

AT A REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE JAMES CITY SERVICE AUTHORITY, JAMES CITY COUNTY, VIRGINIA, HELD ON THE 13TH DAY OF AUGUST, NINETEEN HUNDRED NINETY-SIX, AT 8:01 P.M. IN THE COUNTY GOVERNMENT CENTER BOARD ROOM, 101 MOUNTS BAY ROAD, JAMES CITY COUNTY, VIRGINIA.

**A. ROLL CALL**

Jack D. Edwards, Chairman  
Stewart U. Taylor, Vice Chairman  
Perry M. DePue  
Robert A. Magoon, Jr.  
David L. Sisk

Sanford B. Wanner, Secretary  
Robert H. Smith, Treasurer  
Frank M. Morton, III, County Attorney  
Larry M. Foster, General Manager

**B. PRESENTATION**

1. FY 96 Investment Portfolio Review

Ms. Teresa Phillips, Vice President, Capitoline Investment Services, Inc., gave a brief review of the past year's performance. She stated that she would include a monthly schedule on specific investments in this next year's annual report.

**C. MINUTES - July 23, 1996**

Mr. Edwards asked if there were corrections or additions to the minutes.

Mr. Magoon made a motion to approve the minutes.

The motion passed by unanimous voice vote.

**D. CONSENT CALENDAR**

Mr. Edwards asked if any Board member wished to discuss the Consent Calendar.

Mr. Edwards made a motion to approve the Consent Calendar.

The motion passed by unanimous voice vote

1. Easement Quit Claim Deed - Ford's Colony**RESOLUTION****EASEMENT QUITCLAIM DEED - LOTS 71 AND 72 - FORD'S COLONY, SECTION IX-A**

WHEREAS, Lots 71 and 72 - Section IX-A in Ford's Colony have been combined into one lot; and

WHEREAS, an unused JCSA utility easement exist along the previous common property line; the owners have asked that the easement be dissolved; and

WHEREAS, the JCSA has determined that there is no current or anticipated use of the easement.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors, James City Service Authority, James City County, Virginia, authorizing the Chairman to sign a Quit Claim deeding the easement back to the owner.

2. Easement Quit Claim - Powhatan Secondary**RESOLUTION****EASEMENT QUITCLAIM DEED - LOT 33 POWHATAN OF WILLIAMSBURG SECONDARY**

WHEREAS, the subdivision Plat of Powhatan of Williamsburg Secondary recorded in Plat Book 36, page 80 includes an easement along the southern property line of Lot 33; and

WHEREAS, the owner has requested that the easement be dissolved and the JCSA has determined that there is no existing or anticipated use for the easement.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors, James City Service Authority, James City County, Virginia, authorizes the Chairman to sign a Quit Claim deeding the easement to the property owner.

3. Newport News Waterline Extension Agreement - James River Commerce Center**RESOLUTION****NEWPORT WATERWORKS - WATERLINE EXTENSION AGREEMENT****JAMES RIVER COMMERCE CENTER**

WHEREAS, Williamsburg Development, Inc., has petitioned the Newport News Waterworks to extend a waterline approximately 1,600 feet from Route 60 to serve the first phase of the James River Commerce Center; and

WHEREAS, Williamsburg Development, Inc., has agreed to pay all associated fees for the extension of the waterline.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors, James City Service Authority, James City County, Virginia, hereby authorizes its Chairman to sign the water extension agreement with Newport New Waterworks for the extension of the waterline.

4. Bid Award - Water Storage Tank - Piping

**RESOLUTION**

**AWARD OF BID - PIPE MODIFICATION B-32 (BID NO. 96-B-0037)**

WHEREAS, the James City Service Authority has designed and competitively bid pipe modifications for a ground storage water tank (B-32) located on Route 199; and

WHEREAS, Eastern Metal Products and Fabricators submitted a low bid of \$57,400 for the project and has been determined capable of performing the requirements of the project; and

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the James City Service Authority, James City County, Virginia, awards the contract to modify the piping in the Route 199 water storage tank (B-32) to Eastern Metal Products and Fabricators, Inc.

**E. BOARD CONSIDERATIONS**

1. Bid Award - Waterline Replacement - School Lane

Mr. Larry M. Foster, General Manager, James City Service Authority, stated that seven firms submitted bids with the lowest responsive bidder, Current Construction for \$87,775.

Staff recommended approval of the resolution.

Mr. DePue made a motion to approve the resolution.

The motion passed by unanimous voice vote.

**RESOLUTION**

**SCHOOL LANE WATERLINE REPLACEMENT**

WHEREAS, the waterline in the School Lane is in need of replacement due to age and insufficient size; and

WHEREAS, Current Construction submitted the low bid of \$87,775 to replace the line in accordance with specification and plans prepared by the James City Service Authority.

NOW, THEREFORE, BE IT RESOLVED the Board of Directors of the James City Service Authority, James City County, Virginia, awards the contract for the School Lane waterline replacement to Current Construction.

2. Regulations Governing Utility Service Changes

Mr. Foster stated that public hearings on Cross Connection Control and Backflow Prevention Ordinance and the Drought Maintenance Ordinance were held and approved by the Board of Supervisors, and each of those plans need to be added to the James City Service Authority Regulations Governing Utility Services.

Staff recommended approval of the resolution.

Mr. Sisk made a motion to approve the resolution.

The motion passed by unanimous voice vote.

RESOLUTION

UTILITY POLICY CHANGES

WHEREAS, the Board of Directors of the James City Service Authority desires to implement certain proposed changes to the Regulations Governing Utility Service.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the James City Service Authority, James City County, Virginia, hereby adopts the attached changes summarized below to be effective September 1, 1996.

1. Cross Connection Control and Backflow Prevention - adds new guidelines and procedures for the protection of public water from contamination by Backflow through uncontrolled cross connections within customers' private system.
2. Water Conservation and Drought Management Plan- adds new guidelines and polices to conserve available and proposed water supplies and to provide temporary emergency measures during drought conditions.
3. Withdrawal Impact Mitigation Plan - adds procedures to follow in disputes to resolve claims related to JCSEA groundwater withdrawals.

BE IT FURTHER RESOLVED, that the complete amendment be made part of this resolution.

3. PrimeCo Lease - Season's Trace Water Tank

Mr. Foster stated that PrimeCo Personal Communications, L.P., was developing a new wireless communication system in the area and negotiated an agreement for location of antennas on the Season's Trace Water Tank.

Staff recommended approval of the resolution.

A brief discussion by Board and staff followed regarding future use of the water tank and Authority's ability to give 12 months notice to terminate agreement.

Mr. Edwards made a motion to approve the resolution.

The motion passed by unanimous voice vote.

**RESOLUTION**

**AGREEMENT TO ATTACH COMMUNICATION ANTENNAE TO**

**SEASON'S TRACE WATER TANK**

WHEREAS, PrimeCo Personal Communications, L.P., desires to attach antennae for a wireless communication system to the Season's Trace Water Tank; and

WHEREAS, staff has negotiated the term of an agreement to allow the attachment of the antennae.

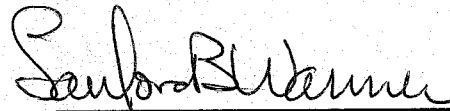
NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the James City Service Authority, James City County, Virginia, hereby authorizes the General Manager to execute the agreement with PrimeCo to attach the antennae to the Season's Trace Water Tank.

**F. BOARD REQUESTS AND DIRECTIVES - None**

Mr. Taylor made a motion to adjourn.

The motion passed by unanimous voice vote.

The Board adjourned at 8:22 p.m.



Sanford B. Wanner  
Secretary to the Board

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CONSIDERATION: \$0.00

THIS QUITCLAIM DEED is made as of August \_\_\_\_, 1996, by and between THE JAMES CITY SERVICE AUTHORITY, a public body politic and corporate, Grantor; and REALTEC INCORPORATED, a North Carolina corporation, Grantee, whose address is One Ford's Colony Drive, Williamsburg, VA 23188.

W I T N E S S E T H:

That for and in consideration of the sum of Ten Dollars (\$10.00), cash in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, the Grantor does hereby quitclaim, release and convey to the Grantee, all right, title and interest of the Grantor in and to the following property located in the County of James City, Virginia:

THAT certain easement area shown and set out as "JCSA Utility Easement to be Extinguished with the Recordation of this Plat" on the plat entitled, "Boundary Line Extinguishment, Lots 71 and 72, Fords Colony @ Williamsburg, Section IX-9" made by AES Consulting Engineers and dated June, 1996, which plat is recorded herewith in James City Plat Book \_\_\_\_ at page \_\_\_\_.

WITNESS the following signature and seal:

JAMES CITY SERVICE AUTHORITY

By:   
Title: CHAIRMAN, BOARD OF DIRECTORS

## RELEASE OF EASEMENT

This Release of Easement made this 2nd day of July, 1996, by and between James City Service Authority, an Authority created and existing under the laws of the Commonwealth of Virginia, hereinafter referred to "JCSA," and Billy D. Phillips and Vivian P. Phillips, hereinafter referred to as "Phillips."

WHEREAS, a certain subdivision plat was recorded in the Clerk's Office for the Circuit Court for the City of Williamsburg and County of James City, Virginia, entitled "PLAT OF POWHATAN OF WILLIAMSBURG SECONDARY," made by Langley & McDonald, Engineers-Planners-Surveyors, dated October 20, 1980, and recorded May 5, 1981, in Plat Book 36, page 80, in the Clerk's Office of Circuit Court for the City of Williamsburg and James City County, Virginia; and

WHEREAS, the Phillips acquired Lot 33, as shown of the aforesaid subdivision plat, by Deed dated October 21, 1987, recorded in James City County, Virginia, Plat Book 368, page 152; and

WHEREAS, the aforesaid subdivision plat has a designation of a "7.5' J.C.S.A. Utility Easement" along all of the property lines of Lot 33; and

WHEREAS, JCSA did not intend to have the benefit of all of the aforesaid easements as shown on the aforesaid subdivision plat, but rather, JCSA is relying upon a certain easement which it acquired by instrument dated March 16, 1981, and recorded in Deed Book 213, page 230; and

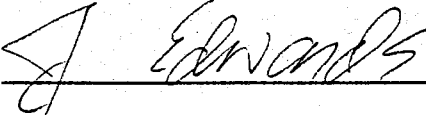
WHEREAS, the building located on Lot 33 encroaches into the JCSA easement as shown on the subdivision plat along the southerly property line of Lot 33.

WITNESSETH: That for and in consideration of the sum of One Dollar, and other good and valuable consideration, the receipt of which is hereby acknowledged, JCSA does hereby QUITCLAIM AND RELEASE unto the Phillips and their successors in title, the easement which it has acquired along the entire southerly property line of Lot 33 and particularly in the area where the present building located on Lot 33 encroaches into the 7.5' easement, as reserved on the aforesaid subdivision plat, it being the intention of the parties hereto to render such encroachment of no effect or significance.

Nothing contained herein shall be construed to release the easement granted unto JCSA by the instrument dated March 16, 1981, recorded in James City County Deed Book 213, page 230.

WITNESS the following signatures and seals:

JAMES CITY SERVICE AUTHORITY

By   
Title CHAIRMAN, BOARD OF DIRECTORS

BILLY D. PHILLIPS

VIVIAN P. PHILLIPS



Amended September 1, 1996

**SECTION 30. CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION****A. Purpose.** This Section is adopted for the following purposes:

1. Protect the public water of James City County from the possibility of contamination, by isolating, within its customers' private water systems, contaminants or pollutants that could, under adverse conditions, backflow through uncontrolled cross connections into the public water system;
2. Eliminate or control existing cross connections, actual or potential, at each water outlet from the consumer's water line;
3. Provide a continuing inspection program of cross connection control that will systematically and effectively control all actual or potential cross connections in the future.

**B. Authority**

This Section provides for establishment and enforcement of a program of cross-connection control and backflow prevention in accordance with Part II, Article 3, Cross Connection Control and Backflow Prevention in Waterworks of the Commonwealth of Virginia, State Board of Health, Waterworks Regulations 1993, as amended.

**C. Violations of Section**

Any water supply system owner found to be in violation of any provision of this section shall be served a written notice of violation sent certified mail to the water supply system owner's last known address, stating the nature of the violation, corrective action required and providing a reasonable time limit, not to exceed 30 days, from the date of receipt of the notice of violation, to bring the water supply system into compliance with this Chapter. Upon failure of the owner to have the defect corrected by the end of the specified time, the General Manager shall cause the water service to the premises to be terminated. The costs of all disconnection and reconnection shall be paid by the owner or occupant of the premises. Any owner of properties served by a connection to the waterworks found guilty of violating any of the provisions of this section, or any written order of the General Manager in pursuance thereof, may be charged with a Class 1 misdemeanor and, upon conviction thereof shall be punished by a fine of not less than \$500 or more than \$1,000 for each violation. Each day upon which a violation of the provisions of this Chapter shall occur shall be deemed a separate and additional violation for the purposes of this section.

**D. Administration and enforcement of section.**

1. This section shall be administered and enforced in accordance with the Uniform Statewide Building Code and the Commonwealth of Virginia, State Board of Health, Waterworks

Regulations. The General Manager, the Director of Code Compliance, the water supply system owner, and the backflow prevention device tester shall cooperate with each other for effective implementation of this program.

2. James City Service Authority and General Manager

- a. The General Manager shall develop a Cross Connection Control Program and designate a Cross Connection Control Manager who shall administer and enforce the provisions of this section.

3. Cross Connection Control Manager and Code Compliance

- a. The Cross Connection Control Manager or his designee is required to enter, survey, and inspect all premises served by the waterworks.
- b. The Cross Connection Control Manager shall ensure that thorough inspections and operational tests are made at least annually of backflow prevention devices or low pressure cutoff devices that are required and installed unless otherwise noted in the Program. Copies of results of these inspections and tests shall be kept on file and made available to the Division of Water Supply Engineering. The devices shall be repaired, overhauled, or replaced by the water supply system owner as directed by the Cross Connection Control Manager. Nothing in this section shall prevent the James City Service Authority from installing and operating approved devices or making repairs, the costs of which shall be borne by the water supply system owner.
- c. If a cross connection exists or backflow occurs into a water supply system or if the pressure in the waterworks is lowered below 10 pounds per square inch (psi) gauge, the Cross Connection Control Manager shall discontinue the water service to the water supply system. Water service shall not be restored until the deficiencies have been corrected or eliminated to the satisfaction of the Cross Connection Control Manager.
- d. Where, in the opinion of the Cross Connection Control Manager, the complexity of the consumer's water system warrants, the Cross Connection Control Manager may require the property owner use a backflow prevention device tester to carry out the requirements of the Cross Connection Control Program. In addition to cross connection surveys, cross connection inspections, and device testing, repair and maintenance the duties of the backflow prevention device tester. The Cross Connection Control Manager shall review the records of surveys, inspections, tests, repairs, and maintenance, make inspections of areas within such systems, and test devices on a quarterly basis.
- e. The Director of Code Compliance reviews building plans and inspects new plumbing as it is installed. When the review of building plans or the inspection

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a water supply system suggests or detects an actual or potential cross connection the Director of Code Compliance shall ensure that such cross connections are either eliminated or controlled with approved backflow prevention devices as outlined in the Uniform Statewide Building Code Volume I and the Program. The Cross Connection Control Manager shall provide technical assistance to the Director of Code Compliance.

- f. The Director of Code Compliance shall review plans for fire service connections and lawn or irrigation systems served by the waterworks and recommend to the Cross Connection Control Manager if the plans are acceptable. If unacceptable, the designer and the Cross Connection Control Manager shall consult with the Division of Water Supply Engineering for technical assistance. The revised designs shall be resubmitted for additional review. Only after final approval by the Director of Code Compliance shall construction commence. All plans shall be submitted to the Director of Code Compliance with sufficient copies for the Director of Code Compliance to forward two copies of the plans to the Cross Connection Control Manager.

#### 4. Water Supply System Owner

- a. The water supply system owner has the responsibility of preventing pollutants and contaminants from entering the potable water supply system(s) or the James City Service Authority water system. The water supply system owner's responsibility starts at the point of delivery (downstream end of service connection).
- b. The water supply system owner, at their own expense, shall install approved backflow prevention devices at the appropriate location(s) in their system. The water supply system owner shall operate, test, and maintain the backflow prevention device(s).
- c. The water supply system owner shall not make piping changes or other arrangements to bypass backflow prevention devices.
- d. Tests, maintenance, and repairs of backflow prevention devices shall be performed by backflow prevention device testers.
- e. The water supply system owner shall maintain accurate records of tests and repairs made to backflow prevention devices and provide the Cross Connection Control Manager with copies of such records on request. The records shall be on forms approved by the Cross Connection Control Manager. Following any repair, overhaul, repiping, or relocation of a device, the water supply system owner shall have it tested to ensure that it is in good operating condition and will prevent backflow.

- f. In the event of pollution or contamination of the James City Service Authority water system or a water supply system due to backflow into the water supply system, the water supply system owner shall promptly take steps to confine further spread of the pollution or contamination within the system and shall notify the James City Service Authority of the condition. The water supply system owner shall take appropriate measures to free his water supply system(s) of any pollutants or contaminants.

5. Backflow Prevention Device Tester

- a. The tester is responsible for making inspections and for repairing or overhauling backflow prevention devices and making reports of such repairs to the water supply system owner on forms approved by the General manager. The tester shall include the list of materials or replacement parts used in the repair, or replacement, of parts in a backflow prevention device. The tester shall not change the design or operational characteristics of a device during repair or maintenance without prior written approval of the water supply system owner and Cross Connection Control Manager.
- b. The tester shall be equipped with, and be competent in the use of, all the necessary tools, gauges, manometers and other equipment necessary to properly test, repair, and maintain backflow prevention devices.

E. Inspections; notice to correct defects

The Cross Connection Control Manager shall have the right to enter premises served by a connection to the waterworks at any reasonable time for inspecting, observing, sampling, and testing the water supply system(s) for cross connection(s). Upon request, the water supply system owner or occupants of the property served shall furnish to the Cross Connection Control Manager pertinent information regarding the water supply system(s) on such property. The refusal of such information or refusal of access, when requested, shall be deemed evidence of the presence of a cross connection.

F. General design, installation, and maintenance standards for water supply systems

A potable water supply shall be designed, installed, and maintained in such a manner as to prevent contamination from nonpotable liquids, solids or gases, either harmful or benign, from being introduced into the potable water supply through cross-connections or any other piping connections to the system. This is accomplished by protecting every water outlet from the potable water system that poses a possible cross-connection. Wherever such outlets cannot be protected with the minimum air gap, a mechanical device shall be utilized to prevent backflow from backsiphonage or backpressure as appropriate, according to the degree of hazard. In cases where, in the judgment of the Cross Connection Control Manager, the water supply system is sufficiently complex or the severity of the hazard warrants or the premises has a history of cross-connections being established or reestablished, an air gap or backflow prevention device shall be

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required immediately downstream from the service connection or at a point approved by the General Manager.

G. Preventive and control measures

A backflow prevention device shall be installed at each service connection to a water supply system serving the premises when one or more of the following conditions exist:

1. Premises on which any substance is handled in such a manner as to create an actual or potential hazard to the waterworks. This shall include premises having sources or systems containing process fluids or water originating from the waterworks that are not under the control of the James City Service Authority.
2. Premises that, in the judgment of the Cross Connection Control Manager, have either internal cross connections that are not easily correctable or intricate plumbing arrangements that make it impracticable to determine whether cross connections exist.
3. Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impracticable to make a complete cross connection survey.
4. Premises having a repeated history of cross connections being established or reestablished.
5. Other premises specified by the Cross Connection Control Manager where causes can be shown that a potential cross connection hazard not enumerated above exists. Examples may include multiple use commercial, office, warehouse, or other premises where the degree of hazard is subject to change without knowledge of the Cross Connection Control Manager.

H. Protective devices for fire assemblies

A backflow prevention assembly shall be installed at fire protection system service connections to the premises' water supply system or to the waterworks in accordance with Section P-1507.13.3 BOCA Plumbing Code, 1993. latest revisions.

I. Backflow prevention assemblies

Any backflow prevention assembly required herein shall be an approved backflow prevention assembly.

All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and have been properly maintained shall, except for the testing and maintenance requirements under paragraph J, be excluded from the requirements of this section for so long as the General Manager is assured that they will satisfactorily protect the James City Service Authority water system. Whenever the existing device is moved from the present location or requires more than

minimum maintenance or when the Cross Connection Control Manager finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of this section.

J. Inspection requirements

Testing and inspection schedules shall be established by the Cross Connection Control Manager for all backflow prevention assemblies. The interval between testing and inspections and overhauls of each assembly shall be established in accordance with the condition of the assembly and the assembly manufacturer's recommendations. Inspection and testing intervals shall not exceed one year unless otherwise established by the Cross Connection Control Manager based on the degree of hazard and overhaul intervals shall not exceed five years. Repair and overhauls shall use the assembly manufacturer's parts kit(s).

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## SECTION 33. WATER CONSERVATION AND DROUGHT MANAGEMENT PLAN

The purpose of this section is to establish policies which support County ordinance, Chapter 8, Article VI, Drought Management.

### A. Water Conservation Plan

#### 1. Introduction

Population projections and economic growth within James City County have raised public awareness of the inadequacy of public water supplies to satisfy future needs. Of particular concern is the reliability of the quality and quantity of the surface water and groundwater resources in the region. Another concern is the adequacy of surface and groundwater supplies to meet current and projected demands during drought conditions. Therefore conservation of available and proposed water supplies shall be a key element of the James City Service Authority's (JCSA) long-range strategy for public water supply management.

Conservation is not the complete solution. However, conservation can extend a finite water supply less inexpensively than increasing the existing public water supply. Conservation can also reduce the impacts of future growth and the risk of disruptive water shortages by extending this limited resource.

The goals of this water conservation program are:

- Reduce future demands on limited water supplies.
- Reduce the magnitude of seasonal peak water demands.
- Fully integrate water conservation into long-range water supply planning and management.
- Fully integrate water conservation into land use planning and development.

Water conservation means measures intended to improve the efficiency of water use and reduce waste. The intent of this definition is to focus on technical methods of reducing water demands through efficiency. This definition is not to be equated with a similar level of sacrifice by end users to comply with temporary emergency measures that are implemented during drought conditions.

## 2. Conservation Measures

### (a) Public Information and Education

Public acceptance of this conservation plan requires information and education. The primary goals of the education program are as follows:

- (1) Create an awareness of local public water supply issues and problems.
- (2) Inform the citizens of the benefits of water conservation that include:
  - Optimized use and efficiency of public water supplies
  - Cost savings by reducing, delaying, or eliminating utility system expansions
  - Reduced risk of public water supply shortages
  - Protection of economic viability of the area
- (3) Educate the citizens on water-conserving techniques such as low-water-use landscaping (Mesiscape) and low-water-use fixtures.

Educating the citizens of James City County requires identifying target groups for education. The following groups include most citizens and public water users in James City County.

- Local government boards and commissions
- News Media
- Property owners associations
- Farmers
- Industrial and commercial establishments
- Students and teachers
- Community leaders and influential citizens
- Professionals and tradesmen (landscape architects, architects, engineers, builders, nursery owners, etc.)
- High water-use industries and businesses (golf courses, laundries, motels, hotels, car washes, and restaurants)
- Others

The JCSA participates in the Hampton Roads Water Efficiency Team (HRWET) a regional organization representing all water purveyors in the Hampton Roads area. The mission of HRWET is to educate the public and promote water conservation. The group distributes educational material at public events across the region. The following is a list of potential public education "forums":

- County fairs and other similar events
- Meetings of local government boards or commissions
- Media



- Regional authorities, districts, organizations
- Billing inserts
- Meetings of property owner associations
- Agricultural agencies
- Classroom grades (three through 12 and college)
- Professional publications
- Service and social clubs
- Meetings of garden clubs

To make the educational program effective, the JCSA will do the following:

- Designate responsibility to an appropriate staff member to represent the JCSA on HRWET and carry out the conservation education program in James City County
- Determine criteria to measure the effectiveness of the education program at regular intervals.
- Provide adequate staff and funding for the program.

#### **(b) Water Conserving Plumbing Code**

Interior water-use in both residential and commercial settings is largely "technology based," that is, the water use rate of fixtures and appliances determines the amount of water required to accomplish a function. Improvement of end use efficiency by reducing water use rates is a major means of conserving public water supplies.

The various methods of increasing interior water-use efficiency can be classified in two basic categories: (1) code standards for new construction and (2) retrofitting of existing structures. Although the potential water savings for each category are similar, they differ in the institutional and regulatory issues and the water savings they realize.

Section 15 of these Regulations were last revised in July 1995. The Regulations allow the termination of utility service when "service to a customer is of such magnitude or such character that utility service to other customers is affected" or for "negligent and wasteful use of water during periods when restrictions on consumption are imposed to conserve water."

James City County adopted the Uniform Statewide Building Code (USBC) as the County building code in 1974. The 1984 revision of this code required the installation of low flow (3 gallons per minute) shower heads, low volume (3.5 gallons per flush) toilets, water saving washing and dishwashing machines, and flow controlled or aerated faucets in new construction and renovation of existing structures.

The General Assembly passed legislation in 1993 allowing localities to adopt standards for plumbing fixtures more stringent than those of the 1990 Building Officials and Code

Administration (BOCA) Plumbing Code. The 1993 revision of the BOCA Plumbing Code further decreased the flow rate, or consumption of water per use, for plumbing fixtures. The Virginia Department of Housing and Community Development incorporated the 1993 BOCA Plumbing Code into the USBC in April 1994. The JCSA incorporated those rates in the latest revision of the Regulations.

All plumbing work in James City County must conform to the latest requirements for water conserving fixtures. A few less-conserving plumbing fixtures remain on the market. There is nothing that prevents the owner of a home or business from replacing a water-saving fixture with one of these higher usage fixtures if the replacement is not part of a renovation project.

**(c) Water Conservation Retrofit Program**

The water demand projections prepared by County staff in 1983, and updated in 1986, considered that residential demand should reduce from 81 gallons per capita day (gpcd) to 69 gpcd through an active water conservation program, new construction utilizing water-conserving fixtures required by the plumbing code, and the replacement of existing fixtures with water-conserving fixtures. Replacement of existing fixtures was projected to occur at a rate of 1 percent per year. The per-employee water usage rates used for the commercial and industrial portions of these projections were reduced from 1980 levels for the same reasons residential usage was projected to decline.

Regional per capita water consumption was 73 gpcd in 1990 according to a study by Malcolm Pirnie for the Regional Raw Water Study Group (RRWSG) a planning effort by the four water suppliers on the York-James Peninsula. Because more than half of the structures in James City County predate the 1982 building code, the JCSA per capita consumption is probably higher than 73 gpcd but that number is difficult to determine because not all county residents are served by public water.

The portion of the county served by public water is served by four different purveyors with different billing practices making data collection difficult. Because of the age of the housing stock in James City County the JCSA may have to set up a more active program than the current voluntary retrofit program to realize the decreasing per capita water-consumption rates considered in the County's water demand projections.

Most utility sponsored retrofit programs have been carried out to reduce wastewater flows rather than promote water conservation. Increasingly proactive programs could be considered as an alternative to upgrading sanitary sewage pumping stations or other components for areas that are currently experiencing overloading of the wastewater system(s).

A wide range of options is available for setting up a retrofit program. The JCSA will consider the general types of retrofit programs described below:

- (1) Voluntary Retrofit Programs

Property owners are encouraged to retrofit existing structures at their own expense. This type of program requires significant educational and promotional effort about the need for and the benefits of these retrofits. Total program effectiveness, therefore, is likely to be low.

(2) **Mandatory Retrofit Programs**

Ordinances require that property owners retrofit all existing structures according to prescribed standards. The ordinance could require compliance by a prescribed date or at point-of-sale. This option requires inspections to ensure compliance. Total effectiveness of this program is likely to be high if public resistance can be overcome.

(3) **Utility Sponsored Retrofit Program**

The JCSA distributes retrofit "kits" to property owners. These kits are given to customers free of charge or sold to them below cost. Some programs also offer assistance with purchase and installation of water-conserving plumbing fixtures. This option would also require inspection to ensure compliance and proper installation. Total effectiveness of this program varies depending on the type of devices provided and the distribution method.

The public education program should emphasize the benefits of, and the technologies for, the water-conserving retrofits. This material will focus on low and moderate cost "do-it-yourself" retrofits and underscore their favorable cost payback.

**(d) Water Conservation-Oriented Rate Structure**

- (1) The key issues that must be addressed to achieve demand reductions through the rate structure are conservation pricing and marginal cost pricing.

Conservation Pricing

Water is relatively inexpensive in comparison to other household purchases so reduction in use is limited even when price increases. Most studies have found consumption somewhat responsive to price changes but the change in consumption is usually proportionally less than the associated price change and often is only temporary. Essential water uses are generally less responsive to price changes than nonessential uses. Water use within the home, for example, is less responsive to price increases than exterior water use.

Estimates of the price elasticity in water demand from other areas vary widely. Studies estimate a 100 percent increase in water rates will decrease total residential water use from 1 to 60 percent and exterior water use from 27 to 70 percent. These studies suggest consumer behavior can be modified with rate increases but permanent behavioral adjustment may take several years to occur.

### Marginal Cost Pricing

Utilities have set water rates in the past to reflect the average cost of water. Economists have argued that water rates should reflect the cost of the next unit of water obtained by the utility, or the marginal cost. The charge for water from a new and expensive source should reflect that additional cost even if it is greater than the average cost. Rates based on these marginal costs would reflect the increasing scarcity and cost of new water supplies.

- (2) The JCSA will evaluate the following specific measures for attaining the conservation goals reflected in their water demand projections.

Rates: Effective July 1, 1996, a new increasing block rate structure replaced the flat rate structure and the seasonal surcharge for residential customers.

Other rate options that may be set up if needed are: replacing the single block rate that will remain in effect for commercial customers with the increasing block rate; increasing the seasonal surcharge and apply it to residential customers again; eliminating the current practice of allowing sub-meters off private service lines for outdoor uses and require a separate service connection and meter with appropriate fees; and assessing a pumpage fee similar to the peaking factor charged by electric utilities to encourage individual conservation efforts.

- (3) Incentives: A variety of incentives are available to encourage and promote water conservation. The JCSA may reduce or waive connection fees for expansion of existing structures if the water demand rate decreases or remains the same. This could be accomplished by replacing existing fixtures with ones that meet the requirements of the "advanced" plumbing code.

The JCSA may also reduce or waive fees in return for use of experimental or innovative commercial or industrial reuse/recycle operations. Another incentive might be a revolving loan program to finance water saving appliances and fixtures or water reuse programs, e.g., greywater irrigation systems.

### **(e) Universal Metering and Meter Repair and Replacement**

The JCSA meters all customer accounts. Studies show that metering results in lower water use since customers become "sensitized" to the amount of water used through the effect it has on the water bill. Metering is also an aid to detecting leaks on both sides of the meter.

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Maintenance programs for water meters are essential to ensure that an accurate measure of system integrity is obtained. Under-registration by meters may result in a significant percentage of unaccounted for water and loss of revenue.

The JCSA has a meter replacement program that requires the replacement of residential meters every 15 years. Fifteen (15) years is the average service life of residential meters. After all residential meters are within that 15-year service life a percentage of the total meters in the system will be changed every year to maintain that standard.

The JCSA is also considering a program to evaluate the sizing of meter installations for larger commercial customers. This study will evaluate the development of a routine maintenance and replacement program for these meters. Meanwhile, these meters are calibrated and repaired or replaced upon special request by a customer or based on irregular readings in error by 3 percent or greater.

The JCSA has an ongoing program for purchasing private water systems in James City County. Many systems the JCSA acquired were not metered or there were no records about the maintenance or age of the customer's meters. The JCSA installed meters in those systems that were not metered and replaced the meters in the systems that had no records of their age.

**(f) Water Conserving Landscaping**

Landscape irrigation can create seasonal peak water demands. Landscape irrigation use is largely dependent on weather conditions so large variations in peak demand occur between wet, normal, and dry years. Drought conditions typically increase total water use and peak water demands. Peak summer month demands on the JCSA systems were 40% greater than average day demands in 1995. Reducing the magnitude of seasonal peak water demand offers the greatest potential for optimal sizing of water supply, treatment, transmission, and distribution facilities.

One method of reducing the seasonal peak demand for landscape irrigation is to promote and encourage low water demand landscaping commonly called "Xeriscaping" in the arid Southwest but more appropriately called "Mesiscaping" in this region. The following are the fundamentals of mesiscaping:

- Planning and design that ensures the resident's long-term satisfaction and water conservation.
- Limiting the most long-term water-consumptive component of a landscape, the turf areas.
- Soil improvements to ensure water holding capacity, absorption properties, and nutrients for plant growth.
- Larger mulch areas that cool the soil, reduce weed growth, reduce evaporation, and slow erosion.

- Use of native and other adapted low-water-use plants.
- Irrigating at the right time and applying the right amount.
- Proper maintenance to avoid undermining the effectiveness of a well planned and installed mesiscape.

The acceptance and use of the mesiscape concept by most of James City County citizens are necessary for the long term success of this Conservation Plan. To achieve widespread use of mesiscape fundamentals, James City County/James City Service Authority will do the following:

- Use all available educational resources to ensure public awareness of the fundamentals, long term benefits, and cost-effectiveness of the mesiscape concept.
- Design and properly maintain demonstration landscapes in highly visible areas within James City County such as County buildings.
- Offer incentives to encourage builders, developers, and owners to install landscaping using mesiscape fundamentals. One incentive that may be considered is adding a surcharge to all consumption registered on sub-meters for exterior use. This surcharge would be less than the sanitary sewage fees these meters were installed to avoid but would recognize the seasonal nature of the peak demand they satisfy. Another incentive might be reduce connection fees for irrigation meters for certified mesiscape plans.
- Modify the Landscape Ordinance to require incorporation of the mesiscape concept in landscape plans for development.

**(g) Leak Detection and Water Audits**

Good construction standards for public water systems and a water main replacement program for areas where leaks recur will result in fewer leaks. The JCSA established and maintains **Standards and Specifications for Water Distribution Systems** which defines material and construction standards for wells, water mains, storage and pumping facilities and appurtenances. These Standards are reviewed and updated routinely to ensure they accurately reflect the best engineering practices, materials, construction standards, and inspection techniques. The JCSA also has an active ongoing program for leak detection and repair.

Ground elevations in James City County range from sea level to nearly 120 feet. This represents a pressure variation of approximately 50 pounds per square inch (psi) between the high and low areas of the County. In order to provide for adequate, but not excessive, system pressure in both the high and low areas the system is divided into main and secondary pressure zones. The secondary pressure zone consists of four separate areas. Each area is served from the main pressure zone through at least one pressure reducing valve (PRV).

Using PRVs to reduce system pressure aids conservation in two (2) ways. The first is by reducing losses from leaks or faulty fixtures that might go undetected for long periods. Secondly, PRVs will also reduce the amount of water consumed in "time dependent" uses such as showers.

Water audits offer a way to identify and eliminate excessive use of public water. Public water purveyors routinely compare the metered amount of water they produce with the metered consumption of their customers to determine the amount and percentage of unaccounted for water in their system(s). The last audit of the JCSA system was done in 1990 and concluded the unaccounted for water equaled 6% of system demand. This is very favorable when compared to the national average of 10-15%.

The JCSA systems will be audited during the first two years of each groundwater withdrawal permit. The results of these audits will be used to identify areas for the JCSA's active ongoing leak detection and repair program. Areas of recurring leaks will be included in the capital improvement program for line replacement.

#### **(h) Wastewater Reuse and Recycling as a Conservation Measure**

The RRWSG evaluated wastewater reuse as a long term alternative supply to meet the water demands on the York-James Peninsula. In light of strong opposition to this alternative from the Virginia Department of Health, the consultant's report concluded "it is highly unlikely that the Commonwealth of Virginia would approve a Lower Peninsula wastewater reuse project for potable use." This report went on to state that wastewater reuse to meet non-potable demands such as industrial cooling, irrigation and car washes might be more viable. The federal agencies reviewed the scope of the study performed for the Regional Raw Water Study Group and concurred with the consultants recommendation that further evaluation of wastewater reuse is needed to meet non-potable demands only.

"Wastewater reuse" is a general term applied to any process in which a wastewater stream is employed for any beneficial use. Wastewater recycling is a subclass of wastewater reuse and refers to a situation where the same water is used over and over to satisfy the same demand. For the purpose of this discussion, wastewater reuse is defined as a deliberate strategy of directly reusing wastewater effluent, treated to the degree appropriate for the intended reuse, to satisfy non-potable demands.

The JCSA Regulations require process water reuse in certain commercial/industrial operations, i.e., car washes. The water connection fees based on the size of the water meter, and also the associated sewer connection fees, encourage wastewater reuse by all commercial/industrial customers. Correct sizing of water meters to accurately register consumption has already been addressed in item 5, Universal Metering, above.

Sewage treatment in the Hampton Roads area is provided by the Hampton Roads Sanitation District who recently initiated a regional effort to develop a plan for permitting and implementing a program to satisfy non-potable demands through wastewater reuse. James City

County is represented by staff from the JCSA and is dedicated to maximizing the effectiveness of this initiative.

## **B. Drought Contingency Plan**

### **1. Water System Background**

The JCSA draws water from 42 wells located throughout James City County. Thirty-three wells are interconnected to improve reliability and provide fire flows. These wells form the Central Water System. Twenty-eight of the 33 wells are in constant production and the remaining five wells are on standby for emergency service.

The water withdrawn from these wells is pumped through 219 miles of transmission and distribution mains and four storage facilities to provide service to the Primary Service Area (PSA). The PSA is the part of James City County identified in the County's Comprehensive Land Use Plan as receiving urban-level services such as public water and sanitary sewer.

The other nine (9) wells serve six (6) individual subdivisions and a county park. These wells are not connected to the Central System. One of these wells is on standby duty only and water service is currently provided from the City of Williamsburg (Williamsburg).

Williamsburg provides water service to several areas in the PSA along the Williamsburg-James City County boundary. This service is provided under a 1982 annexation agreement that expires December 31, 1998. However, this agreement may be terminated earlier by Williamsburg if desired.

The Roberts District, in the eastern end of James City County, receives water from the City of Newport News (Newport News). These residents and businesses are retail customers of Newport News.

Within the PSA, the JCSA provides water service to 8,600 households (9,100 after 1997), five (5) public schools (six (6) after 1997), and 400 commercial and industrial customers. The projected population within the PSA by the year 2000 is 44,273.

### **2. Normal Water Demands and Flows**

The Central System has a Virginia Department of Health (VDH) operating permit capacity of 3.92 million gallons per day (mgd). The Independent Systems have a combined VDH operating permit capacity of 0.4 mgd.

Annual average-day demands on the JCSA systems increased 107%, 1.36 to 2.81 mgd, between 1988 and 1995. Average-day demands for the peak month increased 147%, 1.61 to 3.97 mgd, during the same period.



The annual average-day demand for the Roberts District in 1990 was 6.73 mgd. The annual average-day demand for the Roberts District in 1993 was 7.32 mgd of which approximately 4.8 mgd was provided to Anheuser Busch.

Fire flow at any point in the distribution system was determined to be at least 1,400 gallons per minute (gpm) by Camp Dresser and McKee during the 1992 update of the Master Water Plan.

There is limited data for maximum day and maximum hour demands in the JCSA water systems. During the most recent droughts in 1986 and 1987 the systems met demands without major inconvenience to the customers. The extended dry weather during the summers of 1993 and 1995 stressed the systems' capabilities to maintain storage but met customer demands.

### **3. Water Emergency Ordinance**

A Drought Management ordinance has been adopted to give the County standby emergency powers. The ordinance provides for the following:

- Declaration of a water emergency, each stage.
- Enforcement authority with penalties for above-normal, and incentives for below-normal, water consumption as defined in each stage of the ordinance.
- Stiffer penalties for noncompliance with conservation directives as listed above after due public notice. Similar restrictions, penalties, and incentives will also be imposed upon all County industrial and commercial users.

### **4. Proposed Emergency Water Sources**

During a drought situation, the JCSA General Manager will designate certain Central System wells as emergency water sources, if necessary, to provide domestic water for groundwater users whose wells have failed.

### **5. Parameters for Drought Declaration**

(a) Stage I: A drought declaration will be issued when:

- the average daily demand for the Central System exceeds 75% of the VDH operating permit capacity for 30 consecutive days or;
- by mutual agreement among the water purveyors in James City County or;
- a water emergency is declared by the Executive Director of the Department of Environmental Quality in accordance with the Groundwater Management Act.

The declaration is described in Paragraph 6, Drought Declaration. The Stage I emergency plan will then be initiated as outlined in Paragraph 7, Emergency Actions.

(b) Stage II: Emergency actions will start when:

- the average daily demand for the Central System exceeds 80% of the VDH operating permit capacity for 60 consecutive days, or;
- by mutual agreement among the water purveyors in James City County, or;
- a water emergency is declared by the Executive Director of the Department of Environmental Quality in accordance with the Groundwater Management Act.

The declaration is described in Paragraph 6, Drought Declaration, and will be carried out in accordance with that section. The Stage II emergency plan will then be initiated as outlined in Paragraph 7, Emergency Actions.

(c) Stage III: Emergency actions will start when:

- the average daily demand for the Central System exceeds 85% of the VDH operating permit capacity for 60 consecutive days, or;
- Stage II has been in effect for 30 days and demand has not stabilized at the Stage II trigger level or has not declined, or;
- by mutual agreement among the water purveyors in James City County, or;
- a water emergency is declared by the Executive Director of the Department of Environmental Quality in accordance with the Groundwater Management Act.

The declaration is described in Paragraph 6, Drought Declaration, and will be carried out in accordance with that section. The Stage III emergency plan will then be initiated as outlined in Paragraph 7, Emergency Actions.

## 6. Drought Declaration

Once the parameters for drought determination are met, as listed in Paragraph 5 above, the County will issue an emergency declaration that will initiate conservation measures as defined in Paragraph 7 below. The declaration will be issued to the public, and to commercial and industrial customers through local newspapers and cable television public access Channels 36 and 38. The declaration will state specific conservation efforts to be taken.

## 7. Emergency Actions

### (a) Stage 1

Once a drought declaration is issued the following emergency actions for Stage I will be put into effect.

- Voluntary water conservation measures will be encouraged.
- A public awareness and information process will be implemented to distribute additional water-conservation information and other special notices to JCSA customers. Industrial and commercial users will be asked to initiate internal conservation plans for their respective firms.
- An incentive plan will be established to reward water saving customers. The plan will be based on normal consumption records and will offer financial incentives related to the amount of water saved.

**(b) Stage II**

If Stage I fails to bring about necessary water savings, or when a parameter described in Paragraph 5 for Stage II is reached, Stage II will be put into effect. The following emergency actions will occur in Stage II:

- Mandatory water conservation of at least 10% for each household and 25% for industrial and commercial users is required unless exempted by the General Manager or his designee. Increased water costs will be charged for water used in excess of the conservation goals.
- The watering of shrubbery, trees, lawns, grass, plants, or any other vegetation is not permitted, except indoor planting, greenhouse, or nursery stocks, or from a bucket or other container not exceeding three (3) gallons in capacity and except watering by commercial nurseries of freshly planted plants upon planting and once a week for five weeks following planting.
- Washing of automobiles, trucks, trailers, boats, airplanes, or other types of mobile equipment is not permitted except in facilities operating with a water recycling system approved by the General Manager of the JCSA, or except from a bucket or other container not exceeding three (3) gallons in capacity; provided, however, that any facility operating with an approved water recycling system shall prominently display in public view a notice stating that such system is in operation. In lieu of the provision hereof the County Administrator may curtail the hours of operation of commercial enterprises offering such services or washing their own equipment.
- Washing of streets, driveways, parking lots, service station aprons, office buildings, the exterior of homes or apartments, or other outdoor surfaces by commercial washing/cleaning services is not permitted except from a bucket or other container not exceeding three (3) gallons of capacity.

- The operation of any ornamental fountain or other structure making similar use of water is not permitted.
- The filling of swimming and/or wading pools, or the refilling of swimming and/or wading pools that were drained after the effective date of the declaration is not permitted.
- The use of water from fire hydrants for any purpose other than fire suppression or other emergency is not permitted except as authorized by the General Manager of the JCSA.
- Serving of water in restaurants, except upon request of customers, will not be permitted.
- No new water service connections will be sold, and permits for the installation of new wells will not be issued, except for replacement of failed private domestic wells where public water service is not available.

(c) **Stage III**

If Stage II fails to bring about necessary water savings, Stage III will be put into effect. The following emergency actions will occur in Stage III:

- The General Manager of the JCSA shall allocate water to customers based on a reduction of either the average consumption of their last twelve months billing or water consumption data available from similar activities of equal intensity.
  - a. Industrial, commercial, and school use of water shall be reduced to 25% of normal consumption.
  - b. The amount of water allocated shall not be less than fifty (50) gallons per person per day per household.
- Any water use over the allocation established above will be billed at 300 percent (300%) of the current effective water rate as specified by the JCSA in addition to the regular rate.
- Installation of new water service connections will be suspended.
- Application for appropriate state or federal drought emergency grants will be submitted.

**8. Revocation of Drought Declaration**

When the average daily demand for the Central System has fallen below the trigger levels for each increased stage of water conservation and has remained below that level for 30 consecutive days, or by mutual agreement of the water purveyors in James City County, or when the declaration of a water emergency is lifted by the Executive Director of the Department of Environmental Quality in accordance with the Groundwater Management Act, the drought management requirements for that stage will be lifted. All customers will be notified in accordance with Section F. It should be emphasized that personal conservation efforts shall be maintained to avert other emergency situations.

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**SECTION 34. WITHDRAWAL IMPACT MITIGATION PLAN****Preamble**

The purpose of this mitigation plan (Plan) is to establish a dispute-resolution mechanism that existing and "grandfathered" groundwater users can use to resolve claims that may arise because of groundwater withdrawals from the James City Service Authority's (JCSA) wells in James City County, Virginia (the Project).

Pursuant to the Groundwater Act of 1992 and the regulations adopted under it, the Department of Environmental Quality (DEQ) issued JCSA permit to withdraw an maximum monthly amount of \_\_\_\_\_ gallons and an annual amount of \_\_\_\_\_ gallons from this project.

Modeling predictions, developed by JCSA and accepted by the DEQ as part of the record of permit proceedings, project the expected zones of influence of withdrawals from the permitted wells and indicate that the withdrawals will not have significant adverse effects on known existing permitted or grandfathered groundwater users. There may be nonpermitted groundwater users within the area where simulated drawdown exceeds one foot. To safeguard existing nonpermitted groundwater users, JCSA developed this mitigation plan.

The hope is that claims can be resolved through informal discussions and negotiations between the claimant and JCSA. The procedures of the Plan are designed to be used in addition to such informal discussions and negotiations or other procedures already provided by law. The plan is intended to provide a speedy, nonexclusive, low-cost means of fairly resolving specific claims relating to withdrawals from the permitted wells.

The Plan has seven sections. Section I contains definitions of certain terms used in the Plan. Section II establishes procedures for the filing and initial review of claims. Section III establishes a committee for reviewing disputed claims that withdrawals from the permitted wells within the Project have adversely affected a well or wells outside the Project. Section IV establishes procedures for resolving disputed claims. Section V establishes standards that the committee will apply to resolve disputed claims. Section VI addresses administrative matters.

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## MITIGATION PLAN

### Section I: Definitions

Presented below are definitions of terms used in the mitigation plan:

"Adverse Impact" means (a) for Historical Yield, a significant diminution in Historical Yield, or (b) for Historical Beneficial Use, a change in groundwater that renders it unsuitable for the Historical Beneficial Use.

"Claimant" means an Eligible Owner who wants to take advantage of the procedures in the Plan.

"Committee" means the committee established under Section III of the Plan.

"Date of the Plan" means the date on which the DEQ approves the Plan.

"Eligible Owner" means (a) any owner of a well that (i) was lawfully operating as of the Date of the Plan or, in the case of seasonal or intermittent operation, was lawfully operating within six months before or after that date (or, with respect to agricultural or drought-relief wells, such other date determined by the Committee as necessary to prevent abrogation of documented lawful groundwater rights); and, (ii) is lawfully operating as of the date of making a claim under the Plan (unless, when the claim is made, the well is inoperable as a result of conditions that are the subject of the claim) or (b) any person having permit or certificate to withdraw groundwater that has satisfied all conditions of that permit or certificate and is otherwise required by law to withdraw water as of the Date of the Plan.

"Historical Beneficial Use" means the actual lawful uses of groundwater from the Well (before the Date of the Plan), such as domestic, agricultural, recreational, commercial, or industrial uses, that can be established to the satisfaction of the Committee.

"Historical Yield" means the actual, sustained, lawful average daily yield of the Well before the Date of the Plan that can be established to the satisfaction of the Committee. For certified or permitted wells, the average daily yield shall be based on withdrawals for any consecutive 12-month period during the previous three years.

"Rebuttable Presumption" means that the Committee shall assume that Withdrawals are (or are not, as the case may be; see Section V, Paragraph 1) the cause of the claimed Adverse Impact on the Well of the Eligible Owner unless and until evidence tending to disapprove the assumption is presented to the Committee.

"Repairs" means an appropriate process that will restore to the Claimant a supply of water equal to the Historical Yield and Historical Beneficial Use of the water from the Well, including, but not limited to, lowering the existing pump in the Well, installing a larger pump in the Well, drilling a new well, or connecting the user to the County's public water supply system.

"Well" means a well that is the subject of a claim.

"Withdrawals" means withdrawals from any well(s) subject to the Permit.

## Section II: Filing and Initial Review of Claims

1. Any Eligible Owner who believes that Withdrawals may have caused an Adverse Impact on his or her Well may become a Claimant by submitting to JCSA a written request for mitigation of the Adverse Impact or for reimbursement for the costs of Repairs, or both (the "claim"). For ensuring accurate assessments of such a claim, it must be filed within 90 days of the time that the Claimant determines that Withdrawals may have caused an Adverse Impact on the Well. If the Claimant wants a temporary water supply or other interim relief, the claim shall indicate that desire. The Claimant shall allow JCSA, their employees, and their agents reasonable access to the property and the allegedly affected Well as necessary to determine the merits of the claim, including tests and inspections of the well.
2. A timely claim may be filed only after JCSA initiates groundwater withdrawals from the permitted wells.
3. If the Claimant requests, JCSA may, at JCSA's sole discretion, enter into an agreement with the Claimant under which JCSA will provide or pay for a temporary water supply or an investigation of the cause of the alleged Adverse Impact on the Well, or both. The costs incurred by JCSA shall be subject to reimbursement as provided in an agreement between the Claimant and JCSA and in Section V, Paragraph 4, of the Plan.
4. Within five business days after receiving a claim, JCSA will notify the Claimant in writing that JCSA:
  - (a) agrees to mitigate the claimed Adverse Impact or reimburse the Claimant, or both;
  - (b) denies the claim; or
  - (c) needs additional documentation from the Claimant to respond to the claim. If JCSA denies the claim or any part of it, the notice will
    - (1) state the reasons the claim, or any part of it, was denied;
    - (2) include a copy of the Plan; and
    - (3) advise the Claimant that he or she may seek resolution of the claim by invoking the procedures in Section III and Section IV of the Plan.



5. Pursuant to Paragraph 4 (c) of this Section, JCSA may request documentation showing
- (a) that the Claimant is the owner of the Well;
  - (b) that the Well:
    - (1) was lawfully operating as of the Date of the Plan or, in the case of seasonal or intermittent operation, was lawfully operating within six months before or after that date; or, with respect to agricultural or drought-relief wells, such other date determined by the Committee as necessary to prevent abrogation of documented lawful groundwater rights; and
    - (2) was lawfully operating as of the date the claim was made under the Plan (unless when the claim was made, the Well was inoperable as a result of the claimed Adverse Impact).
  - (c) that the Claimant has a certificate or a permit for withdrawing groundwater from the Well (if applicable) and has satisfied all conditions imposed by the certificate, the permit, or the applicable law;
  - (d) the depths of the Well, the pump, and the screens (if available);
  - (e) the location of the Well with enough specificity to locate and identify it in the field;
  - (f) the Historical Yield of the Well (if applicable);
  - (g) the Historical Beneficial Use of the Well;
  - (h) the quality of the water in the Well (if applicable); and
  - (i) the reasons the Claimant believes Withdrawals have caused an Adverse Impact on the Well.
6. Within 15 business days of receiving all documentation requested pursuant to Paragraph 5 of this Section, JCSA will notify the Claimant in writing that it:
- (a) agrees to mitigate the claimed Adverse Impact or reimburse the Claimant, or both; or
  - (b) denies the claim. If JCSA denies the claim or any part of it, the notice will:
    - (1) state the reasons that the claim or any part of it was denied;
    - (2) include a copy of the Plan; and
    - (3) advise the Claimant that he or she may seek resolution of the claim by invoking the procedures in Section III and Section IV of the Plan.

7. A Claimant whose claim, or any part of the claim, has been denied may seek resolution of the claim by invoking the procedures in Section III and Section IV of the Plan.

### **Section III. The Committee**

1. Resolution of disputed claims under the Plan will be administered by a committee of three (the Committee) constituted and empowered as stated below.
2. The membership of the Committee will consist of:
  - (a) one representative selected by the Claimant,
  - (b) one representative selected by JCSA, and
  - (c) one representative selected by mutual agreement of the members of the Committee described in items (a) and (b). If the representatives of the Claimant and JCSA are unable to select a third representative, such representative shall be selected by the Dispute Resolution Center, 701 E. Franklin Street, Suite 712, Richmond, Virginia 23219, after consultation with the representatives of Claimant and JCSA and the Department of Geology at the College of William and Mary, Williamsburg, Virginia 23187. Each member of the Committee shall have technical expertise in groundwater supply issues and shall have a baccalaureate or graduate degree in geology or hydrogeology or an equivalent professional certification in geology or hydrogeology or, solely for the member described in item (c), a degree or certification in any other technical or scientific discipline deemed adequate either by the selecting members or by the Dispute Resolution Center.
3. JCSA shall reimburse the members of the Committee and the Dispute Resolution Center for reasonable time spent at a rate prevailing in the area for experts in the above-listed fields and for direct costs incurred in administering the Plan. The Claimant may, at his or her option, choose to provide the reimbursement for the member of the Committee selected by the Claimant.

### **Section IV. Claim Resolution Procedures**

1. If after the filing and initial review of his or her claim pursuant to Section II of the Plan, the Claimant finds JCSA's offer of mitigation or reimbursement inadequate or JCSA informs the Claimant that JCSA will not mitigate the claimed Adverse Impact or reimburse the claimant, the Claimant may accept JCSA's decision or may elect to pursue the claim under the claim resolution procedures set out in this Section of the Plan ("claim Resolution Procedures"). To pursue the claim, the Claimant shall notify JCSA that he or she is initiating the disputed claim Resolution Procedures of the Plan by referring his or her claim to the Committee. At the same time, the Claimant shall identify a person qualified under Section II, Paragraph 2, to serve as the Claimant's representative on the Committee.

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2. Within five business days after receiving such notice from the Claimant, JCSA shall identify representative on the Committee, shall notify the Claimant and the Claimant's representative of the identity of the JCSA representative, and shall instruct the two representatives to select a third member within ten business days.
3. Within ten business days of the selection of its third representative, the Committee shall establish a reasonable deadline for submittal of all documentation it needs to evaluate the claim. Both the Claimant and JCSA must abide by this deadline. The Committee shall reach a decision on the claim by majority vote within 15 business days after the Claimant and JCSA have submitted all documentation the Committee needs to evaluate the claim. The Committee shall take whatever steps it deems necessary to reach a decision, but the decision must be based on the standards in Section V of the Plan.
4. If the Committee decides that the claim qualifies for mitigation or reimbursement to any extent under the Plan, it shall approve the claim to that extent and shall, within five business days, notify the Claimant and JCSA of the approval, specifying in writing the reasons for its decision. JCSA shall, as directed by the Committee, mitigate the claimed Adverse Impact as soon as practicable, or shall reimburse the Claimant within ten business days for the amount awarded by the Committee, or both.
5. If the Committee decides that the claim does not qualify for mitigation or reimbursement under the Plan, it shall notify the Claimant and JCSA of that decision, specifying in writing the reasons for the decision.
6. JCSA reserves the right, under circumstances that it believes constitute intentional abuse of the process established by the Plan, to refuse to convene the Committee. Such circumstances include the filing of a frivolous or fraudulent claim. If JCSA exercises its right to refuse to convene the Committee, JCSA shall notify the Claimant in writing, specifying the reason(s) for the refusal. The Claimant may then, at his or her own risk, convene the Committee. A Claimant convening the Committee pursuant to this paragraph shall be responsible for all costs of convening the Committee, including reimbursement of the members of the Committee for reasonable time spent (at the prevailing rate for experts in the field) and all direct costs incurred by the Committee in evaluating the claim. If the Committee convened pursuant to this paragraph finds in favor of the Claimant, JCSA shall reimburse the Claimant for the costs of convening the Committee and, in addition, shall be liable to the Claimant for a penalty that shall be established by the Committee. The penalty shall not exceed 100 percent of all costs incurred by the Claimant in convening the Committee.

### **Section V: Standards for Resolving Disputed Claims**

1. To qualify for mitigation of the claimed Adverse Impact or reimbursement of the cost of repairing the claimed Adverse Impact, the Claimant must provide evidence satisfactory to the Committee:
  - (a) that the Claimant is the owner of the Well;

- (b) that the Well (i) was legally in existence and lawfully operating as of the Date of the Plan; or, in the case of seasonal or intermittent operation, was lawfully operating within six months before or after the Date of the Plan; or, with respect to agricultural or drought-relief wells, such other date determined by the Committee as necessary to prevent abrogation of documented lawful groundwater rights, and (ii) was lawfully operating as of the date of the making of the claim under the Plan (unless when the claim was made the Well was inoperable as a result of the claimed Adverse Impact); or (iii) the well and withdrawals were permitted or certificated and all conditions in such certificate or permit or otherwise imposed by law to establish groundwater rights have been satisfied before the Date of the Plan;
- (c) that, on the basis of information compiled pursuant to Section I, other information presented by the Claimant or JCSA, and other inquiries the Committee, the Claimant, or JCSA chooses to undertake, the claimed Adverse Impact was more likely than not caused by Withdrawals; and
- (d) that the costs of repairs undertaken before initiation of the disputed claim resolution procedures described in Section IV of the Plan were necessary and reasonable.

As to Item (c) above, and only as to a claimed Adverse Impact on Historical Yield, there shall be a rebuttable presumption that Withdrawals are more likely than not the cause of the claimed Adverse Impact if the Claimant demonstrates that (i) the well is screened in the Chickahominy-Piney Point Aquifer and (ii) the Well is located in the area of impact for the aquifer(s) in which it is screened.

There shall be a rebuttable presumption that Withdrawals are not the cause of the claimed Adverse Impact on Historical Yield or Historical Beneficial Uses if (i) the Well is not screened in the Chickahominy-Piney Point Aquifer or (ii) the Well is located outside the area of impact for the aquifer(s) in which the Well is screened.

2. Costs beyond those necessary to restore Historical Yield and Historical Beneficial Uses shall be at the Claimant's expense.
3. Any Claimant who has previously been reimbursed by JCSA for repairs as a result of an earlier negotiation or a claim filed under the Plan will not be reimbursed or compensated for correction of faulty or otherwise incorrect repairs related to the earlier negotiations or claim unless such previous repairs were performed under JCSA's supervision.
4. If and to the extent permitted wells owned by third parties and operating under a mitigation plan similar to the Plan are shown to the Committee's satisfaction to have contributed to the Adverse Impact on the Well, JCSA's share of the costs of mitigation or well repair under the Plan shall be allocated in proportion to its share of the damage. Such a determination shall be made by the Committee, but only after the Committee notifies the third-party permittee and provides the permittee an opportunity to participate in the Committee's proceeding.

**Section VI: Administration of the Plan; Notice**

1. The Committee may, at its discretion, request that JCSA assist it in administrative, accounting, and clerical actions required under the Plan.
2. Notices required under the Plan may be served by hand or certified mail. Notice to JCSA shall be addressed to:

General Manager  
James City Service Authority  
P.O. Box 8784  
Williamsburg, VA 23187

3. Notices of the Plan shall be published in the Richmond Times-Dispatch, the Virginia Gazette, and the Daily Press by JCSA within 30 days of issuance of a permit for the permitted wells by the DEQ. The notice shall specify how interested persons may obtain a copy of the Plan and shall, at a minimum, state that under the Plan, a claim may be filed within 90 days of the time the Claimant determines that Withdrawals may have caused an Adverse Impact on his or her Well.
4. The Plan is intended to provide a relatively speedy and low-cost means of fairly resolving claims of Adverse Impact attributed to Withdrawals. All remedies and procedures under the Plan are in addition to those otherwise provided by law. Use of the process established by the Plan shall be a prerequisite to filing the claim of alleged damage from Withdrawals in a court of competent jurisdiction. Costs incurred by either party in implementing the Plan, including without limit the cost of interim water supplies, the costs of investigation, and the costs of well repair or remediation, may be included in claims brought before a court of competent jurisdiction.
5. The DEQ and its staff have no responsibility for the case-by-case administration of the Plan, but nothing in the Plan shall prevent DEQ staff from providing information needed for resolving specific matters before the Committee, at the request and discretion of the Committee.