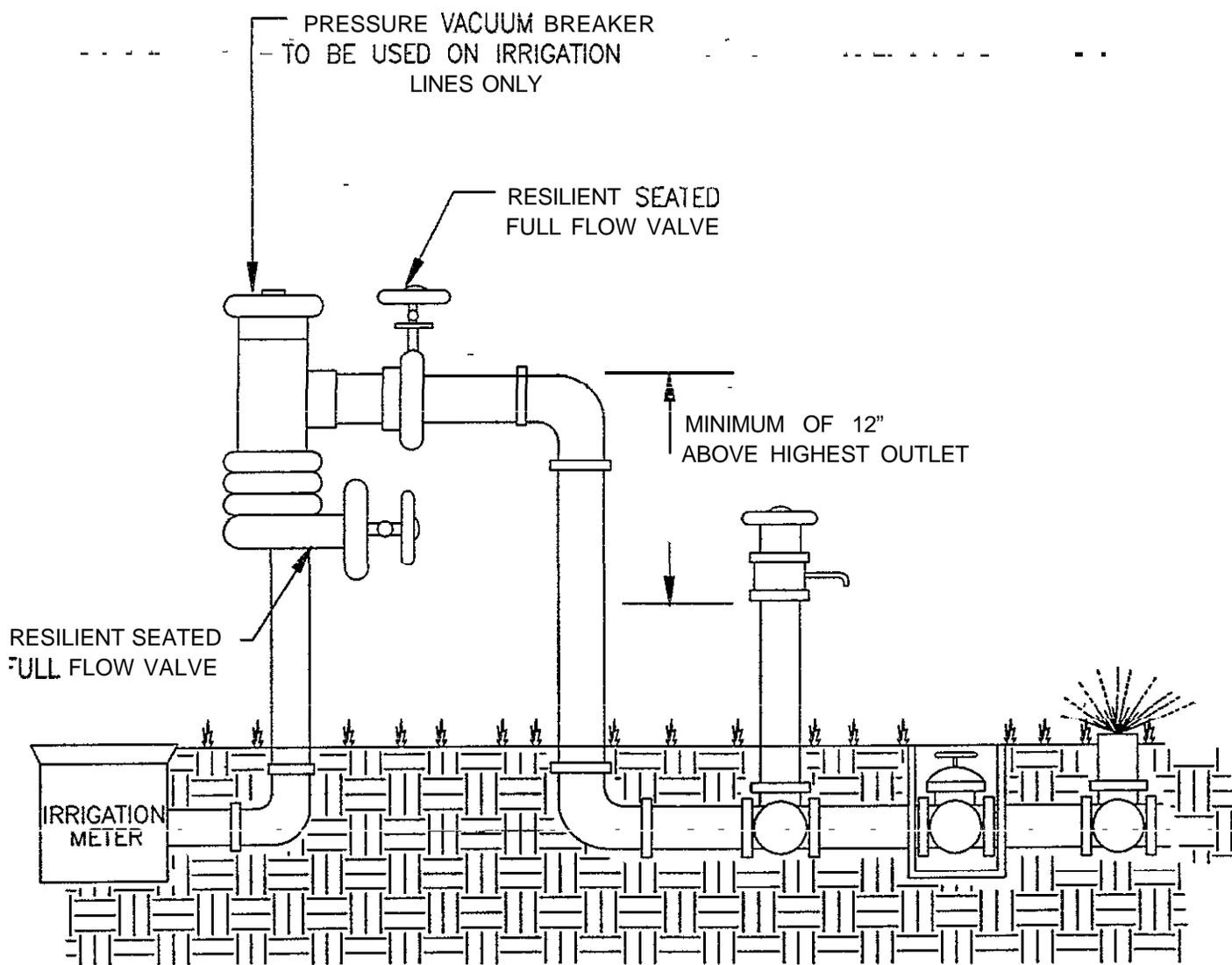
AND BACKFLOW PREVENTION DEVICE



STANDARD DETAIL NO. 9.40
LEE COUNTY UTILITIES
DUAL CHECK VALVE ASSEMBLY 5/8"
FOR RESIDENTIAL CUSTOMERS



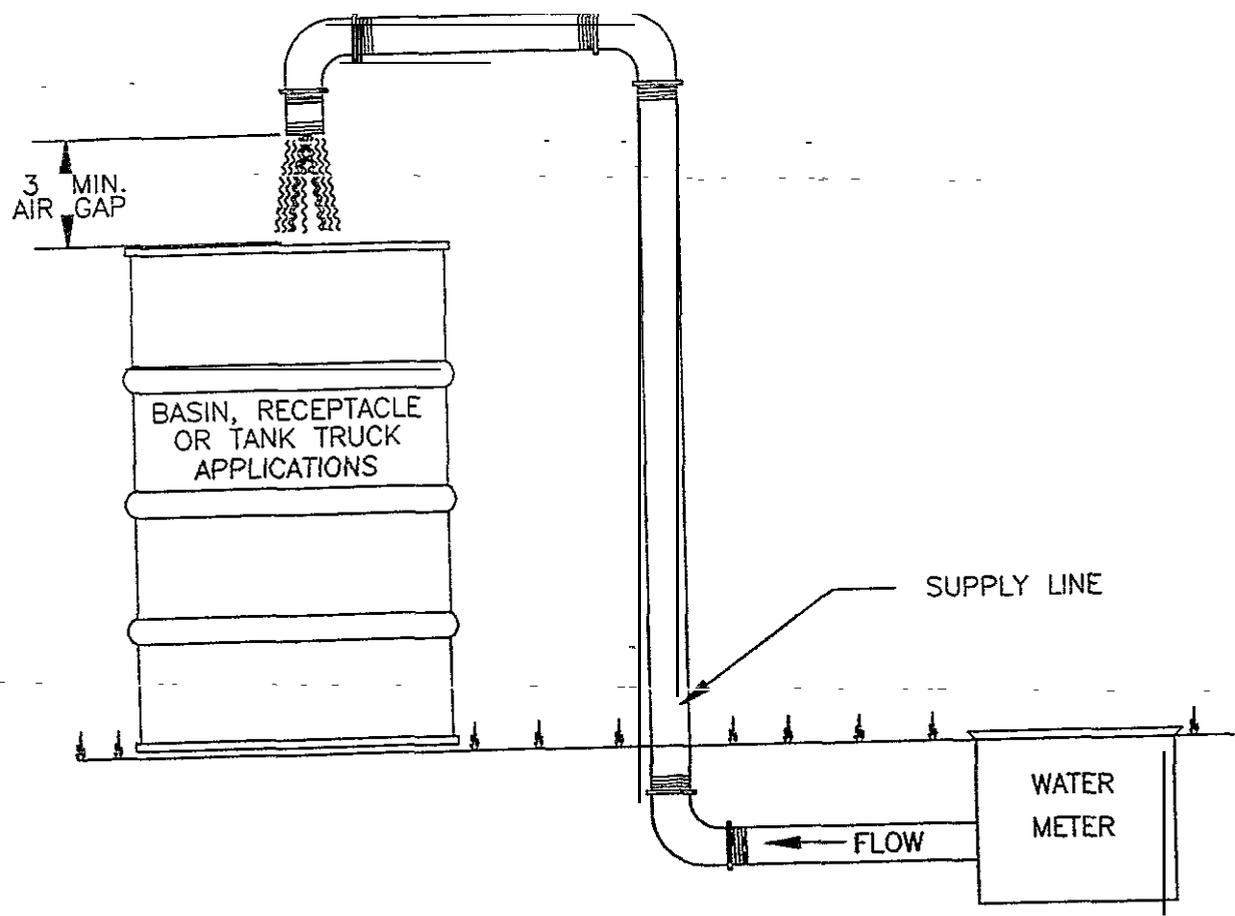
STANDARD DETAIL NO. 9.41
LEE COUNTY UTILITIES
PRESSURE-VACUUM BREAKER



STANDARD DETAIL NO. 9.42
LEE COUNTY UTILITIES
AIR GAP DETAIL

NOTE:

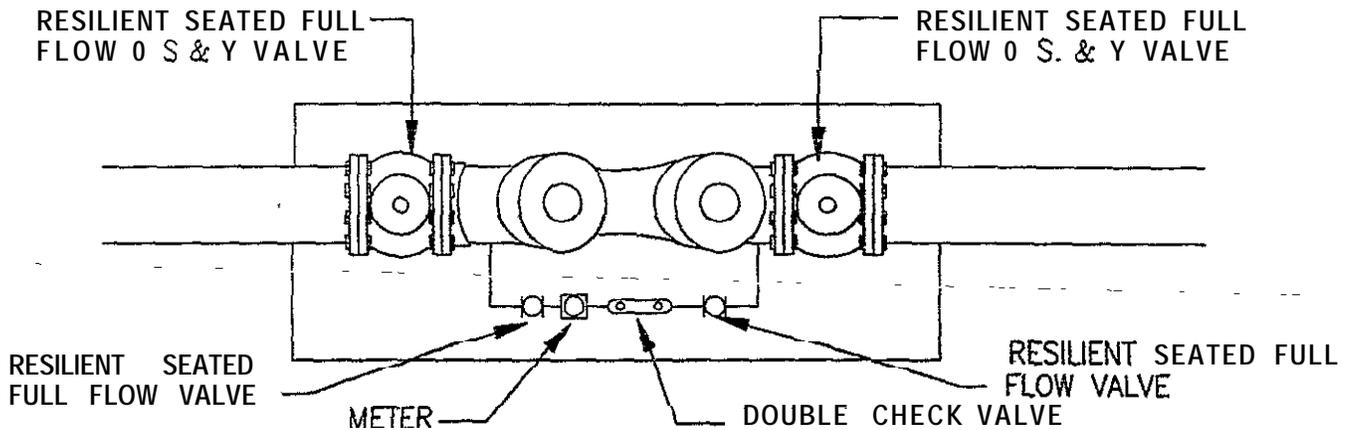
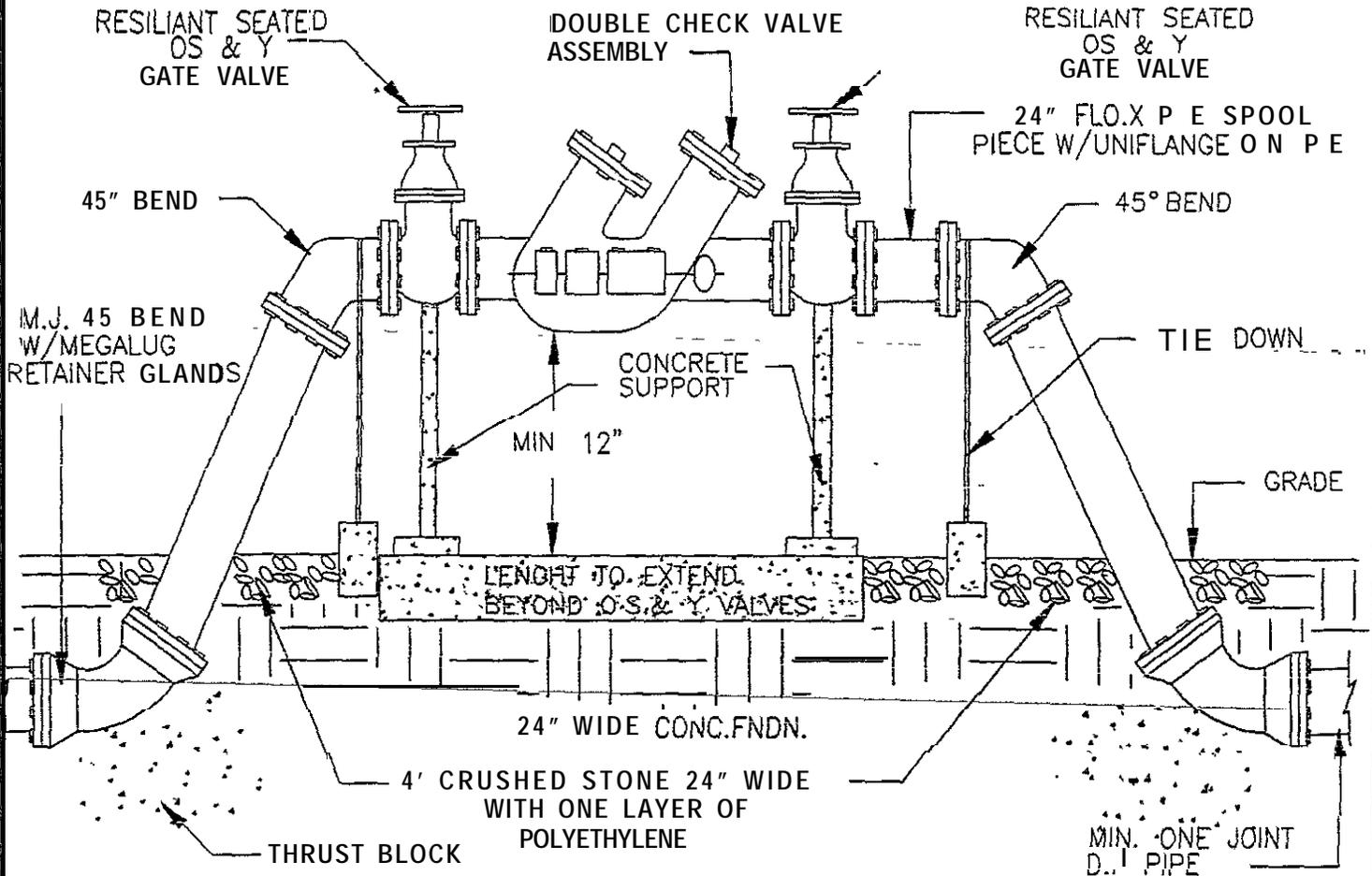
AIR GAP MUST HAVE A MINIMUM SEPARATION OF TWO TIMES THE INSIDE DIAMETER OF THE SUPPLY PIPE MEASURED VERTICALLY ABOVE THE TOP RIM OF THE VESSEL, WITH A MINIMUM DISTANCE OF THREE INCHES



STANDARD DETAIL NO. 9.6

LEE COUNTY UTILITIES

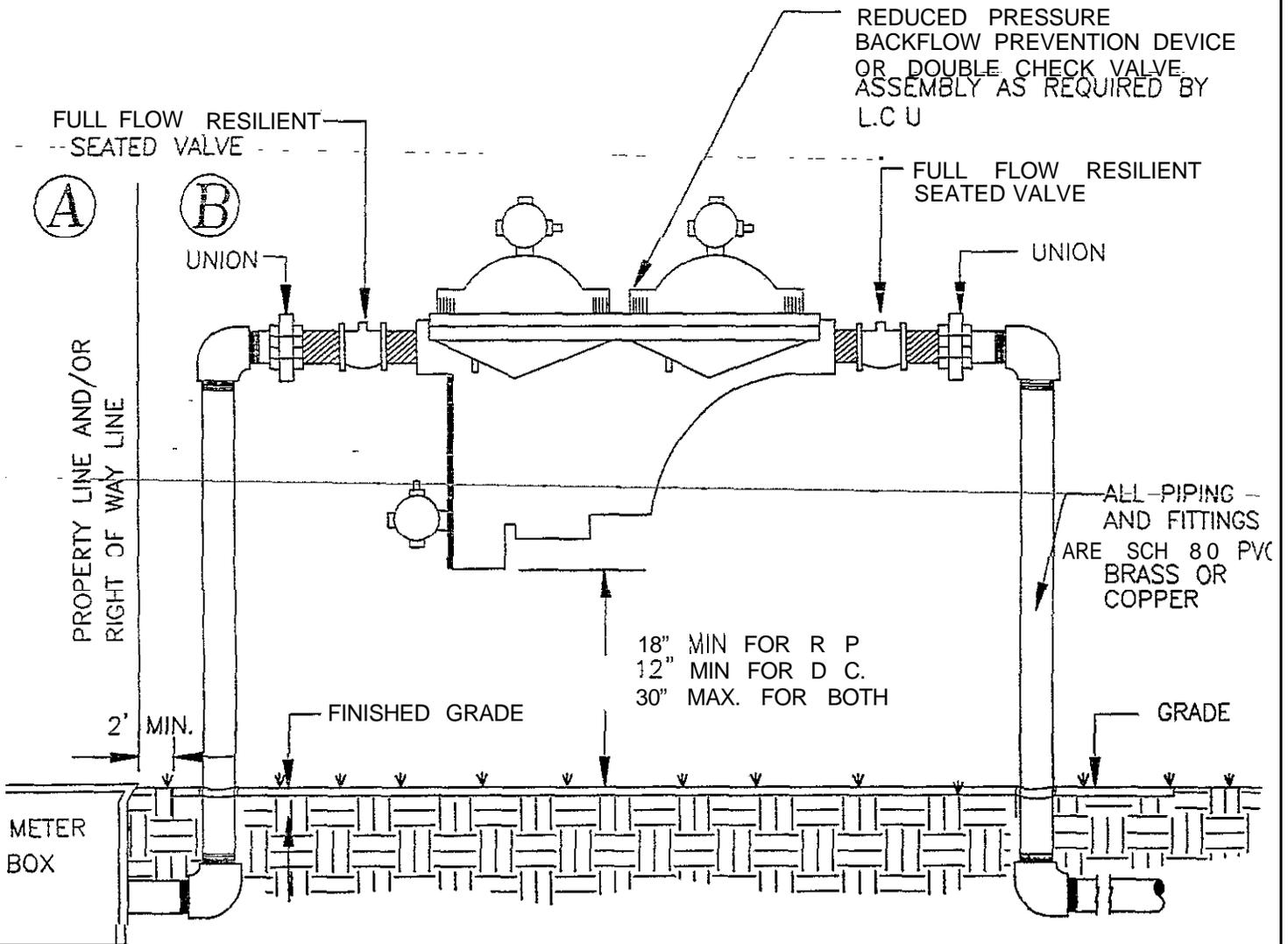
3" OR LARGER DOUBLE DETECTOR CHECK VALVE BACKFLOW PREVENTION DEVICE FOR FIRE LINES



NOTE IF FIRE LINE UTILIZES AUXILIARY WATER
-A REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLY
WITH A MINIMUM DISTANCE OF 18" FROM GRADE
TO BOTTOM OF DEVICE IS REQUIRED.

STANDARD DETAIL NO. 9.9 LEE COUNTY UTILITIES BACKFLOW PREVENTION DEVICE 3/4" - 2"

CUSTOMER OWNED/MAINTAINED



NOTES. 1. UNIONS. SLAB AND FLEX SLEEVE IS OPTIONAL.

- (A) L.C U OWNED AND MAINTAINED SERVICE/METER.
- (B) CUSTOMERS OWNED AND MAINTAINED SERVICE AND BACKFLOW PREVENTION.