

Water Conservation and Management Plan



King George County, Virginia

Gateway to the Northern Neck

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1.0 INTRODUCTION

1.1 Purpose of the Plan

This Water Conservation and Management Plan (WC&MP) provides a framework for identifying current and planned water conservation and demand management activities of the King George County Service Authority (KGCSA or the Service Authority).

This Plan provides for achieving water use reduction goals by:

- improving water system operations and maintenance,
- reducing system demands,
- encouraging more efficient water use,
- reducing water loss and waste, and
- increasing customer awareness regarding responsibilities for water conservation.

1.2 Eastern Virginia Groundwater Management Area

Under the Ground Water Management Act of 1992, Virginia manages groundwater through a program that regulates the withdrawals of groundwater in certain areas called Groundwater Management Areas (GWMA). There are two Groundwater Management Areas in the state: the Eastern Virginia Groundwater Management Area comprises all areas east of Interstate 95 and the Eastern Shore Groundwater Management Area includes Accomack and Northampton counties. Any person or entity located within a declared GWMA must obtain a permit to withdraw 300,000 gallons or more of groundwater in any one month. King George County is included in the Eastern Virginia Groundwater Management Area.

As per 9VAC25-610-100 of the Virginia Administrative Code, the Virginia Department of Environmental Quality (DEQ) requires that a WC&MP be developed and implemented as part of the application process for new and expanded groundwater withdrawal permits. (See Appendix A.)

Under the guidelines, the WC&MP must include detailed policies and procedures pertaining to:

- Water savings equipment, processes, and procedures;
- A water loss reduction program;
- A water use education program;
- An evaluation of potential water recycling and reuse alternatives;
- Requirements for water use reduction and restrictions during drought or water use emergencies; and
- Conservation program assessment and metrics.

1.3 Existing Water Sources

Groundwater is the primary water source for the residential, industrial, institutional, and agricultural sectors in King George County. The Rappahannock River is the source of supply for some non-community systems, including several quarries, a power plant, and agricultural uses. The Potomac River, on the northern border of King George County, is not used as a water source due to its high salinity.

1.4 KGCSA Community Water Systems

There are twenty-six (26) community water systems (CWS) in King George County and all rely on groundwater. KGCSA owns and operates nine (9) of these systems and eight of the systems have groundwater withdrawal permits as detailed below.¹

Table 1-1: KGCSA Community Water Systems with Groundwater Withdrawal Permits

CWS ID	CWS Name	Number of Active Wells	Permit Type
GW00195EU	Canterbury	2	Existing
GW00196EU	Circle	2	Existing
GW00193EU	Fairview Beach/Potomac Landing	2	Existing
GW00194EU	Hopyard Farm	2	New/Expanded ²
GW00200EU	Dahlgren	5	Existing*
GW00197EU	Courthouse	3	Existing*
GW00198EU	Oakland Park	2	Existing*
GW00199EU	St. Paul 's Church (Includes Owens system)	2	Existing

KGCSA water systems serve approximately 2,900 customers/connections that include residential, commercial, municipal, and light industrial users. The service area of these systems includes the principal county subdivisions as detailed above. All users are individually metered.

Water is used for domestic purposes, light industrial processes (e.g., pre-cast concrete fabrication), and commercial applications (e.g. car washes and restaurants). The KGCSA supplies approximately 750,000 gallons of treated drinking water each day.

The Fairview Beach, Oakland Park, Courthouse and Hopyard Farm water treatment systems use green sand filtration/ion exchange and chlorination technologies to treat groundwater prior to storage and distribution. These technologies are required due to the elevated iron and manganese concentrations of the raw water. Groundwater withdrawn from the remaining systems requires only chlorination prior to storage and distribution.

¹ The Nindes Store CWS is the only KGCSA system that does not require a Groundwater Withdrawal Permit.

² An Expanded Use permit application has been submitted to DEQ for the Hopyard CWS.

1.5 KGCSA Wastewater Treatment Systems

KGCSA operates five (5) wastewater treatment plants (WWTPs) located at Dahlgren, Hopyard Farm, Fairview Beach/Potomac Landing, Oakland Park, and Purkins Corner. The Dahlgren WWTP is an orbital oxidation ditch. The Hopyard Farm and Fairview Beach/Potomac Landing WWTPs utilize sequencing batch reactors (SBR), while the Oakland Park and Purkins Corner WWTPs utilize older package plant technology. All of the WWTPs have been modified and/or upgraded to provide for various degrees of biological nutrient removal (BNR) technology. King George County and KGCSA are evaluating decommissioning the Oakland Park and Purkins Corners plants; if decommissioned, the wastewater that is currently directed to these plants would be re-routed to the newer and higher capacity Hopyard Farm WWTP.

1.6 Anticipated Future Growth

Since 1970, King George County has experienced a moderate growth rate when compared to neighboring counties. In 2010, the county population was approximately 23,600. In 2017, the population is estimated to have grown to approximately 25,400, which amounts to an annual average increase of less than 1% per year over the seven years.

Table 1-2: King George County - Population Estimates – 2010 - 2017³

2010 Census	2011	2012	2013	2014	2015	2016	2017
23,584	23,333	23,945	24,460	24,739	24,600	24,724	25,381

The following table provides the population projections for 2020 – 2045, as prepared by the Weldon Cooper Center. The projections below reflect an average increase of 1.5% each year.

Table 1-3: King George County - Population Projections – 2020 - 2045⁴

2020	2025	2030	2035	2040	2045
25,510	28,002	30,494	32,724	34,955	37,185

It is important to recognize that less than 35% of the approximately 8,400 households in King George County are KGCSA water customers. The remaining households rely on private wells. The County anticipates that much of the future residential and commercial growth will occur within the service area of the Courthouse and Hopyard community water systems.

1.7 Goals of the Water Conservation and Management Plan

The goals of this WC&MP are to:

- Promote efficient water use;
- Encourage customers to conserve water;

³ Source: Weldon Cooper Center for Public Service.

⁴ Source: Weldon Cooper Center for Public Service.

- Increase customer knowledge of water conservation principles;
- Realize long-term water demand reductions;
- Preserve and protect groundwater from over-use and loss;
- Minimize long-term water supply costs; and
- Support the long-term water supply needs of citizens and businesses, both now and in the future, while staying within permitted withdrawal limits.

1.8 Continuous Improvement

KGCSA recognizes that the mission of conserving water, reducing losses and reducing demands is a long-term goal that will continue to require on-going efforts by the Service Authority and its customers. The Service Authority recognizes that the goals and strategies outlined in this WC&MP will need to be routinely evaluated and revised as needed to effectively manage demands.

-- *End of Section* --

2.0 WATER SAVING EQUIPMENT, PROCESSES AND PROCEDURES

For more than a decade, the King George County Service Authority has been systematically employing a variety of strategies designed to reduce water usage throughout the systems. The Service Authority's Regulations (See Appendix B) detail the rules and regulations of the Authority and reflect the obligations of the King George County Service Authority to its customers. These Regulations also reflect customer responsibilities and specific requirements that the customer must observe. Some sections of the Regulations are directly related to the use of water and the Authority's desire to encourage conservation, prevent theft of water, and reduce water loss and wasting of water.

2.1 Customer Meters

One of the most critical methods any utility can utilize to accurately measure and reduce water usage is a customer metering program. Water meters are key components of the water conservation program because they ensure fairness by charging customers for the amount of water consumed; facilitate system accountability and monitoring of distributed water volumes; provide a dis-incentive to wasting water; and enable more rapid detection of water line leaks and breaks in the distribution system.

KGCSA utilizes the newer ultrasonic (Kamstrup) meter technology that has no moving parts. These meters are equipped with logging capabilities and alarms for high usage and leak detection protocols.

As part of the metering program, the KGCSA observes the following procedures:

- All water consumption within the KGCSA systems is metered, except for fire protection, authorized use of fire hydrants, flushing, and filter backwash at the treatment facilities.
- Customer meters are approved, installed, maintained, and removed by the KGCSA. All meters are tested before installation and after proper installation; all meters are sealed by the KGCSA. As per the Service Authority's Regulations, no water meter shall be moved, removed or relocated, except by KGCSA employees. Customer meters are read bi-monthly and customers are billed on a bi-monthly basis.
- When there is an indication that a customer meter is malfunctioning, the Service Authority will test the meter, and replace it if necessary.
- Fire service detector check valve meters are read annually or on a more frequent basis as determined by the KGCSA.

2.2 Customer Usage Monitoring

The KGCSA reads customer meters and issues bills on a bi-monthly basis. After meter readings are uploaded, the automated information management system automatically compares current readings to historical customer usage records. When the system notes unusually high water use, it flags the account. Service technicians then complete a manual meter re-read to verify the information. If higher than normal consumption is verified during the re-read, the KGCSA contacts

the customer to determine possible causes (e.g., more frequent irrigation, water line leaks/breaks, and leaking toilets or faucets, etc.), recommends solutions to address the problem(s), and encourages the customer to address them as soon as possible. The customers with the newer meter technology, are continuously monitored for leaks and high usage with automatic notification upon meter reading or as requested by KGCSA management.

Water bills include a bar graph that provides water usage history for the previous six billing cycles. This allows customers to monitor their usage over a full year. Where appropriate, KGCSA technicians recommend changes to water use patterns to help customers reduce consumption and minimize corresponding water and wastewater bills.

The use of the automated information management system, detailed water usage data on the water bills and KGCSA's efforts to notify customers of suspected leaks are all efforts that are designed to lead to reductions in both water usage and water losses.

2.3 Water Rate Structure

KGCSA water and sewer customers are billed bi-monthly. The Service Authority's rate structure is conservation oriented. The first 10,000 gallons of usage is billed at \$4.98 per 1,000 gallons, usage that exceeds 10,000 gallons is billed at \$5.68 per 1,000 gallons.⁵ A rate structure of this nature encourages conservation because the customer is billed for each 1,000 gallons used, and after usage exceeds 10,000 gallons, the cost per thousand gallons increases. The wastewater bill is based on the water usage so water usage impacts the sewer portion of the bill as well. A copy of the Service Authority's rates and fees is included in Appendix C.

2.4 Irrigation Meters

Customers can request installation of a separate water-only meter connection to use solely for irrigation. However, for these installations the customer is required to pay a separate, substantial connection fee, as well as at least a minimum bill during each billing cycle. Because of the expense involved, few customers have elected to install irrigation meters.

2.5 Tampering Fees

Only KGCSA employees, or designated representatives, are permitted to turn on, turn off, move, remove, or replace a water meter or any connections to it. Under current regulations, should the KGCSA determine that a customer has tampered with the meter or its connections, the customer will be subject to a \$250 penalty.

The newer meter technology, notifies the meter reader if the meter was removed, installed backwards, or otherwise tampered with. This notification is provided upon meter reading and a report with details of each event.

⁵ Rates in effect for FY2019/2020. As shown in Appendix C, there are several fixed charges applied to the bill as well.

The tampering policy discourages water theft, allows the Authority to better quantify water losses, and enables the Authority to reduce non-revenue water.

2.6 Termination of Service

Customers who do not pay their utility bills in a timely manner will be denied further water service. If by the payment date shown on a utility bill the KGCSA has not received complete payment of the amount(s) shown on the bill, the KGCSA shall mail to the customer a notice of termination within seven (7) days after the payment due date. In case of a customer-tenant, the KGCSA shall mail a copy of such notice to the owner of the premises.

If, prior to the date of termination, the KGCSA has not received at its office complete payment of the amount shown on the notice of termination, or the customer has not notified the KGCSA that he disputes the correctness of all or part of the amount shown on the notice of termination, then the KGCSA shall terminate water service provided to the customer on the specified date of termination. When water service is terminated, it will be accomplished by cutting off service at the meter; application of a seal or lock to the meter; or removal of the meter.

While this termination policy is primarily designed to reduce financial losses, the policy helps prevent wasting of water, in particular where a residence may be vacant but there is a leak.

2.7 Landscaping and Irrigation

Reducing the outdoor usage of water is one strategy that KGCSA is utilizing to reduce water demands. In the past, the County Board of Supervisor members and the KGCSA Board Members have discussed and encouraged water conservation, including outdoor water usage, when holding Town Hall meetings and some Service Authority Board Members have included conservation information on their Facebook pages.

Action 1:

During calendar 2020 and 2021, increase the amount of water conservation information available on the County's website. Include links to information prepared by others – including EPA, AWWA, DEQ, etc.

In order to further encourage water conservation by reducing irrigation, the Service Authority will do the following:

- During calendar 2020 and 2021, increase the amount of water conservation information available on the County's website. Include links to information prepared by others – including EPA, AWWA, etc. In particular, information regarding landscaping and irrigation will be highlighted. (See Appendix D. for websites the County may reference).
- KGCSA will investigate the feasibility of mandating the use of rain sensors for all new irrigation systems installed at commercial and residential properties (Goal – during calendar 2021).

2.8 Consumer Confidence Report

KGCSA provides a Consumer Confidence Report to system users annually as required by EPA and VDH. EPA's CCRiWriter program is used to produce the reports and the program includes some standard language that is designed to encourage water conservation. In 2021, when the 2020 CCRs are prepared, KGCSA will include water conservation tips in the reports. Sample language is shown below.

Action 2:

In 2021, include water conservation tips in the Consumer Confidence Report for each system.

Water Conservation Tips

Water conservation is important in King George County because the water systems rely on groundwater and the availability of groundwater is limited. Simple water conservation techniques can help you reduce your water usage and small changes can make a noticeable difference. Do the planet and our future generations a favor, conserve water and look for ways to change your consumption patterns. There are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered (not sidewalks, driveways, etc.). Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort!
- Visit www.epa.gov/watersense for more information.

2.9 Uniform Statewide Building Code

King George County has adopted and enforces the Uniform Statewide Building Code (USBC). Building officials have the responsibility and authority to enforce the USBC and the KGCSA regulations that limit water use. KGCSA has several regulations that limit water use from fixtures, public lavatories, carwashes, and air conditioners that increase water use efficiency. In all new construction and in the repair and replacement of fixtures, only fixtures which do not exceed the flow rates detailed in Table 2-1 are permitted when KGCSA facilities are used. Table 2-1 illustrates the fixture flow rate limitations, which are based on the equivalent of pressure at the fixture of 50 psi.

Table 2-1: Fixture Flow Rate Limitations

Fixture	Limitation	Units
Water Closets, Tank Type	1.6	Gallons per Flush
Water Closet, Flushometer Type	1.6	Gallons per Flush
Urinals, Tank Type	1.0	Gallons per Flush
Urinals, Flushometer Type	1.0	Gallons per Flush
Shower Heads	2.5	Gallons per Minute
Lavatory/Sink Faucets	2.2	Gallons per Minute

In addition to the limitations detailed above, only the following is permitted in public lavatories which use KGCSA facilities:

- Faucets in public restrooms shall limit the quantity of hot water delivered to a maximum of 0.25 gallons per cycle and are not to exceed a total flow rate of four gallons per minute for hot and cold water; and
- No urinal or water closet that operates on a continuous flow or continuous flush basis shall be permitted.

Adherence to requirements dictated by the 2009 National Residential Construction Code (NRCC) ensures that water-saving devices are used in new construction, but most structures built before implementation of the codes are likely to use conventional fixtures having no water-conserving features. Accordingly, the KGCSA encourages those customers to retrofit existing structures with low flow plumbing fixtures (e.g., toilets, showers) on a voluntary basis. Information to be added to the KGCSA website will encourage retrofitting of older fixtures – for both Service Authority customers and self-supplied users. (Goal – during calendar 2021).

Currently, KGCSA disseminates information about in-house water conservation through interaction with customers with high water usage, official Facebook pages of Board Members, periodic newsletters, and Town Hall meetings.

2.10 Leak Detection and Repair

Accurately estimating the volume of water that is lost due to leaks⁶ (as opposed to water that is simply UAW⁷ loss.) due to under-registration of customer meters, or unmetered uses, is a difficult task for most utilities.

Identifying the location of leaks in the distribution system and successfully repairing the leak depends on the following factors:

- Age and material of the water pipe;
- System operating pressures;
- Soil type;
- Soil pH; and,
- Depth of the pipeline.

The KGCSA uses reasonably available, industry accepted, current technologies for leak detection as appropriate. These include, but are not necessarily limited to, historical water use changes, reports of low water pressure or flow disruption, leak detection through appearance (e.g., ponding or flowing water), leak quantification through flow monitoring, and, locating hidden leaks with leak detection equipment (acoustic, thermal, electromagnetic, tracer, etc.).

The Authority's policy is to repair pipe leaks as expeditiously as possible and prioritizes the leaks that appear to attribute to the larger water losses.

The leak detection and repair program will be paired with the water audit program described in this document. The water systems with the greatest apparent losses are the ones where the Authority will target efforts to locate leaks.

2.11 Regulation of Water System Pressure

Currently, all the KGCSA community water systems distribute water to customers in the 55-60 psi range. This should enable effective internal structure working pressures of at least 50 psi. When this is not the case, distribution pressures are adjusted as appropriate and technicians work to identify possible causes of pressure loss as quickly as possible. Technicians also evaluate higher than designed distribution pressures which, if not addressed in a timely manner, can lead to water loss and possible distribution system damage.

In addition, the KGCSA will periodically access and apply a PC-based distribution system hydraulic model as a component of the annual maintenance process to ensure water system pressure is being regulated within desired design parameters. This will help the water system operators better understand applicable operating parameters such as flow rates, pressures, water quality, age, etc.).

⁶ "Losses due to leaks" includes line breaks, overflows at storage tanks and any other losses up to the customer meter.

⁷ UAW – Unaccounted-for Water means the volume of water entering the distribution system for which a specific use or purpose cannot be determined.

Actual measured system performance that is substantially different from the model's projections might indicate a major water loss or increasing minor leaking. The hydraulic model is periodically calibrated based on actual field flow tests. Any differences between the two are investigated to determine the problem. KGCSA has discovered many leaks, closed valves, and damaged fire hydrants as a result of utilizing the model and field testing procedures.

2.12 Employee Education and Awareness

The KGCSA has made a conscious effort to provide information to all Service Authority employees that emphasizes the importance of water conservation. This information is important not only to employees of the Service Authority but also to other County departments including the Public Schools, Building and Inspections, Planning and Community Development, Economic Development, Parks and Recreation, Engineering and Public Works, Fire and Rescue and others.

The KGCSA will continue to update and improve the employee education and awareness efforts to include:

- Service Authority and County employee training to be provided on at least an annual basis to provide information to department heads to be disseminated to appropriate staff.
- Water conservation overview to be provided to appropriate new employees during orientation.
- Celebrate AWWA's Drinking Water Week in May of each year. Include press releases.
- In May of each year, provide water conservation information to the Service Authority Board and to the Board of Supervisors to continue to improve elected officials' knowledge of the efforts the Service Authority is making to reduce water use and to encourage the citizens to be better stewards of the resource.
- Improve awareness of the Eastern Virginia Groundwater Management Area for both management, staff and elected officials by incorporating information in the training and education listed above.
- Utilize Service Authority and County staff meetings to promote awareness of the Groundwater Management Area and the importance of water conservation.

Action 3:

Improve on-going training provided to Service Authority and County employees to increase awareness of the need to be aware of water use and water waste.

-- *End of Section* --

3.0 WATER LOSS REDUCTION PROGRAM

3.1 Water Loss Identification

The KGCSA's community water systems vary in age and physical condition, the result of which is the inevitable loss of water from the distribution system. Ongoing operation and maintenance efforts are designed to limit such losses by identifying, repairing, and/or replacing deteriorating infrastructure in a proactive manner. While these efforts can prevent the loss of substantial quantities of water over time, water can also be lost as a result of distribution line breaks/leaks, construction use, periodic hydrant flushing, fire department response and training, illegal consumption (theft), administrative tracking and data handling errors, and inaccurate or failed water meters.

To address these issues, the KGCSA undertakes the following water loss identification and response activities on an ongoing basis:

- Continuous monitoring of the water withdrawal from each well in each system,
- Continually monitoring quantities of water distributed by each CWS to proactively identify and address system anomalies,
- Identifying, locating, and quickly repairing system leaks,
- Repairing and replacing pipelines as needed,
- Properly calibrating meters upon installation or replacement,
- Periodically exercising valves and flushing hydrants, and
- Maintaining optimum distribution system pressure levels.

The KGCSA is currently installing state-of-the-art ultrasonic water meters on all "new construction" connections, and will also install them under the ongoing meter change out program as older meters are taken out of service. In addition, the KGCSA will increase efforts to better quantify and record non-metered uses, such as hydrant flushing, fire department training, water filtration backwash metering, and water used at the WWTPs for backwashing and other uses.

3.2 Well Meters

Each groundwater well is equipped with a meter. The meters are read on at least a weekly basis. Any irregular meter readings are noted by the operator and investigated.

When any well meter is not operating properly, the meter is replaced as quickly as possible. Accurate metering of water withdrawals is a key component of the overall reporting of withdrawals to DEQ and the Authority's management of the water systems.

Action 4:

During calendar year 2020, the Authority will implement a process of comparing the water withdrawn during each 2-month billing cycle and comparing to the water billed to customers in that system.

At the same time, any known authorized, but unbilled, uses will be documented to assist in the annual audit process.

Note: The Groundwater Withdrawal Permits require submittal of water audits on March 1, 2021.

3.3 Meter Installation, Repair and Replacement

All KGCSA customer connections are metered. Metering is a key component of an effective water loss control program. Meters provide the data to audit each system, assess leakage levels, develop corrective action alternatives, and provide input to validate established system water loss performance indicators.

Water meters currently used by the KGCSA vary depending on when the house (or other structure) was constructed, and in some cases, the original meter has been replaced or upgraded to a newer, more accurate model.

Most customers have one of four principal types of meters:

- direct read;
- touch pad;
- radio frequency; or
- ultrasonic.

The first three meter types listed above are typically positive displacement type meters. While the meters differ somewhat in how the data is read and captured, all the meters measure the cumulative amount of water (in gallons) that passes through the meter.

Direct read meters must be accessed individually by removing the water meter casing protective cover and read manually. Touch pad meters can be read by simply touching the circular pad on top of the meter box cover with a special sensing rod, which then transmits the reading to a hand-held data collection device. Radio frequency and ultrasonic meters offer a choice of reading options utilizing hand-held, walk-by, or drive-by automated meter reading systems. The more automated the data reading and collection system, the less chance there is for human error.

KGCSA technicians take meter readings every other month in the corresponding utility billing cycle. After all meter readings have been collected, they are downloaded directly into processing software maintained at the King George County Finance Department/Utility Billing Department. The data is processed and the bi-monthly utility bills are generated. Sometimes these meter readings may indicate significantly lower or higher consumption which may result from a leak, bad read, or damaged/tampered meter. When KGCSA technicians determine that a meter has been damaged or tampered with, they take immediate action to either recalibrate, repair, or replace the meter as appropriate.

KGCSA technicians are also constantly looking for other factors that can impact reliable meter operation, to include incorrect sizing, higher or lower flows than designed for, debris in the water, scale build up due to minerals in the water, and environmental extremes including high or low temperature or vibration.

3.4 Non-Revenue Water

Non-revenue water is water that has been produced and is "lost" before it reaches the customer. Non-revenue water has the following components:

- Unbilled authorized consumption – for example, water used for firefighting and water used for system flushing, water used at the water or wastewater treatment facilities for backwashing or other utility operations;
- Apparent losses – for example, water theft and metering inaccuracies; and
- Real losses – for example from transmission mains, storage facilities, distribution mains or service connections.

High levels of non-revenue water are detrimental to the financial viability of the water utility and when analyzing a utility's opportunities to conserve water, non-revenue water is often one area where the utility can focus additional effort to better understand, quantify and potentially reduce losses. This effort, coupled with reduced customer demands can together achieve overall reduced demands.

Non-revenue water is sometimes also referred to as unaccounted-for water. While the two terms are similar, they are not identical, since non-revenue water includes authorized unbilled consumption (for example, for firefighting) while unaccounted-for water excludes it.

3.5 Identification of Non-Revenue Water

The Service Authority's water distribution system has various sections of pipeline that vary in age and physical condition. As in most water systems, there is some loss of water from the distribution system. Ongoing operation and maintenance efforts are designed to limit such losses by identifying, repairing, and/or replacing deteriorating infrastructure in a proactive manner. These efforts prevent the loss of substantial quantities of water over time.

KGCSA undertakes the following water loss identification and response activities on an ongoing basis:

- Continuous monitoring of the water withdrawal from each well in each system - well meters are read on a regular basis and the water system operators take immediate notice of any readings that are inconsistent.
- Well meters are replaced on a regular basis to ensure accuracy.
- Monitoring of the quantities of water billed to the customer base each bi-monthly billing period and review of the system-generated reports to identify unusual water usage that may indicate leaks on the customer side of the meter.
- Identifying, locating, and quickly repairing system leaks.
- Repairing and replacing pipelines as needed.
- Properly calibrating customer meters upon installation or replacement.
- Periodically exercising valves and flushing hydrants.
- Maintaining optimum distribution system pressure levels.

3.6 Water Audits

A water audit is an examination of the system records and equipment that is used to identify, quantify and verify how much water passes through the water system and where it goes. Water audits help the utility identify the amount of unaccounted-for water and can be instrumental in helping the utility analyze where losses may be reduced.

The Existing User Permits for the KGCSA water systems requires that the Authority submit annual water system audits to DEQ in *March 1, 2021 and March 1, 2025*.

The KGCSA completed a water audit for the systems with Groundwater Withdrawal Permits in 2019 – the period covered under the audit was calendar 2018. A summary of the results is shown in Table 3-1.

As shown in Table 3-1, the water systems are losing more than 25% of the water produced.

KGCSA's efforts to reduce losses will be based upon the following major components:

- The Water Audit
- Intervention
- Evaluation

Each of these major components consists of additional steps as outlined in the following pages.

Action 5:

Beginning in calendar 2021, the KGCSA will complete a water system audit for each system in January of each year. The audit will cover the previous calendar year.

As stated in the DEQ Existing User Permits, *"Annual water system audits shall be submitted on March 1, 2021 and March 1, 2025."*

Table 3-1: Summary of Water Audits for Calendar 2018⁸

System	System Input	Authorized Consumption		Water Losses		Revenue Water	Non-Revenue Water	% Revenue Water	% Non-Revenue Water	% Real Losses ⁹
		Billed	Unbilled	Apparent Losses ¹⁰	Real Losses					
	MG/Year	MG/Year	MG/Year	MG/Year	MG/Year	MG/Year	MG/Year			
Canterbury	5.743	4.911	0.072	0.027	0.734	4.911	0.833	85.5%	14.5%	12.8%
Courthouse	100.662	76.310	1.258	0.442	22.651	76.310	24.351	75.8%	24.2%	22.5%
Fairview Beach	16.857	11.061	0.211	0.070	5.516	11.061	5.797	65.6%	34.4%	32.7%
St. Paul's Church	5.214	2.813	0.065	0.020	2.316	2.813	2.401	54.0%	46.0%	44.4%
Circle	5.459	3.482	0.068	0.022	1.886	3.482	1.976	63.8%	36.2%	34.5%
Oakland Park	24.943	17.022	0.312	0.105	7.504	17.022	7.921	68.2%	31.8%	30.1%
Dahlgren	89.475	58.841	1.118	0.371	29.144	58.841	30.633	65.8%	34.2%	32.6%
Total	248.353	174.440	3.104	1.057	69.751	174.440	73.912	70.2%	29.8%	28.1%

⁸ The audits prepare in 2019 did not include the Hopyard system because the GW permit has not been issued for Hopyard.

⁹ Real Losses / System Input

¹⁰ Includes Unauthorized Consumption and Systematic Data Handling Errors.

3.7 The Water Audit Process

The *Water Audit* is an assessment of the distribution, metering, and accounting operations of the water utility and uses accounting principles to determine how much water is being lost and where.

The American Water Works Association (AWWA) recommends that an annual water audit be compiled by the water utility as a standard business process. Through the water audit process, options will become apparent as to how to proceed with further identifying where losses are occurring or where efforts to control or eliminate the losses should be concentrated. These options should be compared and evaluated not only economically but with consideration of all other issues and concerns the public water system faces. Typical steps in an audit include:

- Gathering information,
- Determining flows into and out of the distribution system based on metering (and, where necessary, estimates),
- Calculating the standard performance indicator values and assessing water loss by comparing these values with ranges of values from audits from other water utilities,
- Assessing where water losses appear to be occurring based on available metering and estimates,
- Analyzing data gaps (e.g., determining if more information is necessary to make comparisons and an informed decision),
- Considering options and making cost vs. benefit comparisons of potential actions, and
- Selecting the appropriate interventions.

3.8 The Intervention Process

The *Intervention* process puts the options selected into action. More than one action may be selected as beneficial to the water systems. Intervention actions can include:

- Gathering further information, if necessary,
- Metering assessment, testing, or a metering replacement program,
- Detecting and locating leaks,
- Repairing or replacing pipe,
- Operation and maintenance programs and changes,
- Administrative processes or policy changes, and
- No further action is necessary.

3.9 The Evaluation

The *Evaluation* portion of the program consists of assessing the success of the audit and intervention actions. The evaluation will answer questions such as:

- Were the goals of the intervention met? If not, why not?
- Where do we need more information?
- How often should we repeat the Audit, Intervention, and Evaluation process?
- Is there another performance indicator we should consider?
- How did we compare to the last Audit, Intervention, and Evaluation process?

- How can we improve performance?

A major portion of evaluation is benchmarking. The audit establishes performance indicators, which serve as benchmarks. The intervention action should improve performance in some way. Evaluation is necessary to ensure that whatever the intervention was, it succeeded in its goal. If the goal of the intervention was not met, the evaluation process seeks to determine why and what should be done to meet the goal.

During the audit, system records and control equipment (e.g., meters) will be thoroughly checked for accuracy. The intended result of the water audit is strategy that will identify and implement programs to reduce water losses in the Authority's systems.

3.10 Water Audit Worksheets

EPA's Free Water Audit Software was used for the audit of the 2018 water usage. The KGCSA will continue to use that software for annual audits. KGCSA will continue to modify and improve data collecting procedures, data correction procedures and record keeping to continuously improve the audit process, as needed.

3.11 Monthly Review of Withdrawal and Billing Data

Each billing cycle, following the completion of the meter reading, the KGCSA will compare the volume of water withdrawn over the past 2-months to the volume of water billed to the customers. In addition, any known authorized but unbilled usage will be recorded for each system (including flushing, backwashing, firefighting, etc.). The estimated volume of water lost due to known leaks will be recorded.

The Service Authority expects that the bi-monthly review will help improve data collecting procedures, data correction procedures and record keeping to continuously improve the audit process.

In any system where analysis of the water withdrawn as compared to the water billed falls outside of the normal losses, the system will be inspected for leaks.

-- End of Section --

4.0 WATER USE EDUCATION PROGRAMS

4.1 KGCSA Website, Social Media, and Distributed Materials

A critical piece of the water use education efforts will be to make more information readily available to citizens and businesses. At this time, there is limited water conservation material available on the County/Service Authority's website.

The KGCSA website allows customers to access current water rate schedules, water quality reports, and informational newsletter articles. During calendar 2020 and 2021, it will also be updated to provide links to websites that provide water conservation information. Appendix D includes a list of websites that the KGCSA can use on the website to provide education / informational materials to water users.

Future areas for additional emphasis will include water users that have high demands - such as community homeowners' associations, businesses located in the King George County Industrial Park and other commercial establishments, public and private schools/colleges, nursery owners, laundry mats, landscaping and irrigation contractors, car wash operators, residential and commercial power washing companies, community pools/athletic centers, farmers, and builders and developers.

4.2 Town Hall Meetings

County Board of Supervisors members conduct quarterly Town Hall meetings that include presentations by KGCSA technical staff. Typically these presentations include information about water conservation measures. For example, the following conservation practices were emphasized at recent meetings:

- Irrigate wisely and determine how much water you can afford to put on the ground.
- Watch for leaks and repair them immediately; a slow drip wastes 15 to 20 gallons per day.
- Check your toilets for flapper and fill valve leaks (100+ gallons per day lost).
- Only wash full loads of laundry and dishes; reuse towels and drinking glasses.
- Turn off the tap while brushing your teeth, shaving, and hand washing dishes.
- Do not spray off sidewalks and driveways; a broom or leaf blower is just as effective.
- Wash your car on the lawn or use a car wash with recycle pumps.
- Install rain barrels and use this water for plants and yard use.
- Reduce shower times; this also saves energy used for heating the water.

Board members will be encouraged to continue to discuss water conservation at Town Hall meetings.

4.3 Public School Educational Programs

The Tri-County/City Soil and Water Conservation District, which includes King George County, is responsible for a wide range of educational efforts regarding the use and quality of water including:

- *Enviroscape*. This program was developed in an effort to educate children in elementary and middle school about the effects of non-point source pollution on soil and drinking water. During this presentation, the water budget is outlined and provides children with a better understanding of where their drinking water comes from and how to prevent pollution of water sources.
- *Wetlands Presentation*. This presentation given to middle school students, high school students, and adults reveals the importance of wetlands to the water supply. This presentation demonstrates how wetlands act as filters to keep contaminants and soils out of the water supply. Through this presentation, students are able to gain an appreciation for wetlands and their positive effects on water sources.
- *Water Poster Contest*. The poster contest for kindergarteners through 12th graders is intended to educate children on water conservation, supply, and pollution. The winners of the local competition go on to compete at the national level.
- *Aquatics Day*. This program invites 5th graders to a local park to participate in activities that educate them on water conservation and pollution. Here they learn how pollution affects aquatic life and their water sources.

The educational programs mentioned above are all efforts that lead to an increased knowledge of water and the hydrological system. This better understanding of where water comes from can lead children to be more mindful of efforts to preserve and conserve existing water sources. As these education programs grow, it is anticipated that they will be taught more frequently in schools around the County.

4.4 Public Service Groups

The Master Gardeners Association (MGA), along with the Natural Resource Conservation Service (NRCS) , are also responsible for providing a wide range of educational efforts that promote water conservation including:

- *Environmental Landscaping*. This program educates homeowners on acceptable yard maintenance. The program encourages home owners to use xeriscaping, or water wise landscaping, by purchasing plants that are indigenous to the area and that are capable of withstanding extreme weather conditions. The Green and Clean program reaches out to approximately 50 homes a year, but is planning to contact more in the future.
- *Home Garden Show*. This show provides education on rain barrels, native landscaping techniques, and conservative watering practices. The show is held annually in Fredericksburg, Virginia, but a large number of people from King George County attend each year.
- *4-H Club (Head, Heart, Hands, and Health)*. This youth organization administered by the Cooperative Extension System of the United States Department of Agriculture, also

provides education to children concerning water conservation. The 4-H Club originally was intended to be a rural youth program that introduced new agriculture technology to adults. However, the program has expanded into other fields such as science and technology. In King George County, the 4-H Club educates youth about ground water hydrology and simple conservation practices.

4.5 Conservation Organizations

In addition to supporting educational school programs, the Tri-County/City Soil and Water Conservation District technical staff meet periodically with KGCSA managers and staff, as well as their counterparts from other counties and cities, to discuss water supply and conservation matters of mutual interest, and to identify ways to pool resources and experience to the benefit of all concerned. The agency provides technical assistance, information, educational programs, volunteer opportunities, and newsletters to citizens on many aspects of water quality, nonpoint source pollution, and stream health.

4.6 KGCSA and Board of Directors Efforts

In an on-going effort to improve awareness of the water conservation requirements of the GWMA, the KGCSA will:

- Ensure that all current and future Service Authority employees are aware of the requirements of the groundwater withdrawal permits and the need to not only avoid wasting water, but also of the need to quantify and record water used for backwashing, flushing, etc.
- On an annual basis, share the results of the annual audits of groundwater usage with all Authority employees.
- On an annual basis, share the results of the annual audit of groundwater usage with the Service Authority's Board of Directors.
- Participate in AWWA's Water Week in May of each year.
- Include conservation information on the water bills at least once a year.
- Include conservation information in the Consumer Confidence Report that is mailed out each year to all users.
- Provide water conservation for residential customers, for gardening and lawn use and for non-residential customers on the KGCSA website.

-- *End of Section* --

5.0 EVALUATION OF POTENTIAL WATER RECYCLING AND REUSE ALTERNATIVES

Water recycling and reuse programs can reduce water demand by treating wastewater (either partially or completely) for subsequent use as an alternative source for non-potable water applications (e.g., watering lawns, washing cars, and industrial processes), and at the same time reduce the amount of wastewater generated, transported, and treated at wastewater treatment facilities. This in turn saves water and energy, thereby reducing overall utility costs.

5.1 Car Wash Facilities

Under current KGCSA Regulations, automated carwashes serviced by the Authority must be equipped with an approved water recycling system; and air conditioners, refrigerating devices, or any device for cooling purposes which uses KGCSA water must be designed to reuse at least 90% of the water used for cooling.

5.2 Wastewater Treatment and Reuse Alternatives

KGCSA recognizes that reuse of treated wastewater can reduce the demand on water systems – in some Virginia communities, treated effluent meets the needs of industry for cooling water or is used for irrigation.

The KGCSA operates five (5) wastewater treatment plants. At this time, the Service Authority has not identified any commercial / industrial users that could utilize effluent from any of the wastewater plants. However, this is an area where continued communication and cooperation with the County's Offices of Community Development and Economic Development could aid in identifying potential users of reuse water.

The KGCSA will encourage commercial/industrial large quantity water users who could but currently do not recycle or reuse process water to institute processes and procedures for doing so.

The KGCSA will also work with the Office of Community Development to evaluate the feasibility of modifying commercial and residential building codes to incorporate requirements for all new construction to include gray water drain systems for washing machines, lavatories, showers, and bathtubs, segregated from drains for all other plumbing fixtures, and connected to allow for installation of a distributed gray water system. This is a goal for calendar 2020.

-- End of Section --

6.0 USE REDUCTION AND RESTRICTIONS DURING DROUGHT OR EMERGENCIES

6.1 Drought Declaration and Notice

According to the Service Authority Rules and Regulations, whenever the public water supply diminishes to the extent that in the judgment of the General Manager the public health, safety and welfare are in danger, he may declare the existence of a water emergency. Whenever such emergency is declared, the public shall be notified by the publication of an emergency proclamation once a day for two successive days in a newspaper of general circulation throughout the area served, or by the distribution of printed circulars in the area served.

6.2 KGCSA Drought Assessment and Response Plan

King George County has developed a drought response plan that relies on the following local drought indicators:

- Precipitation deficits
- Ground water levels
- Monitoring of Service Authority wells

The Drought Assessment and Response Plan for King George County is included as an attachment to this document (see Appendix E). The plan includes text describing the drought monitoring requirements, the drought stages (watch, warning and emergency), and the County's enforcement actions.

6.3 King George County Alert System

King George County uses the King George Alert (KGALERT) system to immediately contact residents during an emergency, to include notification of drought conditions and/or water use restrictions. KGALERT delivers important emergency alerts, notifications and updates to residents on all devices and e-mail accounts they have designated for receipt of such information. When an incident or emergency occurs, authorized King George Emergency Management personnel rapidly notify residents using the KGALERT system. The KGALERT system is a resident's personal connection to real-time updates, instructions on where to go, what to do, or what not to do, who to contact, and other important information.

6.4 Penalties for Failure to Comply With Mandatory Water Use Restrictions

Section 15-157, King George County Drought Ordinance, states that it shall be a violation for any person to use water, or allow or cause the use of water, in violation of this Title under a drought emergency. Violators will be subject to the following penalties:

- For the first offense, violators shall be fined \$100
- For the second offense, violators shall be fined \$200
- For the third and subsequent offenses, violators shall be fined \$500

Each violation by a person shall be counted as a separate offense by that person, irrespective of the location at which the violation occurs. The Board of Supervisors shall hear appeals, and shall have the power to approve, revoke, or modify such determinations. The actions of the Board shall be final.

6.5 Analysis of Reduction in Usage

The Service Authority does not have empirical data to detail the reduction in usage that has occurred when voluntary water use reduction was implemented, but one goal for the upcoming permit term is to attempt to evaluate water usage during any period(s) of restriction to evaluate the impacts on water usage. The purpose of the analysis will be to quantify any reductions achieved. This will give the Service Authority some indication of the effectiveness of the restrictions and may be instructive in any instance where a water shortage is expected to continue for an extended period of time.

-- End of Section --

7.0 CONSERVATION PROGRAM ASSESSMENT AND METRICS

In January of each year, KGCSC will review water withdrawals and water consumption for the previous calendar year and will measure success in reducing demands by assessing the following:

Metric 1: Permitted water systems will not exceed established permit withdrawal limits.

Measure: Daily, monthly and annual water withdrawal does not exceed limits of the withdrawal permit.

Metric 2: Water consumption per equivalent residential connection will reflect a declining trend.

Measure: Total annual CWS withdrawal (gallons)/Total number of ERCs.

Metric 3: Non-Revenue water decreases each year.

Measure: Compare to previous year.

-- *End of Section* --

APPENDIX

Appendix A: 9VAC25-610-100

Appendix B: King George County Service Authority Regulations

Appendix C: Water and Sewer Rates and Fees

Appendix D: Links to Conservation Websites

Appendix E: Drought Assessment and Response Plan

Appendix A: 9VAC25-610-100

Virginia Administrative Code

Title 9. Environment

Agency 25. State Water Control Board

Chapter 610. Groundwater Withdrawal Regulations

9VAC25-610-100. Water Conservation and Management Plans.

A. Any application to initiate a new withdrawal or expand an existing withdrawal in any groundwater management area or the reapplication at the end of a permit cycle for all permits shall require a water conservation and management plan before the application or reapplication is considered complete. The board shall review all water conservation and management plans and assure that such plans contain all elements required in subsection B of this section. The approved plan shall become an enforceable part of the approved permit.

B. A water conservation and management plan is an operational plan to be referenced and implemented by the permittee. Water conservation and management plans shall be consistent with local and regional water supply plans in the applicant's geographic area developed as required by 9VAC25-780. The water conservation and management plan shall be specific to the type of water use and include the following:

1. For municipal and nonmunicipal public water supplies:

a. Where practicable, the plan should require use of water-saving equipment and processes for all water users including technological, procedural, or programmatic improvements to the facilities and processes to decrease the amount of water withdrawn or to decrease water demand. The goal of these requirements is to assure the most efficient use of groundwater. Information on the water-saving alternatives examined and the water savings associated with the alternatives shall be provided. Water conservation and management plans shall discuss high volume water consumption by users on the system and where conservation measures have previously been implemented and shall be applied. Also, where appropriate, the use of water-saving fixtures in new and renovated plumbing as provided in the Uniform Statewide Building Code (13VAC5-63) shall be identified in the plan;

b. A water loss reduction program, which defines the applicant's leak detection and repair program. The water loss reduction program shall include requirements for an audit of the total amount of groundwater used in the distribution system and operational processes during the first two years of the permit cycle. Implementation of a leak detection and repair program shall be required within one year of the date the permit is issued. The program shall include a schedule for inspection of equipment and piping for leaks;

c. A water use education program that contains requirements for the education of water users and training of employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource. The program shall include a schedule for information distribution and the type of materials used;

- d. An evaluation of water reuse options and assurances that water shall be reused in all instances where reuse is practicable. Potential for expansion of the existing reuse practices or adoption of additional reuse practices shall also be included; and
- e. Requirements for mandatory water use reductions during water shortage emergencies declared by the local governing body or water authority consistent with §§ 15.2-923 and 15.2-924 of the Code of Virginia. This shall include, where appropriate, ordinances in municipal systems prohibiting the waste of water generally and requirements providing for mandatory water use restrictions in accordance with drought response and contingency ordinances implemented to comply with 9VAC25-780-120 during water shortage emergencies. The water conservation and management plan shall also contain requirements for mandatory water use restrictions during water shortage emergencies that restricts or prohibits all nonessential uses such as lawn watering, car washing, and similar nonessential residential, industrial, and commercial uses for the duration of the water shortage emergency. Penalties for failure to comply with mandatory water use restrictions shall be included in municipal system plans.

2. For nonpublic water supply applicants - commercial and industrial users:

- a. Where applicable, the plan should require use of water-saving equipment and processes for all water users including technological, procedural, or programmatic improvements to the facilities and processes to decrease the amount of water withdrawn or to decrease water demand. The goal of these requirements is to assure the most efficient use of groundwater. Information on the water-saving alternatives examined and the water savings associated with the alternatives shall be provided. Also, where appropriate, the use of water-saving fixtures in new and renovated plumbing as provided in the Uniform Statewide Building Code (13VAC5-63) shall be identified in the plan;
- b. A water loss reduction program, which defines the applicant's leak detection and repair program. The water loss reduction program shall include requirements for an audit of the total amount of groundwater used in the distribution system and operational processes during the first two years of the permit cycle. Implementation of a leak detection and repair program shall be required within one year of the date the permit is issued. The program shall include a schedule for inspection of equipment and piping for leaks;
- c. A water use education program that contains requirements for the education of water users and training of employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource. The program shall include a schedule for information distribution and the type of materials used;
- d. An evaluation of water reuse options and assurances that water shall be reused in all instances where reuse is practicable. Potential for expansion of the existing reuse practices or adoption of additional reuse practices shall also be included; and
- e. Requirements for complying with mandatory water use reductions during water shortage emergencies declared by the local governing body or water authority in

accordance with §§ 15.2-923 and 15.2-924 of the Code of Virginia. This shall include, where appropriate, ordinances prohibiting the waste of water generally and requirements providing for mandatory water use restrictions in accordance with drought response and contingency ordinances implemented to comply with 9VAC25-780-120 during water shortage emergencies. The water conservation and management plan shall also contain requirements for mandatory water use restrictions during water shortage emergencies that restricts or prohibits all nonessential uses such as lawn watering, car washing, and similar nonessential industrial and commercial uses for the duration of the water shortage emergency.

3. For nonpublic water supply applicants - agricultural users:

- a. Requirements for the use of water-saving plumbing and processes to decrease the amount of water withdrawn or to decrease water demand. Plans submitted for the use of groundwater for irrigation shall identify the specific type of irrigation system that will be utilized, the efficiency rating of the irrigation system in comparison to less efficient systems, the irrigation schedule used to minimize water demand, and the crop watering requirements. Multiple types of irrigation methods may be addressed in the plan. For livestock watering operations, plans shall include livestock watering requirements (per head) and processes to minimize waste of water. These requirements shall assure that the most practicable use is made of groundwater. If these options are not implemented in the plan, information on the water-saving alternatives examined and the water savings associated with the alternatives shall be provided;
- b. A water loss reduction program, which defines the applicant's leak detection and repair program. The water loss reduction program shall include requirements for an audit of the total amount of groundwater used in the distribution system and operational processes during the first two years of the permit cycle. Implementation of a leak detection and repair program shall be required within one year of the date the permit is issued. The program shall include a schedule for inspection of equipment and piping for leaks;
- c. A water use education program that contains requirements for the training of employees controlling water consuming processes to assure that water conservation principles are well known by the users of the resource. The program shall include a schedule for training employees. This requirement may be met through training employees on water use requirements contained in irrigation management plans or livestock management plans;
- d. An evaluation of potential water reuse options and assurances that water shall be reused in all instances where reuse is practicable and not prohibited by other regulatory programs; Potential for expansion of the existing reuse practices or adoption of additional reuse practices shall also be included; and
- e. Requirements for mandatory water use reductions during water shortage emergencies and compliance with ordinances prohibiting the waste of water generally. This shall include requirements providing for mandatory water use restrictions in accordance with

drought response and contingency ordinances implemented to comply with 9VAC25-780-120 during water shortage emergencies.

f. The permittee may submit portions of Agricultural Management Plans or Irrigation Management Plans developed to comply with requirements of federal or state laws, regulations, or guidelines to demonstrate the requirements of subdivisions B 3 a through d of this section are being achieved.

Statutory Authority

§ 62.1-256 of the Code of Virginia.

Historical Notes

Derived from VR680-13-07 § 3.2, eff. September 22, 1993; amended, Virginia Register Volume 30, Issue 5, eff. January 1, 2014.

Appendix B: King George County Service Authority Regulations



**KING GEORGE COUNTY
SERVICE AUTHORITY REGULATIONS**

PREFACE

KGCSA Regulations 2017 Revisions

The KGCSA Board of Directors advertised and approved all rates, fees and charges in accordance with all applicable Virginia State Code requirements on June 30, 2017. All other revisions were approved by the Board via public discussion and majority vote. The following substantive changes were approved by the KGCSA Board of Directors:

1. Updated Code references were made in the Regulation Purpose. A revised description of the KGCSA service areas were also included.
2. Eligibility Requirements for low income payment plans were revised (Section 4).
3. Delinquent Accounts Paragraphs were revised (Section 19).
4. Added a Section 26 for Emergency Notification. Deleted former Section 26 regarding Swimming Pools (Section 26).
5. Revised damage and tampering language in Section 29 (Section 29).
6. The Fees, Rates, and Charges were revised to include new residential tiered rate structure, new debt service fees, new minimum bill volume for both metered and unmetered connections, revised tampering fee, revised account deposits, revised per capita flow estimates, and added a Capital Reserve Fee and Fire Suppression Availability Fee (Section 30).

KING GEORGE COUNTY

PUBLIC SERVICE AUTHORITY

REGULATIONS

Adopted:	September 1, 1992 (Sections 1-26 & 28)
Amended:	November 17, 1992 (Adopted Sec. 29)
Amended:	October 3, 1995 - Adopted Sec. 27
Amended:	August 22, 1996 - Adopted Rate Structure
Amended:	October 15, 1996 - Adopted Sec. 30
Amended:	December 3, 1996 - Amended Sec. 12.k
Amended:	April 1, 1997 (Deleted Section 26)
Amended:	July 1, 1997 (Increased sewer consumption rate)
Amended:	June 2, 1998 (Section 30)
Amended:	August 18, 1998 (Section 30)
Amended:	December 18, 1998 (Section 30)
Amended:	December 21, 1999 (Section 30)
Amended:	September 4, 2001 (Section 15)
Amended:	November 28, 2006 (Section 30 in its entirety)
Amended:	July 17, 2007 (Section 31 Septic Waste Disposal)
Amended:	August 21, 2007 (Section 30)
Amended:	August 19, 2008 (Section 30)
Amended:	August 18, 2009 (Sections 30 and 31)
Amended:	July 1, 2014 (Section 30)
Amended:	July 1, 2015 (Section 30)
Amended:	September 19, 2017

PURPOSE

These Regulations reflect the obligations of the King George County Service Authority (Authority) to its customers. These Regulations also reflect customer responsibilities and specific requirements that the customer must observe, and govern the customer and Authority relations.

Obligations of the Authority.

- A. **Obligations accepted.** Inasmuch as the Authority provides utility services which are vital and essential to the health, safety, and welfare of the entire community, the Authority accepts certain obligations to safeguard the public interest. Among these obligations are that it will:
 - 1. Serve all who apply and meet the requirements of the Authority.
 - 2. Provide equal and adequate service to all customers and potential customers.
 - 3. Make the same charge to all in the same customer class for the same service, except under special contracts when warranted by the circumstances.
 - 4. Charge customers according to the full cost of providing the service, consistent with applicable provisions of Virginia law.
- B. **Expectations.** In return for the faithful discharge of these obligations, the Utility operates with the following expectations of its customers:
 - 1. Reasonable compensation for services rendered.
 - 2. Observance of reasonable rules and regulations which govern the conduct of the business of the Authority.
- C. **Authority:** The Code of Virginia, Section 15.2-5102, as amended, provides that the governing body of a locality shall have the power to create a public service authority with all powers as contained in Sections 15.2-5114 through 15.2-5121, as amended.
- D. **Structure:** The Authority shall consist of water and wastewater functions. Primary service areas to be served by these functions currently include those areas defined as primary settlement areas in the King George County Comprehensive Plan and those areas currently served by public utilities. These areas include, but are not necessarily limited to the Dahlgren, Fairview Beach, Oakland Park, Courthouse, Circle, Presidential Lakes, Cleydael, Nindes, Hopyard Farm, Arnolds Corner, Peppermill, and the King George County Industrial Park service areas. The Authority may establish future service areas and/or may expand or add to existing service areas.

Amendments.

Amendments to these Regulations may be made only by approval of the Authority Board of Directors.

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SECTION 1. DEFINITIONS

Unless the context specifically indicates otherwise, the meaning of terms used herein shall be as follows:

Adjacent: premises contiguous to an easement or right-of-way within which there is located a water and/or a wastewater line and where the premises are within two hundred and fifty (250) feet of a water and/or wastewater line.

Account Service Fee: means the amount assessed to defray administrative expenses related to establishing a new account or transfer thereof.

Allocation: means the rights to connect to public water or sewer service lines owned by the Authority.

Applicant: the owner or his duly authorized representative who applies to the Authority for either water service, wastewater service or both such services.

Appurtenance: any accessory object or component connected to a public water main or public sewer.

Authority: King George County Service Authority.

Availability charge: means the fee paid by a prospective customer for the right to connect to water or sewer service from an existing main.

Backflow: the reversal of flow from its intended direction as a result of backsiphonage or backpressure.

Base costs: costs that tend to vary with the quantity of water used, or commodity costs, plus that portion of operating and capital costs associated with service to customers under average load conditions, without the elements necessary to meet water-use variations and resulting peaks in demand.

Board: the Board of Directors of the King George County Service Authority, which shall be appointed by the Board of Supervisors of King George County, Virginia.

Branch sewer or sub-main sewer: a sewer that receives wastewater from a relatively small area and discharges into a trunk sewer or main sewer.

Building Inspector: means the County's Building Official or that person representing the County's Building Official who is responsible for all plumbing inspection of any establishment served by the Authority.

Building sewage drain: that part of the lowest horizontal piping of a sanitary sewage system which receives the discharge from soil, waste and other sanitary sewage pipes inside the walls of the building and conveys it to the building sewer which begins five (5) feet (1.52 meters) outside the inner face of the building wall.

Building sewer: the extension from the building sewage drain to the public sewer or other place of disposal.

Building water piping: all water lines from the water service pipe to the points of ultimate use where water is exposed to the atmosphere.

Capital costs: annual charges associated with plant investment; in the utility basis of accounting, it includes depreciation expense (allowance) and return on investment; taxes are excluded; the annual total of depreciation expense and return on investment equal the total cash requirement recoverable to meet annual capital investment related costs.

Collecting sewer: that pipe line or portion thereof which begins at the sewer service connection and ends at the site of disposal and which is used or intended to be used to convey raw sewage from a building or buildings.

Connection fee: means the cost to the prospective customer for physical connection to the Authority's water system or sewer system.

County: the County of King George, Virginia.

Cross connection: any physical connection between a potable water supply and any waste pipe, soil pipe, sewer, drain, or any unapproved source or system; also, any potable water supply outlet which is submerged or can be submerged in waste and/or other source of contamination.

Customer: the party who has applied for and receives continuing water service, sewer service or both such services and who is responsible for payment of such services; each service connection shall be considered a separate customer.

- (a) Owner-customer: the customer who owns the premises to which a service connection is provided.
- (b) Tenant-customer: the customer who rents or leases the premises to which a service connection is provided.

(c) Customer with private water supply: the customer whose premises is served by a water source other than the Authority's water system but discharges sewage into the wastewater system of the Authority.

Customer costs: costs associated with serving customers irrespective of the quantity of service used or the demand for service; includes meter reading, billing, customer accounting and collecting expense and uncollectible accounts, as well as maintenance and capital charges on meters and services.

Depreciation: as applied to depreciable utility plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the Authority is not protected by insurance. Among the causes to be given consideration are fair wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities.

Developer: any person, firm, corporation, society, or association, or authorized agent thereof, having an interest, whether legal or equitable, sole or partial, in any premises which may in the future be served by the facilities of the Authority, and which may in the future be responsible for the design and construction of facilities which are to be under the jurisdiction of the Authority and are to become a part of the public utility system of the Authority.

Development: any building or subdivision activity which is required to have either site plan or subdivision approval of the County before it is commenced, including the construction of any duplex, and requiring either new or expanded water supply or sewage disposal facilities.

Domestic Sewage: means waterborne wastes normally discharging from the sanitary conveniences of dwellings (including apartment houses and hotels), office buildings, factories and institutions, that are free from storm and surface waters and industrial wastes.

Dwelling, Multifamily: A building containing three or more dwelling units.

Dwelling, Single-Family: A residential building designed for or occupied exclusively by one family.

Dwelling, Single Family Attached (Townhouse): One of a group of three to eight units arranged or designed as dwellings located on abutting walls without openings, and with each unit having a separate lot with minimum dimensions required by the Authority's regulations.

Dwelling, Two-family (duplex): A building containing two dwelling units.

Dwelling unit: a single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.

Existing structure: a structure completed or a manufactured home placed on a lot on or before the date that notice is given that water or wastewater service is made available, as evidenced by a certificate of use and occupancy, and located within two hundred and fifty (250) feet of the easement or right-of-way in which such service is available.

Extra capacity costs: costs associated with meeting rate of use requirements in excess of average to include capital and operating charges for additional plant and system capacity beyond that required for average rate of use.

Facilities: Any and all component and pertinent parts of the entire systems of the water and wastewater utilities under the jurisdiction of the Authority, such as water pipe lines and their appurtenances, water storage tanks, treatment facilities and pumping stations, sewer lines and their appurtenances, sewage pumping stations and treatment plants, including these items and others now constructed, installed, operated or maintained by the Authority, or any which may be approved and accepted in the future as additions to or extensions of the systems.

Fire protection system: a separate system of water pipes or mains and their appurtenances installed solely to supply water to extinguish fires.

Fire service connection: a pipe extending from a public water main to supply a sprinkler, standpipe, yard main, or other fire protection system.

Fire service detector check meter: a special device for use on a fire service connection which consists of a weighted check valve with a disk meter in a bypass; the disk meter measures small rates of flow only; the weighted check valve opens for large rates of flow so that loss of head is relatively small; the large rates of flow are not measured.

Fixed charges (debt service): the charges resulting from the capital investment in the water and wastewater systems consisting of annual principal and interest payments and other amounts required in connection with the issuance and sale of bonds to provide the funds for construction.

Future use capacity: capacity for the future in system facilities; capacity not needed at time of design and construction to accommodate existing needs; capacity which provides for the security and development of property and for community growth.

Future structure: a structure completed after the date that notice is given that water or wastewater service is made available as evidenced by the absence of a certificate of use and occupancy.

Gender: The word he or his used in this regulation means the same as she or hers.

General Manager: Chief Administrative officer appointed by the King George County Service Authority Board of Directors.

Governing body: in the case of the County, the duly elected Board of Supervisors of King George County; in the case of the Authority, the Board of Directors of the King George County Service Authority, as appointed by the Board of Supervisors.

Grace Period: Ninety (90) days from the execution of Application for Service for single-family residential uses; One Hundred Eighty (180) days from the execution of Application for Service for multi-family residential, commercial and other non-residential uses.

Grinder pump: a compact lift station with pump, storage capacity and appurtenant piping, valves and other mechanical and electrical equipment which grinds or reduces the particle size of wastewater solids to yield a sewage slurry for pumping from source to disposal.

Health hazard: means any condition, device or practice in sewage or water system or its operation that creates or may create a danger to the health and well-being of the public.

Incremental capacity: the additional capacity required in system facilities to accommodate a specific development; the capital costs of such capacity is charged to the developer (property benefitted) but often passed through to new customers in site costs.

Industrial wastes: means the liquid wastes from industrial processes as distinct from sanitary sewage.

Infiltration: the water entering a wastewater system, including wastewater service connections, from the ground, through such means as, but not limited to, defective pipes, pipe joints, connections, or manhole walls.

Inflow: the water discharged into a wastewater system, including service connections from such sources, as, but not limited to, roof leaders, cellar, yard, and area drains, foundation drains, cooling water discharges, drains from springs and swampy areas, manhole covers, cross connections, storm sewers and combined sewers, catch basins, storm waters, surface runoff, street wash waters, or drainage.

Intercepting sewer (interceptor): a sewer that receives dry weather flow from a number of transverse sewers or outlets and conducts such waters to a point for treatment or disposal.

Interceptor line: a conduit the primary purpose of which is to transport wastewater from collector lines to a treatment facility.

Lateral sewer: a sewer line that discharges into a branch or other sewer line and has no other common sewer line tributary to it.

Local facilities: for water and sewer all facilities serving only one development; any line to which a service connection is made; and

- (a) Sewer: all lateral and branch sewers designed and constructed to exclusively serve one development.
- (b) Water: all transmission and distribution mains;; all fire mains; all services, meters, meter installations and fire hydrants, and all water mains that serve one development.
- (c) Dedicated Facilities: any water and/or wastewater facilities serving one development exclusively.

Nonuser: a person who owns property adjacent to either water or wastewater facilities or both such facilities of the Authority but elects not to connect to such facilities because the property is served by either a domestic supply or source of potable water or a private septic system or sewage system or both such potable water and private system which meet applicable standards established by the Virginia Department of Health, and is granted a waiver not to connect by the Board of Directors.

Off-site extension: an extension of a water or sewer line from existing local or system facilities of the Authority to the property boundary of the developer or to the property boundary of the nearest applicant as determined by the Authority.

Owner: any person, firm, corporation, society or association, or authorized agent thereof, having an interest, whether legal or equitable, sole or partial, in any premises served or to be served by the Authority.

Participation: means any utility project constructed by a developer at his expense to serve any new development wherein the Authority agrees to share in the cost thereof by refunding to such developer certain costs incurred by him upon receipt by the Authority of remittances from certain applicants or owners for service and affected nonusers.

Plant: physical or tangible property.

Plumbing Fixture: a receptacle or device which is either permanently or temporarily connected to the water distribution system of the premises, and demands a supply of water therefrom; or discharges used water, waste materials, or sewage either directly or indirectly to the drainage system of the premises; or requires both a water supply connection and a discharge to the drainage system of the premises. Examples: sink, toilet, tub, shower, etc.

Premises: any building, group of buildings, or structure requiring water and sewer service, which is or may be served by the facilities of the Authority.

Primary service area: consists of areas presently provided with Authority owned water and/or sewer systems; and areas identified by the Board of Directors to receive such service. Those areas defined as primary settlement areas in the King George County Comprehensive Plan and those areas currently served by public utilities. These areas include, but not necessarily limited to the Dahlgren, Fairview Beach, Oakland Park, Courthouse, Circle, Presidential Lakes, Cleydael, Nindes, Hopyard Farm, Arnolds Corner, Peppermill, and the King George County Industrial Park service areas.

Project: an Authority project.

Public sewer: a sewer in which all owners of abutting properties have equal rights and which is controlled by the Authority.

Public water main: a water main in which all owners of abutting properties have equal rights and which is controlled by the Authority.

Service charge: a charge levied to defray the cost of meter reading or obtaining meter readings from public and private utilities; for meter repair and replacement; for service connection repairs; for billing, postage, collecting, and accounting; and for customer service operations.

Service connection: a premises to which either continuing water service or sewer service or both is provided by the Utility.

Sewer service connection: the point at or near the applicant's property line where the building sewer connects to the sewer service line.

Sewer service line (sewer laterals): that portion of pipe within the wastewater system which extends from the branch or lateral sewer (public sewer main) to the sewer service connection.

Shall, will and may: construed as mandatory and permissive, respectively.

Standards: the "Water and Sewer Standards and Specifications" of the Authority.

Subdivision: the division of any tract, parcel or lot of land into two or more parts as defined and required by the King George County Subdivision Ordinance.

System facilities.

- (a) Sewer: all gravity sewer mains or force mains; all wastewater mains that serve more than one development, and all pumping stations and treatment plants and appurtenances unless dedicated to one development exclusively.
- (b) Water: all transmission and distribution mains; all storage facilities; all supply plant, pumping station and treatment plant unless dedicated to one development exclusively.

Tenant: an applicant who does not own the premises to which utility services are provided.

Trunk sewer or main sewer: a sewer that receives wastewater from a number of tributary branch or sub-main sewers and serves a large territory.

Utility service: water or wastewater service or both such services, either permanent or temporary.

Utility Project: means any earth disturbing activity performed in conjunction with the construction and installation of local and system facilities or an extension of or a connection to the facilities of the Authority to serve any existing or new development.

Wastewater (sewage): spent or used water of a customer (residential, commercial, industrial, institutional, governmental) which contains dissolved and suspended matter.

Wastewater facilities: the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge.

Wastewater system: combination of facilities for the collection, movement (force main or gravity) treatment, and discharge of waterborne wastes.

Water service connection: the point at or near the applicant's property line where the water service pipe connects to the water service line (water meter or curb stop installation).

Water service line: that portion of pipe within the water system which extends from the public water main to the water service connection.

Water service pipe: the extension from the end of the water service connection (water meter or curb stop installation) to the inner face of the building wall.

Water Supply Main (or "Main"): means any water supply pipeline that is part of the Authority's waterworks distribution system.

Words singular in form shall include the plural; words plural in form shall include the singular; and words in the masculine gender shall include the feminine and neuter genders.

The definition of words and terms which do not appear herein shall be controlled by the definition which appears in Glossary: Water and Wastewater Control Engineering, 3rd Edition, published by the American Public Health Association, the American Society of Civil Engineers, the American Water Works Association, and the Water Pollution Control Federation.

SECTION 2. CONNECTION REQUIRED

The following shall determine who shall be required to connect to the facilities of the Authority.

- A. Service to existing structures. An owner of property adjacent to a right-of-way or easement within which there is located a public water main or public wastewater line or both may be required to connect each existing structure or manufactured home situated thereon to the facilities of the Authority; provided, however, an owner of property shall not be required to connect an existing structure or manufactured home situated thereon to a public water main or to a public wastewater line when the following conditions apply:
 1. The laws of the Commonwealth of Virginia preclude this requirement.
 2. Comprehensive Plan: The existing structure or manufactured home is prohibited from connection to a water or sewer line by zoning, special use permit, or proffer conditions and is served by an existing domestic supply or source of potable water and/or private septic or domestic sewage system which meets the standards established by the Virginia Department of Health.
 3. Water: the existing structure or manufactured home is used principally for residential or commercial purposes and is served by an existing functional domestic supply source of potable water which meets the standards established by the Virginia Department of Health.
 4. Sewer: the existing structure or manufactured home is used principally for residential or commercial purposes and is served by a private septic system or domestic sewage system which:
 - (a) has absorption trenches that are functioning properly. The Virginia Department of Health shall determine whether absorption trenches are functioning properly; or,
 - (b) can be made to function properly by replacing or repairing one of the following: building sewer; septic tank or any of its parts; pump or pump chamber; conveyance lines; distribution box. Additionally, a one-time remedial repair may be made to correct a failing drainfield that would not require excavation or replacement of any portion of the drainfield such as a chemical treatment, flushing, or root removal. Minor excavations to access the drainfield lines will be allowed.

- B. Time to connect. The owner of an existing structure shall comply with this connection regulation within one (1) year after receiving written notice from the Authority utility service is available and connection is required.
- C. Plumbing facilities. An existing structure required by these Regulations to connect to a utility service of the Authority but equipped with plumbing facilities required by the Virginia Uniform Statewide Building Code shall be so equipped and connected to the available utility service.
- D. Service to future structure, new development. An owner of property shall be required to connect to the facilities of the Authority when each development, or each future structure not part of a development, shall be situated on property adjacent to a right-of-way or easement within which there is located a public water main or wastewater line. A replacement structure that is required due to a natural disaster or fire is not considered a future structure or new development.
- E. Access. The connection of a development or an existing or future structure to a utility service of the Authority shall not be required when access to the affected property requires the crossing the property of another owner, other than the Authority or the Virginia Department of Transportation.
- F. Application required. The owner or tenant, when required by these Regulations to connect to a utility service, shall make "Application for Service and Contract" in accordance with Section 3.

SECTION 3. APPLICATION FOR SERVICE AND CONTRACT

A. General

1. Any person qualified by these Regulations who either desires or is required to connect to water or wastewater service shall complete and submit to the Authority at its office an "Application for Service and Contract".
2. All information requested by the Authority shall be provided before an application is approved.
3. A separate service connection shall be required for each premises unless otherwise determined by the Authority in accordance with Section 12.
4. All applicable charges shall be paid before service is provided. Authority service shall not be provided to any prospective customer if that customer has any outstanding and unpaid utility charges arising from prior utility service to such prospective customer, except as provided in Section 13.L.

B. Service to new connection on existing facilities

Application for service and contract for initial service to either an existing or future structure to which facilities of the Authority are adjacent and available shall be made by the owner or authorized agent on a form prescribed and furnished by the Authority for the purpose of such application. The application shall be in writing, signed and verified by the owner of the premises to which the service is to be connected, and contain the following information and attachment(s):

1. Name
2. Social Security Number is requested but not required. In the alternative a valid driver's license number or employer identification number of owner and tenant, if applicable.
3. Street address of the premises to be supplied utility service.
4. Name of subdivision.
5. Tax map number of the parcel to which the service connection is to be made.
6. The desired date for commencement of utility service.
7. Size of line and/or meter requested.

8. Address to which bills are to be mailed or delivered (if different than the premises).
9. The square feet, proposed use, and average daily demand of the structure which the owner intends to build.
10. The anticipated water demand and sewage flow, in gallons per day, except single family dwelling units and manufactured homes (not required for developments that have submitted and have approved site plans or for residential structures).
11. Other information as may reasonably be required to determine total service demand.
12. Agreement to abide by the Regulations of the Authority.
13. Written assurance to the prospective customer that the customer shall receive, upon request, a copy of these Regulations.
14. Written acknowledgment by the prospective customer, that as a customer, is responsible for the timely and complete payment of all utility charges arising from utility service supplied to the premises identified in the application for service and contract form, which charges are due and payable upon receipt of the utility bill; and that in the event of nonpayment of such charges the Authority shall either terminate service or institute any action at law to satisfy unpaid bills, or both.

C. Payment of application fees. Payment of Application fees shall be made in the following manner:

1. Single-family dwelling: Twenty-five (25) percent of the required fee upon application for service and the balance prior to the issuance of an occupancy permit, but not later than ninety (90) days from the date of original application. Minimum bills shall commence upon meter installation or at the end of the ninety (90) days, whichever comes first.
2. Multifamily: Twenty-five (25) percent of required fees upon application for service and the balance prior to the issuance of an occupancy permit, but not later than one hundred eighty (180) days from the date of original application. Minimum bills for each dwelling unit shall commence upon meter installation or at the end of one hundred eighty (180) days, whichever comes first.
3. Commercial and industrial: Twenty-five (25) percent of the required fee upon application for service and the balance prior to the issuance of an occupancy permit, but not later than one hundred eighty (180) days from the date of original application. Minimum bills shall commence upon meter installation or at the end of one hundred eighty (180) days, whichever comes first.

4. Contractual agreement: By contractual agreement approved by the Board.

D. Conversion of allocated connections. A sewer or water service connection previously allocated may be converted to a more intensive use than identified in the original application, provided that each such request is processed as an initial application for sewer or water service. Fees will be calculated based on the new use identified on the revised application with credit given for all payments made under one original application. Payment of the balance due for the revised use will be made in accordance with Section 3.C.

If a revised application is submitted for a less intensive use, and notwithstanding other provisions of these regulations, an applicant will receive a refund of the difference between the original fees paid and revised fees. An administration fee of ten percent (10%) of the refunded amount will be subtracted from the refund due. This refund will be made provided all of the following criteria are met:

1. The revised application is submitted within five (5) years of the original application.
2. The structure has not been connected to the system.

No credit or refund will be given for a revised application for a less intensive use if connection to the system has occurred or the revised application was not received within five (5) years of the original application date.

E. Default in payment for and forfeiture of allocation. Default in payment of service charges for an allocated but unconnected sewer or water service connection, in excess of ninety (90) days after becoming due, shall constitute a forfeiture of such allocation. In event of forfeiture, the applicant shall be entitled to a refund of seventy (70) percent of availability charges paid by such applicant, upon his written application for such refund, if filed with the General Manager of the Authority within thirty (30) days following such forfeiture.

If the balance of fees due is not received in accordance with the regulations stated above, interest on the outstanding amount will accrue at the rate of 10% per annum from the original due date up to and including the date the payment is made.

Default in payment of the balance of application fees as provided in Section 3.C for an allocated but unconnected sewer or water service connection, in excess of ninety (90) days after becoming due, shall constitute a forfeiture of such allocation. In event of forfeiture, the applicant shall be entitled to a refund of seventy (70) percent of availability charges paid by such applicant, upon his written application for such refund, if filed with the General Manager of the Authority within thirty (30) days following such forfeiture.

F. Service to existing connection, Request for service to an existing connection may be made in person or by phone by the owner or tenant at which time a Service Request Form will be filled out. When the request is for a premises previously or currently billed for utility service the account for that premises is transferred to the applicant's name on the date that service is requested.

The Service Request Form shall contain the following information:

1. Date of application
2. Name of prospective customer.
3. Social Security Number of Customer if provided. In the alternative, a valid driver's license number or employer identification number of owner and tenant, if applicable.
4. Name of Property Owner (if different than the applicant).
5. The mailing address to be supplied utility service.
6. The address to which the utility bill is to be sent (if different than the premises).
7. The desired date for commencement of utility service.

When the situation arises and there is an anticipated need to prevent water damage, the applicant for water service to an existing premises to which public water has been supplied previously must arrange to have someone present with access to the premises when the water is turned on. Twenty-four (24) hours' notice during normal work hours (Monday thru Friday) shall be given to schedule such turn-on.

G. Service to new connection on new facilities. When either water service or wastewater service is desired to serve existing or future structures or new developments which require the construction of new facilities, application for service and contract shall be made by the owner as required in Section 27.

H. Facility capacity. Facility capacity shall be obligated by contract on a first come - first served basis and in the best interests of the Authority. Capacity and availability of service shall be determined at the time of Service Application.

SECTION 4. LOW INCOME PAYMENT PLAN

The Authority provides by agreement an installment plan program to aid low-income homeowners in paying the local and system facilities fees for water and sewer service charged to applicants for new connections. To be eligible, prospective customers shall apply to the General Manager. If the applicant is deemed eligible, he or she shall be permitted to pay the local and system facilities fees in monthly installments without interest, after the service connection has been made. Under the installing plan, scheduled payments will continue until the entire amount of the connection fees has been paid or until the property is sold. The amount of the installments and length of the payment period shall be based on the recommendations made to the Authority by the County Administrator.

- A. Eligibility Criteria. Low-income household determinations shall be based on a detailed review of documented annual household income, expenses, and any extenuating circumstances that clearly demonstrate financial hardship. The applicant shall be required to occupy the property and have title or ownership interest in the property. If the applicant is deemed eligible, then he shall enter into a contract with the Authority which provides conditions to be observed by both parties, as well as a specific payment schedule, set forth by the County Administrator's Office. A Deed of Trust (i.e. lien) shall be placed on the applicant's property to ensure payment of the amount owed to the Authority.
- B. Collection of other funds advanced. The Authority may include in the contract with the homeowner an agreement to collect installment payments on funds loaned to customers for the purpose of paying for water and sewer connection expenses in addition to local and system facility fees.
- C. Payment. Installment payments shall be made monthly to the Authority, either in person, by mail, or by electronic funds transfer. Payments shall be due on the first day of the month with a late payment fee charged if the payment is received after the fifteenth day of the month. The late payment fee shall equal ten percent of the monthly payment rounded to the nearest dollar.
- D. Change in Ownership. Should the ownership of the property change before the fees have been completely paid to the Authority, the balance of the fees shall be due immediately in accordance with the provisions of the Deed of Trust. Exception shall be made when the change in ownership is based on inheritance and the new owner of the property also qualifies for the program and agrees to assume the liability for the balance of the unpaid fees. A payment plan will then be calculated by the County Administrator's office based on the new owner's gross monthly household income.
- E. Rights of the Authority. All recommendations made by the County Administrator's Office are subject to approval by the General Manager. In cases of financial crisis, the General Manager may approve a written agreement with the customer to temporarily modify the

payment plan. However, the Authority reserves the right to call due the balance of the unpaid fees should the program participant be found to be habitually delinquent.

F. Other Loans: If connection is required for existing structures, the Authority shall provide a domestic water and/or sewer connection to the property line upon payment of all applicable fees and charges. On request of a residential customer with a water and/or sewer system certified as "failing" by the Virginia Department of Health, the Authority may finance up to seventy five percent (75%) of the connection costs. Prior to the Authority extending credit, the residential customer must: 1) pay twenty five percent (25%) of the connection costs to the Authority; 2) execute a legally-binding note for the remaining principal balance with interest thereon at the rate of ten percent (10%) and equal monthly payments for a term not exceeding thirty six (36) months; 3) execute a deed of trust on the subject property and all other closing documents; and 4) pay all closing costs including attorney's fees. The Authority shall provide the appropriate connection(s) after all financing documents are signed.

SECTION 5. CONTRACTS

A written contract is required when the following conditions apply:

- A. Standard. The application for service and contract, when properly executed by all parties, shall constitute a contract between the applicant and the Authority. No service connection shall be made nor shall utility service be furnished until the application for service and contract shall have been properly executed. A copy thereof shall be given to the owner and to the tenant or lessee.
- B. Special. The Authority may enter into a contract with any person, firm, corporation, association, society or group, including municipalities, sanitary districts, and other political subdivisions and public bodies, for the rendering of any unusual or extraordinary utility service. However, the rates, fees, or charges to be paid thereunder shall not be less than an amount which is fair and equitable, taking into account the cost to the Authority of providing the utility service. All special contracts shall be approved by the appropriate governing body.

SECTION 6. NOTICES

The following shall be observed when either an applicant or customer, as appropriate, gives notice to the Authority and/or when the Authority gives notice to an applicant or customer.

A. Applicant, customer notices. The applicant or customer shall give to the Authority written notice at the office of the Authority or shall notify the Authority in person or by telephone on the following matters:

1. Application for service, including temporary service.
2. Request to either turn-on or terminate service; if notice is to terminate service, then a forwarding address shall be supplied.
3. Request for meter for private water supply
4. Request for a meter accuracy test.
5. Disputed utility bill.
6. Change in mailing address if different than that of the premises.
7. Request for change in service, notice of complaint, notice of mailing address change, notice for a service connection, or request for a line inspection.

B. Utility notice. The Authority shall give to the applicant or customer, as appropriate, written notice at the last known mailing address on the following matters:

1. Amount of bill due.
2. Failure to observe a regulation.
3. Scheduled temporary shutdown for repairs or improvements.
4. Termination of service.

In an emergency or when other conditions warrant, the Authority may give notice either by phone or in person, or by other approved methods.

SECTION 7. SERVICE CONNECTIONS

Upon approval of the application for service and payment of applicable charges and fees the service connection shall be made by either the Authority or the applicant in accordance with the following procedures:

- A. Separate service connection. A separate service connection shall be required for each premises, commercial unit, or individual user unless otherwise determined by the Authority in accordance with Section 11.
- B. Notice required. The applicant shall give the Authority two (2) business days' notice for performing the required inspections and/or actual connection.
- C. Service line, service connection requirements. All laterals and service connections shall be installed by the applicant or representative with materials and workmanship that fully comply with the applicable specifications of the State Plumbing Code, the State Department of Health, and the Authority's Standards. Connection to the Authority-owned sewer mains, water mains, laterals and service lines shall be inspected and approved by the Authority's authorized personnel prior to backfilling. For single-family construction, the Authority will only furnish the tapping saddle, corporation stop, coppersetter, meter and box for water service installation; or tapping saddle and clean-out for sewer lateral installation. The applicant or representative shall extend the water and/or sewer service lateral from the Authority-owned mains to the structure. Applicant shall be responsible for all costs associated with road crossings.
- D. Applicant to bear connection expenses. The cost of material and labor for installing individual service and lateral lines shall be a cost to the applicant independent of any fees or charges required by the Authority. The applicant shall also be required to secure and pay for all such permits and fees as may be required. Such approval shall be in the form of a construction permit issued by the General Manager or his designee.
- E. Lines, connections property of Authority. All service lines and connections shall remain the property of the Authority, and shall be under its sole control and jurisdiction. The Authority shall maintain the sewer connection (lateral) from the main to the clean-out placed at the property line. The owner shall be responsible for maintenance of the sewer connection (lateral) from the property line to the premises. The Authority shall maintain the water connection line (lateral) from the main through the meter. The owner shall maintain the water connection (lateral) from the meter to the premises.
- F. Change in location. Should a change in location of the water and/or sewer lateral be requested by the owner for any reason, the owner shall be responsible for the relocation and all associated costs. Such work shall be approved by the Authority's authorized personnel

prior to backfilling. Should a change in location of the water and/or sewer lateral be required by the Authority, such costs shall be the responsibility of the Authority.

SECTION 8. BUILDING SEWER; WATER SERVICE PIPE

The materials and equipment used in, and the construction and installation of the building sewer and water service pipe, shall comply with the Virginia Uniform Statewide Building Code, the Virginia Department of Health Regulations, and these Regulations. The required permits shall be obtained from the County Department of Code Compliance before construction, alteration or repair is commenced on a building sewer or water service pipe or connection thereof is made to a service connection. All appropriate reviews by the Authority or appropriate State agencies shall be obtained prior to the work commencing.

SECTION 9. METERS AND METER INSTALLATION

All water consumption, except fire protection and authorized use of fire hydrants, shall be metered. Meters shall be read to coincide with the mailing of utility bills as specified in Section 12. Fire service detector check valve meters shall be read annually or on a more frequent basis as determined by the Authority.

- A. Size, location, type of meter. The Authority shall approve the size, location, and type of the water meter to be installed for all premises based on occupancy and flow data furnished by the applicant. The normal size for a single family dwelling shall be five-eighths inches (5/8") by three-fourths inches (3/4"). Meter sizes for commercial and industrial construction will be determined by a professional engineer registered in the State of Virginia. The size of the meter and average daily demand will be shown on the site plan and/or included with the Application for Service.
- B. Installation. Meters shall be approved, installed, maintained, and removed by the Authority. All meter installations shall conform to the applicable provisions of the "Authority Standards." Installed meters remain the property of the Authority.
 - 1. Water meters for new customer services shall be installed on the premises at or near the property line, at an accessible location approved by the Authority. Customers shall be responsible for the cost of repairs from the meter to the structure.
 - 2. For premises that have a private water system and public sewer, and said private water system includes a water meter to measure flow for sewer billing purposes, said water meter shall have an outside reading device installed in a location approved by the Authority.
 - 3. After proper installation of water meters, all meters shall be sealed by the Authority which seal shall not be broken except by permission of the Authority.
 - 4. After proper installation, water meters shall not be moved or relocated except by Authority employees.
 - 5. The Authority shall not be held responsible for water damage within the premises caused by burst water meters or connections.
 - 6. In case of meter damage causing leakage, the customer may shut off the water at the valve at the end of the service line. The customer shall notify the Authority within twenty four (24) hours of shut off.

- C. Separate meter. Unless otherwise determined by the Authority, individual premises shall be supplied through a separate meter. If, however, premises are supplied through more than one service connection, unless otherwise provided, each such service shall be billed separately.
- D. Meters furnished by the Authority for single-family dwellings; The Authority will furnish for each single-family residential dwelling a water meter, meter box and yoke. The applicant shall be responsible for the cost of any meter larger than five-eighths inch (5/8") by three-fourths inch (3/4"). Applicants for multifamily, commercial, and industrial service shall be responsible for furnishing meters and related connection materials as required by the Authority.
- E. Meter maintenance. Meters shall be maintained by the Authority at its expense; provided, damage to any meter due to hot water, freezing, or other external causes arising out of, or caused by the customer's facilities, operations, negligence or carelessness shall be paid for by the customer. The Authority, however, shall be responsible for damage to meters due to freezing in outside vaults and for ordinary wear.

The Authority may at any time remove any meter for routine test, repairs, or replacement. When warranted, the provisions of Section 10.C shall apply.
- F. Notice of defects. The customer shall promptly notify the Authority of any known defects in or damage to the meter or its connection.
- G. Access to meters required. The Authority requires unobstructed access to its meters at all reasonable times. The Authority will inform the customer that unobstructed meter access is required. If access to the meter is regularly blocked by bushes or foliage, the meter reader may trim or remove the obstruction as much as necessary to properly inspect the meter. When such access is regularly unavailable, the Authority may, after written notification, terminate service until the access problem is resolved to the satisfaction of the Authority.
- H. Change in location, size. Upon request of the applicant the Authority shall change either the location or size or both of a meter when the applicant observes the following conditions:
 1. Observance of applicable provisions of Section 7.F.
 2. For the installation of a larger meter, remittance of the difference between the meter sizes shall be based upon current system facility charges as prescribed in Section 30. No refund shall be made for a reduction in meter size.
 3. If the applicant asks the Authority to relocate or replace the meter, then the applicant shall pay the cost of the upgrade in addition to the system facility charge.

I. Unauthorized Meter Removal. Upon installation, only Authority employees or designated representatives shall turn on, turn off, move, remove or replace a meter or any connections to it. Should the Authority determine that a meter and/or connection tampering has occurred, the General Manager will conduct an investigation to identify the responsible party or parties. When tampering occurs, the customer will presumably be suspect because they are the only ones who would directly benefit from the tampering. Barring any substantive evidence pointing to another party or parties who may have tampered with the meter, the customer will ultimately be held responsible and shall be subject to a \$250 tampering penalty for each offence. Payment shall be made immediately and prior to re-installation of service. Failure to pay the penalty promptly may result in the suspension of service to all other accounts in the customer's name. Payment of the penalty does not preclude the Authority from seeking additional legal remedies when deemed necessary. In addition, the Authority will install an ultrasonic meter to enable more rapid identification of any future attempts by the customer to tamper with the meter.

SECTION 10. METER TESTS; ADJUSTMENT OF BILL

- A. Test for accuracy. A customer may ask the Authority to examine and test the meter serving the premises to ascertain the accuracy of the registration of the amount of water delivered through it. Requests for such tests shall be made by written notification to the Authority. A deposit in an amount determined by meter size reflected in Section 30 shall accompany the notification to cover the cost of the test.
- B. Written report. The Authority shall then remove the meter and, in the presence of the customer, or in the presence of an authorized representative when so requested by the customer, conduct a test of the accuracy of such meter. A written report of the results of the test shall be delivered to the customer within ten (10) calendar days after completion of the test.
- C. Bill adjustment.
 - 1. Fast meter. When the meter is found to have registered three percent or greater increase on any flow level, the customer shall receive a refund of the overcharge, either in cash or as a credit against future charges at the option of the customer. Refunds shall be for the period that the meter was in use, but not to exceed six months. In addition, the deposit remitted with the application for test shall be refunded in full.

No refund of the deposit shall be made when the meter registration is less than three percent fast.
 - 2. Slow meter. When the meter for a domestic service is more than twenty-five percent slow on any flow level, the customer shall be billed for the undercharge for the period that the meter was in use, but not to exceed six months. When a meter used for other than domestic service is more than five percent slow, the customer shall be billed for the undercharge for the period that the meter was in service, but not to exceed six months. The deposit remitted with the application for testing shall be refunded.
 - 3. No registration. When a defective meter does not register, the Authority shall bill the customer an average of the consumption shown on the last three (3) consecutive utility bills or, if historical data is absent, bill will be based on the minimum bi-monthly metered rate.

SECTION 11. SEPARATE SERVICE CONNECTIONS; MULTIPLE UNITS

Each dwelling unit and each unit in a non-residential structure shall be served by a separate service connection and a separate meter. However, the premises identified below shall be served by one service connection and one meter:

- A. Residence used as a rooming house.
- B. Dwelling with accessory apartment.
- C. Multifamily structure where the utility service is included in the rent.
- D. Nonresidential structure which contains two (2) or more contiguous units occupied by a tenant or lessee where the utility service is included in the rent.
- E. Any main structure and its customary accessory building, use or structure; accessory is defined as a use which is clearly incidental to or customarily found in connection with and located on the same lot as the main building or use.
- F. Separate Houses, buildings, or manufactured homes located on the same premises and under single ownership or management.

SECTION 12. UTILITY BILL

- A. Frequency; address. A utility bill shall be mailed bi-monthly to every customer for utility service supplied during the time period shown on the utility bill.
- B. Contents of Bill. Each utility bill shall contain, as a minimum, the following information:
 - 1. The date of the utility bill.
 - 2. The time period and number of days of utility service covered by the utility bill.
 - 3. The utility charge(s) due.
 - 4. The date when complete payment is due at the King George County Treasurer's office, which date shall be thirty (30) days from the date of the utility bill. The bill shall also notify the customer that if payment is to be made to one of the area banks which is authorized to receive utility payments, such payment must be made at least five (5) working days prior to the date that the payment is due at the King George County Treasurer's Office.
 - 5. Notice as to whether the bill is based on an actual or an estimated measurement of the amount of utility service supplied.
 - 6. Notice that the customer may call the Authority customer representative whose telephone number shall be listed on the utility bill, in order to:
 - (a) Dispute the amount of the utility charges.
 - (b) Apply for restoration of utility service.
 - (c) Request answers to any other questions about utility service.
 - (d) Avoid the termination of utility service for nonpayment of the amount(s) shown on the utility bill.
- C. Mailing address. The utility bill shall be sent to the mailing address shown on the "Application for Service and Contract"; however, the utility bill shall be sent to a different address when the customer has given to the Authority notice of such different address.
- D. Correction of utility bill. The Authority reserves the right to correct a utility bill rendered in error.

- E. Payment. A utility bill is due and payable upon receipt by the customer. Failure of the customer to receive either a utility bill or notice of termination shall neither be considered cause for nonpayment, nor justification for extension of the payment date, nor affect the right of the Utility to either terminate service or to file a lien or to motion for judgment for money in accordance with these Regulations. Payments may be made at the King George County Treasurer's Office, or by mail to address listed on the utility bill, or by electronic funds transfer.
- F. Estimated bill. An estimated utility bill shall be mailed to the customer if the meter fails to register for any reason or the reader is unable to gain access to the premises at the time the meter is scheduled to be read. Such estimated utility bill shall be based on an average of the consumption shown on the last three (3) consecutive bimonthly utility bills.
- G. Partial period bill. The utility service charge for an initial or final utility bill for less than a full billing period shall be based upon actual consumption or prorated for consumption less than the minimum volume. This billing is based on the customer properly notifying the Authority of initiating or terminating services.
- H. Final bill. A customer who requests that utility service be terminated shall give to the Authority a termination date and a forwarding address. The meter shall be read on the termination date and a final utility bill shall then be prepared and mailed to the terminating customer. Any deposit will be refunded or deducted from the final bill. Deposits will be refunded only if the final bill is paid in full.

A duplicate copy of the final bill to the tenant-customer shall be mailed upon preparation to the owner of such leased or rented real estate (premises).
- I. Minimum Bill: Once connection to the system has been made, in accordance with Section 3, and/or service to an existing connection applied and approved, there will be a minimum bill on the property. This minimum bill is in effect regardless of occupancy or physical connection to the system. Minimum charges for meter sizes are set forth in Section 30 or as approved as the prevailing rates by the Board.
- J. Miscellaneous bill. A utility bill other than a regular utility bill rendered by the Authority is due and payable upon receipt by the customer and shall be paid in accordance with the provisions of these Regulations.
- K. Abatement; refund. The Authority is not responsible for water charges incurred due to leakage or for water wasted by water service pipes or fixtures either damaged or in disrepair which belong to the customer. However, if connected to the public sewer, an adjustment to the sewer charge shall be made for all of the estimated amount of water which did not enter the public sewer, and based on the average consumption over the last three billing periods or six months.

Adjustments shall not be considered for disputed bills that are over six (6) months old.

- L. Account charge. An account charge shall be paid by each applicant for service, whether for a new account or for a transfer of account from one premises to another premises. Such charge shall be collected at the time application is made or shall be added to the first utility bill for new and transferred accounts. Such charge is used to defray bookkeeping and clerical costs.
- M. Transfer of charges. The Authority may transfer outstanding charges for a customer who terminates service at one premises to any other account for a premises in the name of such customer which, if unpaid within the time specified in Section 15, shall subject the latter account to termination.
- N. Customer liable for utility charges. A customer who has either made "Application for Service and Contract" or who has received utility service at a premises shall be liable for all utility services furnished to such premises until such time as the customer has properly notified the Authority to terminate the service to such premises.
- O. Owner Liable for Utility Charges: In all cases where there are delinquent charges due the Authority, the owner of record of the premises shall be held responsible for payment of the outstanding accounts, as permissible by law.
- P. Returned check charge. A charge of fifty dollars (\$50.00) shall be assessed for any check in payment of a utility bill which is returned for insufficient or uncollected funds, or drawn on a closed account, or drawn on a nonexistent account. If such check was presented in order to avoid termination of service for nonpayment of a utility bill, or to have service restored after such termination, utility service shall be terminated and this charge, as well as all others due and payable, shall be submitted in cash, cashier's check, certified check or money order before utility service is restored.

SECTION 13. CUSTOMER DISPUTE WITH THE UTILITY BILL

A. General. A customer may dispute the correctness of all or part of the amount(s) shown on a Utility Bill in accordance with the provisions of these Regulations.

A customer shall not be entitled to dispute the correctness of all or part of the amount(s) if all or part of the amount(s) was (were) the subject of a previous dispute under this Section.

B. Procedure. The procedure for customer disputes shall be as follows:

1. The customer shall notify the Authority in writing or by phone at its office that he disputes all or part of the amount(s) shown on a utility bill, or a notice of termination, stating as completely as possible the basis for the dispute.
2. If the Authority determines that the present dispute is either untimely or that the customer previously disputed the correctness of all or part of the amount(s) shown, the Authority shall either mail a notice to or contact the customer by phone advising that the present dispute is untimely or invalid and that no further action will be taken.
3. If the Authority determines that the present dispute is timely or valid under this Section, the Authority shall contact the customer to obtain any additional information required and advise the customer of the status of the dispute.
4. Based on the Authority's records, the customer's allegations, and all other relevant materials available the Authority shall resolve the dispute, attempting to do so in a manner satisfactory to both the customer and the Authority.
5. The Authority shall either mail to the customer a notice of the decision resolving the dispute, or contact the customer by phone with the decision.
6. If the decision is unsatisfactory to the customer, the customer may request a meeting with the General Manager.
7. The meeting with the General Manager shall be held in a timely manner.
8. Based on the information provided by the customer, the General Manager shall issue his or her decision in a timely manner formally resolving the dispute. His or her decision shall be final and binding on the Authority and the customer

C. Payment of undisputed charges. Use of this dispute procedure shall not relieve a customer of his obligation to completely pay all other undisputed utility charges and the undisputed portion(s) of the amount(s) which is (are) the subject of the present dispute in a timely

manner. Notwithstanding Section 13.D, failure to timely and completely pay all such undisputed amounts in a timely manner shall subject the customer to termination of utility service in accordance with the provisions of these Regulations.

D. Payment of disputed charges. Until the date of the General Manager's decision, the Authority shall not terminate the utility service of the customer and shall not issue a notice of termination solely for nonpayment of the disputed amount(s). If it is determined that the customer must pay some or all of the disputed amount(s), the Authority shall promptly mail to, or personally serve upon the customer a notice of termination, which shall contain the following:

1. The amount to be paid.
2. The date of the notice of termination.
3. The date of termination, which shall be ten (10) days after the date of notice of termination.
4. Notice that unless the Authority receives verification of payment with the Treasurer's Office of complete payment of the amount shown prior to the date of termination, utility service shall be terminated under Sections 14 and 15.

SECTION 14. TERMINATION OF UTILITY SERVICE

A. Causes for termination. Utility service, after proper notice as required by these Regulations, shall be terminated for the following causes; however, immediate termination can occur if Authority personnel determine a public health hazard exists:

1. Nonpayment of utility charges due.
2. Contamination of the water supplied by the Authority when caused by an appliance or apparatus of the customer.
3. Service to a customer is of such magnitude or such character that utility service to other customers is adversely affected.
4. Failure to protect and maintain the water service pipe or building sewage drain on the property of the customer in a condition satisfactory to the Authority.
5. For tampering or altering by the customer, or others with the knowledge of the customer, with any meter, service connection, water service line, sewer service line, curb stop, seal, or any other appliance or apparatus of the Authority which controls or regulates the customer's water supply.
6. Failure to provide to employees of the Authority free and reasonable access to the premises served, or for obstructing ingress to the meter or other appliances which control or regulate the customer's water supply.
7. Failure to correct a backflow or cross-connection violation as required by the Waterworks Regulations of the Virginia Department of Health or the Virginia Uniform Statewide Building Code, as the same may be in effect from time to time.
8. Failure to comply with these Regulations.
9. Fraud or abuse, including the nondisclosure of information on the "Application for Service and Contract," or any false statement or misrepresentation.
10. Negligent or wasteful use of water during periods when restrictions on consumption are imposed to conserve water.
11. Failure to maintain plumbing inside the structure so no escape or discharge of water or sewerage occurs in the structure and/or on the property.

- B. Other action. Termination of utility service to any premises or structure for any cause shall not prevent the Authority from pursuing any lawful remedy by action at law or otherwise for the collection of monies due from the customer.
- C. Payment required before service restored. When utility service to a customer has been terminated for any of the above causes, other than temporary vacancy of the premises, it shall be restored only after the conditions, circumstances, or practices which caused the utility service to be terminated are corrected to the satisfaction of the Authority, and upon payment of all utility charges due and payable by the customer/Owner in accordance with these Regulations.

SECTION 15. UTILITY SERVICE TERMINATION PROCEDURE

A. Nonpayment of utility charge. The provisions of this Section shall govern all terminations of utility service for nonpayment of utility charges.

1. Notice of termination. If by the payment date shown on a utility bill the Authority has not received complete payment of the amount(s) shown on the bill, the Authority shall mail to the customer a notice of termination within seven (7) days after the payment due date. In case of a customer-tenant, the Authority shall mail a copy of such notice to the owner of the premises at least ten business days prior to termination of services and the notice shall also inform the owner that a lien may be placed on the property if the tenant or lessee fails to pay any delinquent water and sewer charges, with a duplicate of the final bill sent to the tenant or lessee.
2. Content of notice. The notice of termination shall contain the following:
 - (a) The amount to be paid.
 - (b) The date of the notice of termination.
 - (c) The date of termination, which shall be at least ten (10) days from the date of the notice of termination.
 - (d) Notice that unless the Authority receives at its office complete payment of the amount shown prior to the date of termination, utility service shall be terminated under Section 15 (A)(3).
 - (e) Notice that in lieu of paying the entire amount shown, a customer, prior to the date of termination, may notify the Authority that he disputes the correctness of all or part of the amount shown, if all or part of the amount shown was not the subject of a previous dispute under Section 13.
 - (f) The telephone number of the Authority customer representative.
3. Termination of utility service. If, prior to the date of termination:
 - (a) The Authority has not received at its office complete payment of the amount shown on the notice of termination, or
 - (b) The customer has not notified the Authority that he disputes the correctness of all or part of the amount shown on the notice of termination, then the Authority shall terminate utility service provided to the customer on the date shown on the notice of termination.

4. Payment prior to termination date. If the Authority receives payment at its office of the entire amount shown on the notice of termination prior to the date of termination, such payment shall be considered a timely and complete payment for purposes of these Regulations.
- B. Other causes. Normally, the notice and period of time for compliance provisions of Section 15.A shall govern the termination of service for causes other than the nonpayment of utility charges; provided, however, when warranted by the circumstances, the period of time for compliance may be either collapsed or suspended.
 1. Content of notice. The notice of termination for causes other than the nonpayment of utility charges shall contain the following:
 - (a) The cause of the termination.
 - (b) The corrective action required by the customer when such action is under the control of the customer and the cause can be corrected by the customer without loss or injury to the Authority.
 - (c) The date of the notice of termination.
 - (d) The date of termination of service.
 - (e) Notice that unless the corrective action is completed prior to the date of termination, utility service shall be terminated on the date of termination.
- C. Method of termination. When utility service is terminated one or more of the following methods shall be used. The decision of which method to be used shall be made by the Authority and shall be in the sole discretion of the Authority, its agents, or assigns.

The water supply and/or sewer service may be terminated by:

1. Cutting off service at the meter;
2. Application of a seal to the meter;
3. Removal of the meter;

4. Sealing the building sewer;
5. Removal of the sewer service connection to the public sewer.

D. Limitations on termination of utility service.

1. Hours, days of termination. The Authority shall terminate utility service for nonpayment of utility charges or for other causes only during the hours of 8:00 a.m. to 5:00 p.m., Monday thru Thursday. No termination shall be permitted on a legal holiday or on the day before a legal holiday.
2. Suspension of limitations. When warranted by the circumstances the limitations in Section 15.D.1 shall not apply to the termination of utility service for causes other than nonpayment of utility charges.

SECTION 16. RESTORATION OF UTILITY SERVICE

- A. Conditions for restoration. When it has been necessary to terminate utility service to any premises, structure, or customer because of a violation of these Regulations, or because of nonpayment of any utility bill, utility service shall be restored upon payment of the following charges:
 - 1. If service was terminated only by turn off of water which supplies the premises, the customer shall pay charges as prescribed in Section 30 for turning on the water plus arrears in charges that may be due and payable to the Authority by the customer.
 - 2. If service was terminated by sealing the building sewage drain, or by removal of the service connection to the public sewer, the customer shall pay the charge as prescribed in Section 30. Such charge shall be estimated by the Authority upon application for restoration of service and the customer shall pay the amount of the estimate prior to restoration of service. Any adjustment in actual cost shall be made upon completion of the restoration of service.
- B. Hours, days for restoration. Restoration of water service for nonpayment of a utility bill is made during normal working hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, when the Authority receives complete payment of the amount of non-payment which prompted the termination. Same day restoration may be made only when complete payment is received by 4:00 p.m. that day; otherwise, restoration of service will be made on the next regular working day. Such payment shall not be considered a timely payment for purposes of these Regulations.
- C. Other causes. Restoration of service for causes other than nonpayment of utility charges shall be made upon completion of the work necessitated by the termination of service.

SECTION 17. COMPUTATION OF TIME

In computing any period of time prescribed by these Regulations, exclusive of Section 16, the date of the act or event which the designated period of time begins to run shall not be included. The last day of the period so computed shall be included, unless it is a Saturday, a Sunday or a legal holiday, in which event the period runs until the next day which is not a Saturday, a Sunday or a legal holiday. When the period of time prescribed is less than seven (7) days, intermediate Saturdays, Sundays and legal holidays shall be excluded in the computation.

SECTION 18. USE OF WASTEWATER FACILITIES

- A. Purpose. The purpose of this Section is to:
 - 1. Provide for the adequate regulation of industrial, commercial and institutional wastewater discharges in order to assure that the Authority and its customers comply with all applicable laws, rules and regulations; and
 - 2. Protect the wastewater facilities of the Authority.
- B. Adoption of regulations. There is hereby adopted by the Authority, to effect the purpose described in Section 18.A.1, that certain document entitled "Industrial Wastewater Discharge Regulations," Hampton Roads Sanitation District, revised November 1, 1990, except such portions as are deleted, modified or amended by this Section, and the same is hereby adopted and incorporated as fully as if set out at length herein. From the date on which these Regulations shall take effect, the provisions of this Section shall control in all matters contained herein.
- C. Additions, deletions, modifications, changes. The following additions, deletions, modifications and changes are hereby made in the "Industrial Wastewater Discharge Regulations" adopted by this Section and are hereby adopted as part of these Regulations.

Sec. 101. This section is deleted.

Sec. 102. This section is deleted.

Sec. 305 306(d). This subsection is amended to read as follows:

Unusual wastewater shall require a special rate as provided for in Section 30.

Sec. 410. This section is deleted.

Sec. 601(c). This subsection is amended as follows:

In lines three, four and five delete the words "Commissioners" and "Commission" and substitute the word "Board."

Sec. 601(d). This subsection is amended as follows:

In line two delete the word "Commissioners" and substitute therefore the word "Board."

Appendix A, Appendix A is amended by deleting paragraph (A).

Appendix B. Appendix B is amended by amending the following definitions to read:

- n. District: the Authority.
- u. General Manager: the General Manager of the Authority.

D. Prohibited Uses:

1. No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, cooling water, floor drains, condensation drains, or unpolluted industrial process waters into any public sewer.
2. No person shall connect roof, foundation, areaway, parking lot, roadway, sump pump, floor drains, or other surface runoff or groundwater drains to any sewer which is connected to a treatment plant.
3. Roof, foundation, areaway, parking lot, roadway, or other surface runoff or groundwater drains shall discharge to natural outlets or storm sewers. Any connection, drain, or arrangement which will permit any such waters to enter any other sewer shall be deemed to be a violation of this section. No person shall discharge or cause to be discharged into any public sanitary sewer any of the following waters or wastes:
 - (a) Any waters or wastes which may contain more than one hundred (100) parts per million, by weight, of fat, oil or grease;
 - (b) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas;
 - (c) Solid or viscous substances in quantities of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, grease, feathers, tar, plastics, wood, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, and similar materials, either whole or ground by garbage grinders, or any unground garbage of any kind.
 - (d) Any discharge containing toxic metals concentration exceeding the levels of delivered metals concentration of the potable water supply.
 - (e) Any waters or wastes having a pH value lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works;

- (f) Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant;
- (g) Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
- (h) Any noxious or malodorous gas or substance capable of creating a public nuisance.
- (i) Any waters or wastes which may cause obstruction to the flow in sewers, or other interference with the operation of treatment facilities due to accumulation of solid or viscous materials.
- (j) Any waters or wastes which constitute a rate of discharge or substantial deviation from normal rates of discharge ("slug discharge") sufficient to cause interference in the operation and performance of the treatment facilities.
- (k) Any waters or wastes which contain heat in amounts which are likely to accelerate the biodegradation of wastes, causing the formation of excessive amounts of hydrogen sulfide in the treatment facilities or inhibit biological activity in the treatment facilities, but in no case shall the discharge of heat cause the temperature of the influent to the treatment facilities to exceed 40 degrees C (104 degrees F) unless the facilities can accommodate such heat and the Authority has obtained prior approval from the approval authority.

4. Grease, oil and sand interceptors shall be provided by the owner when, in the opinion of the General Manager, they are necessary for the proper handling of liquid wastes containing any of the ingredients listed in subsection (b) of this section or any other substance of a flammable or harmful nature, except that grease interceptors shall be provided for any activity involving food preparation and sand interceptors shall be provided for all laundromats and car washes. Such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the board. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight. Where installed, all grease, oil, and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

5. The admission or proposed admission into the public sewers of any waters or wastes resulting from any industrial or manufacturing process, products or comparable activity shall be subject to the review and approval of the General Manager. When necessary, in the opinion of the General Manager, the owner of any such industrial or manufacturing establishment shall provide, at his expense, such preliminary treatment of his industrial waters or wastes as may be required to reduce objectionable characteristics or constituents or to satisfy any other condition which the administrator may decide is advisable in order to allow the admission of such waters or wastes into the sanitary sewers. Plans and specifications and other pertinent information relating to required or proposed preliminary treatment facilities shall be submitted for the review and approval of the General Manager. No construction of any such facilities shall be started until such approval has been obtained in writing.

E. Compliance required.

It shall be unlawful to discharge to any natural outlet within the Authority or in any area under the jurisdiction of the Authority any sanitary sewage, industrial wastes or other polluted waters, except where suitable treatment has been provided in accordance with the provisions of this division.

SECTION 19. DELINQUENT ACCOUNTS; ACTIONS AT LAW

To secure monies due and payable to the Authority from the customer and/or Owner whose account is delinquent because of the nonpayment of a utility bill(s), the Authority shall participate in the Commonwealth's Set-Off Debt Collection Program, and General Manager and County Attorney shall perform as required the following tasks:

A. Lien for charges.

1. Real estate. Charges for utility services shall be a lien upon the premises as provided by the Code of Virginia (1950, as amended). Two (2) weeks after the date that utility service is terminated, as provided in Sections 14 and 15, the General Manager shall file with the Clerk of the Circuit Court of King George County a "Certificate of Lien" against the property at issue, pursuant to the provisions of § 15.2-2119 of the Code of Virginia (1950, as amended), which shall contain the following:
 - (a) Legal description of the premises served.
 - (b) Amount of the unpaid bill.
 - (c) Notice that the Authority claims a lien for the amount of the unpaid bill and for all charges for utility service subsequent to the period covered by such bill.
 - (d) Petition the Clerk to record the lien in the judgment lien book.
2. Charges, fees, and any penalty and interest thereon, shall constitute a lien against the property, ranking on a parity with liens for unpaid taxes.
3. In the case of delinquent charge by a tenant-lessee, the Authority shall provide notice to the property owner-landlord of the delinquent debt. If the property owner fails to pay the amount of the outstanding balance within 30 days of the notice, the Authority may place a lien on the property in the amount of (i) up to three months of delinquent water and sewer charges when the water or sewer is, or both are, supplied to a lessee or tenant pursuant to this section; (ii) when the water or sewer is, or both are, provided to the property owner, up to the number of months of delinquent water or sewer charges, (iii) any applicable penalties and interest on such delinquent charges, and (iv) reasonable attorney fees and other costs of collection not exceeding 20 percent of such delinquent charges. In no case shall a lien for less than \$25 be placed against the property.

Such lien, when properly recorded, shall be enforced by the County Attorney as described in Section 19.B.

Normally, such statements shall be batched monthly by the General Manager and filed with the Clerk.

4. Personal property. Two (2) days after the date that utility service is terminated, as provided in Sections 14 and 15, the General Manager shall file with the County Attorney a "Statement of Delinquent Account" when such account is fifty dollars (\$50) or more in arrears. This statement shall contain the following:
 - (a) Name and last known address of the customer.
 - (b) Amount of the unpaid bill, the amount(s) classified according to utility service(s) furnished.
 - (c) Time period covered by the unpaid bill.
 - (d) Date complete payment was due and payable.
 - (e) A copy of the "Application for Service and Contract."
 - (f) Petition to the County Attorney to motion for a judgment for money in the King George County General District Court (King George County Circuit Court when the sum of unpaid bill exceeds \$25,000).

The County Attorney shall immediately motion for judgment for money in the proper court of King George County. When judgment for money is rendered against the customer and the customer defaults in the payment thereof, the Authority Attorney shall immediately request the ruling court for a writ of fieri facias and he shall docket same in all Jurisdictions in which the customer is known to own or have interest in real or personal property, or both, thereby creating a lien upon such property.

B. Enforcement of lien.

1. Writ of fieri facias. When a writ of fieri facias has been issued, the County Attorney shall petition the King George County court having jurisdiction to issue to the customer a summons to answer interrogatories to ascertain the personal estate (goods and chattels) and the real estate in and out of the Commonwealth, on which the writ is lien.
2. Interrogatories. Upon the issuance and service of such summons to the customer to answer interrogatories, the County Attorney shall secure from the customer

sufficient information about ownership and interest in real and personal estate to determine the appropriate action to satisfy the judgment for money.

3. Garnishment; levy; creditor's suit. The County Attorney, on facts learned during the interrogatories, shall initiate at his election the following actions:

- (a) Garnishment. A petition to the Clerk of the King George County General District Court to issue a summons to one or more garnishees (a third party, e.g., an employer, who is indebted to the customer) to enforce the lien created by the writ. Payment(s) rendered to the Authority by the garnishee shall be applied in satisfaction of the judgment for money.
- (b) Levy. A petition to the Sheriff of King George County to levy on the personal property (e.g., savings account, checking account, notes, securities, automobiles) of the customer. The County Attorney shall request the Sheriff to levy on certain personal estate (goods and chattels) at a certain location(s). The Sheriff seizes and then sells the goods and chattels of the customer and returns to the Authority the proceeds therefrom to satisfy the judgment for money. At the request of the Sheriff, the Authority Attorney shall cause the procurement of a bond to indemnify the Sheriff in such seizure and sale.
- (c) Creditor's suit; sale of land. When the judgment for money cannot be satisfied by the personal estate of the customer, the County Attorney institutes a suit in equity to have the real estate, if any, of the customer sold; provided, however, such suit shall not be instituted until the sum of the unpaid bill amounts to at least five hundred dollars (\$500), or the sum of the unpaid bill amounts to at least two hundred fifty dollars (\$250) and a period of three (30) years has elapsed from date of termination of service reflected on the notice of termination of service.
- (d) Enforcement priority; customer-tenant. The County Attorney, without delay, shall (1) obtain judgment for money against a customer-tenant who is delinquent in the payment of a utility bill and (2) cause the clerk of court to issue a writ of fieri facias upon the property of such customer-tenant. The County Attorney shall make a reasonable effort to satisfy the judgment from the personal and real estate of the customer-tenant before pursuing a lien or otherwise instituting action at law to satisfy the judgment against the owner of the real estate the use of which by the customer-tenant gave cause for the judgment for money, consistent with § 15.2-2119 of the Code of Virginia (1950, as amended).
- (e) Suspension of action. The County Attorney, at his discretion, and after conferring with the King George County Director of Social Services, may

suspend action to motion for judgment for money, or to initiate a creditor's suit, when a customer is the recipient of either unemployment compensation, or workmen's compensation, or a participant in a social services program.

SECTION 20. PRIVATE FIRE PROTECTION SYSTEMS; PUBLIC FIRE HYDRANTS

A. Private Fire Protection Systems

1. **Application**. Upon written application to the Authority, and upon payment of all applicable charges required by Section 30, the Authority or the applicant, at the option of the Authority, shall at the expense of the applicant construct and install a fire service connection to supply a fire protection system. Such construction shall conform to the "Standards" of the Authority. When constructed and installed by the applicant, subject to inspection by the Authority, such construction shall not commence until the applicant furnishes to the Authority and the Authority approves in writing the plans for such construction and installation.
2. **Fire service detector check meter**. A fire service detector check meter shall be installed in a bypass to monitor small flows in the fire service connection. The Authority shall read each detector check meter at least annually. The Authority reserves the right to require an existing fire service connection customer to install at his expense a detector check meter with a bypass pipe.
3. **Charge**. There shall be no charge for water supplied through a private fire protection system which is used to extinguish fires.
4. **Additions**. No addition of any hydrant, standpipe, sprinkler head, or other outlet shall be made to a fire protection system until plans for such addition have been submitted to and approved in writing by the Authority.
5. **Pressure; supply**. The provisions of Section 27, which govern the interruption of water supply, apply to fire service connections. The Authority shall not assume any responsibility for loss or damage because of inadequate quantity or pressure.
6. **Violation**. Water supplied through a private fire service connection shall be used solely for the extinguishment of fires and, upon approval by the Authority, for fire drill testing of the fire protection system. If a customer makes unauthorized or unapproved use of the fire protection system, for any reason other than fire suppression, a \$250.00 penalty shall be imposed upon the customer. The penalty will increase by \$250.00 for each additional occurrence. If the penalty is not paid immediately to the Authority upon discovery of the violation, all Utility service to the customer shall be terminated until such time that the penalty has been paid.

Furthermore, if it is discovered that the fire protection system has in any way been intentionally adjusted or tampered with or if any unapproved connection has been made to the system that provides the customer with an unauthorized supply of water, then a \$250.00

penalty shall be imposed. In addition, the customer shall also remit to the Authority the amount of the retail water charges for the estimated unauthorized water usage. If the penalty and charges are not paid immediately to the Authority upon discovery of the violation, all Utility service to the customer shall be terminated until such time that the amount due has been paid.

B. Public fire hydrants.

1. General. For projects other than new development projects initiated by a developer and to the extent that funds are available, the Authority shall install, at its expense, public fire hydrants on public property whenever and wherever, in its sole opinion, such hydrants may be required to provide fire protection service.
2. Application for hydrant. Upon written application by any commercial, industrial, governmental entity or other interested party, and upon payment of all applicable charges required by Section 30, the Authority shall construct and install additional public fire hydrants on public property. After installation of each hydrant, the Authority shall assume ownership, maintenance and operation thereof and shall pay for any replacement or relocation which may become necessary.
3. Restrictions on use. The use of public fire hydrants shall be restricted to the taking of water for the extinguishment of fires; water shall not be taken from any public fire hydrant for any other use, including construction, street sprinkling, or flushing storm sewers or gutters, unless specifically permitted in writing by the Authority for the particular time and occasion and upon payment of all applicable charges required by Section 30. All such uses shall be metered and the Authority retail water rates shall apply. A fire hydrant meter shall be furnished by the user, and shall be registered with and approved by the Authority prior to its use. The fire hydrant meter assembly shall include an approved backflow preventer device and the user shall be responsible for making arrangements for monthly reading of the meter by the Authority.

It shall be unlawful for any person to open or cause to be open any valve or hydrant except while acting in an emergency situation. Exceptions will be allowed for fire department personnel in the performance of their assigned tasks or in situations where an application is made to and approved by the General Manager. The Authority shall reserve the right of access to and use of valves and hydrants for its own purposes.

It shall be unlawful for any person to deny access to any fire hydrant or water main valve by any physical barrier or other restraint which would prevent or delay an access to such fixtures in an emergency situation.

It shall be unlawful for any person to deface or damage any stopcock valve, fireplug, or public hydrant, or anything connected with the Authority waterworks; throw or deposit any building material, rubbish or other matter on the stop box of a service pipe, valve box, or fireplug or meter, or cover up either with dirt or other material; remove or injure any cap or screw of a stop box, valve, fireplug, meter or hydrant or open any of them; or in any way deface them without authority from the General Manager, except that in case of fire or when cleaning the fire hose, firemen are authorized to use the fireplugs and in cleaning or sprinkling streets, or for other Authority purposes, the fireplugs, valves, etc. may be used by employees of the Authority under the direction of the General Manager.

4. No liability. The Authority shall not be considered an insurer of persons or property, or to have undertaken to extinguish fires, or to protect any person or property against loss or damage by fire or otherwise, and it shall not be responsible to any person for any loss, or damage, or injury by reason of fire, or failure to supply water or pressure, or for any other cause whatsoever.
5. Extension of main. The Authority shall not be required to extend its water mains for the purpose of installing public fire hydrants which may be desired except under mutually acceptable terms to defray the construction cost of such extensions.
6. Unauthorized use. If a public fire hydrant is discovered to have been used for any purpose other than fire suppression without prior approval by the Authority, legal action may be sought against such unauthorized user in accordance with Section 31. In addition, a \$250.00 penalty shall be assessed against the violator. This penalty will increase by \$250.00 for each additional occurrence.

SECTION 21. TEMPORARY SERVICE

A. Special purposes; conditions. Temporary service shall be provided to builders and developers at construction sites and for such special purposes as a circus, bazaar, fair, outdoor music or entertainment festival, irrigation of vacant property, and similar uses when the following conditions are observed:

1. Temporary service is available for a period not to exceed six (6) months; such service is billed in accordance with Section 30.
2. Completion and execution of an agreement on a form provided by the Authority which describes the nature of the temporary service.
3. Remit with the application for temporary service a sum of money equal to the estimated cost of installing, maintaining, replacing, and removing the facilities which are required to furnish such service.
4. No wastewater may enter a sewer service connection until the installation of the service connection is approved by the Authority.

B. Credit for permanent connection. In the event the temporary service becomes a permanent connection, the cost of facilities installed with moneys advanced by the applicant, which are used in providing regular service to such applicant, shall be credited to such applicant when facilities charges are remitted for the regular service connection.

SECTION 22. RESPONSIBILITY FOR PROPERTY OF CUSTOMER

The Authority is neither liable for damages to property of the customer by water delivered through the facilities of the customer nor is it liable for damage to property caused by spigots, faucets, valves, or other equipment that may be open when water is turned on at the meter, either when turned on originally or when turned on after a temporary shutdown. The Authority assumes no liability for loss or damage to any water equipment of the customer.

The Authority is not liable for damage caused by an obstructed, or leaking, or damaged building sewer, or building sewage drain, backflow prevention device or plumbing fixture.

SECTION 23. DAMAGE TO AUTHORITY PROPERTY

When damage occurs to a meter, a service connection, or to any other Authority property by the acts of the customer or the customer's agent, or by the act of any non-utility party, or from hot water or steam from the premises of the customer, or other actions of the customer, his agents or employees, the Authority shall bill said party for the cost of repairing such damage. The cost may include, but shall not be limited to materials, labor, utility equipment charges, cost of subcontracting repairs, and twenty-five (25%) percent overhead.

The Authority is not liable for damage to its utility lines when a request for utility markings is not received by the Authority at least two working days prior to digging. Regulations regarding utility markings shall be posted at all Authority offices and King George County Department of Community Development.

- A. Ground Wire Attachments. The Authority may terminate service, after proper notice, in the event electrolysis damage occurs to the public water mains of the Authority by the attachment of electrical ground wires to building water piping.

SECTION 24. ACCESS TO PREMISES

Personnel of the Authority shall have right of access to a customer's premises at all reasonable times, upon giving appropriate notice, to perform one or more of the following tasks:

- A. Inspection of property of the Authority on the premises.
- B. Check for any unsafe or hazardous condition on the premises.
- C. To perform tests or obtain test samples as required by Federal/State/local regulations
- D. Any purpose properly related to any service to the customer.

SECTION 25. INTERRUPTIONS IN WATER SUPPLY

- A. Shut-off. The Authority may at any time shut off the water in the mains in case of accident, or for the purpose of making connections, alterations, repairs, changes, or for other reasons and may restrict the use of water to reserve a sufficient supply for public fire service or other emergencies whenever the public safety may require it.
- B. Notice. It is the intention of the Authority to give notice in advance of any work which must be done that necessitates an interruption of the supply. Such notice shall be considered a requirement on the part of the Authority except during emergencies and when conditions warrant. Customers shall so regulate their installations connected with the water supply system that damage does not occur when water is shut off without notice. Such notice shall be either thru media, phone, letter, KG Alert, social media, or door hangers. Any combination of notifications may be employed to the greatest extent possible.
- C. Care to be exercised. The Authority shall use reasonable care and diligence in order to prevent and to avoid interruptions and fluctuations in the service, but it cannot and does not guarantee that such will not occur.

SECTION 26. EMERGENCY NOTIFICATIONS

- A. Situations Requiring Emergency Notification. From time to time situations arise that may disrupt or compromise water supply services, thereby warranting issuing emergency notifications to key County government officials and affected customers. These situations include, but are not necessarily limited to, water outages, water line breaks, discolored water, hydrant flushing, sudden loss of water pressure, seasonal chlorine adjustments, suspected bacterial contamination, and Virginia Department of Health (VDH) mandated boil water notice/advisory directives.
- B. Authority to Issue Emergency Notifications. Normally, only the General Manager, or in his/her absence, the Superintendent of Operations, will authorize and initiate an emergency notification. However, in the absence of both the General Manager and Superintendent of Operations, the Chairman, KGCSA Board of Directors, after consulting with and receiving a majority consensus of board members, may also authorize and initiate an emergency notification.
- C. Emergency Notification Mechanisms. Three mechanisms will be used to conduct emergency notifications: (1) automated King George Alert system via the King George Fire and Rescue Emergency Operations Center (EOC), (2) direct communication with key County officials and staff, and (3) hand-delivered notices when so directed by the VDH.
- D. King George Alerts. King George Alerts will be the primary customer emergency notification mechanism and will be initiated only when requested by authorized parties per 26 B. Authorized parties will prepare and provide the alert message text to the King George Fire and Rescue EOC for automatic electronic distribution. Alerts will be tailored as needed to ensure that only those customers serviced by affected water systems are alerted. This will help ensure that non-affected customers are not needlessly concerned about their water quality, and that Authority emergency phone lines are not overloaded with calls from customers who are not at risk.
- E. Emergency Notification Roster. All County officials will be registered to receive King George Alerts (Utility or All). In addition to a King George Alert, key County officials will be contacted directly by phone (landline and/or cell), text message, and/or email as soon as possible to confirm they are fully aware of the emergency situation. Efforts will continue until everyone on the roster has been confirmed as notified. The General Manager will prepare and periodically update the emergency notification roster, to include each individual's name, duty title/organization, phone number(s), and email address(s). Copies of the notification roster will be maintained at key Authority office locations and at the King George Fire and Rescue EOC. Detailed procedures for initiating emergency notifications to personnel on the roster will be as mutually agreed by the General Manager and Chief, King George Fire and Rescue. Key individuals who will be confirmed as notified are as follows:

- (1) County Administrator
- (2) Superintendent of Schools
- (3) Members, KG County Board of Supervisors
- (4) Members, KGCSA Board of Directors
- (5) County Attorney
- (6) County Engineer
- (7) Director, Human Resources
- (8) Director, Office of Community Development
- (9) Director, Office of Economic Development
- (10) KG County Sheriff's Office

F. VDH Hand-delivered Notices. When mandated by VDH, such as for a boil water notification/advisory, hard copies of notices will be prepared and delivered to each affected customer's residence within the timeframe specified by VDH. VDH is responsible for drafting the actual text used in the notice. Authority staff will then prepare the required number of notices and either deliver them directly to each customer at their residence, or if the customer is not at home at the time of delivery, post the notice on the front door of the customer's residence.

SECTION 27. EXTENSION AND EXPANSION OF AUTHORITY FACILITIES

The policies reflected below govern the extension and expansion of Authority facilities.

A. Service to new developments. The developer of any new development and/or subdivision intended for residential, commercial or industrial use or any combination thereof, or the developer of any commercial or industrial site shall construct all Authority facilities as herein required. The Authority reserves the right at any and all times to make, connect or permit new connections, extensions, or improvements or to otherwise use the facilities in the best interests of the Authority.

1. Primary service area.

(a) Local facilities. The developer shall construct and install at his expense all local facilities within his subdivision or development. Investments by a developer in local facilities to serve his development, such as distribution mains, fire hydrants, sewer laterals, manholes and other local appurtenances, shall neither be refunded by nor become an obligation of the Authority as such investments are considered a benefit accruing to the property which is recovered through an increase in the value of the property.

(b) System facilities. The Authority is responsible for the construction and installation of all system facilities to serve a new development when consistent with the policies of the Comprehensive Plan, it is in the best interest of the Authority, economically feasible, and system capacity is available. If funds are not available, the Authority may permit the developer, under written contract and at his expense, to construct and install the system facilities. When new development requires an off-site line extension or construction of other system facilities, the costs shall be the responsibility of the developer and provisions of Section 27.D shall be observed.

When a developer provides for the extension or expansion of a facility over that needed by the project, the Authority may reimburse the developer directly or enter into a rebate agreement for its share of the cost of providing the additional capacity.

2. Outside primary service areas. The County's Comprehensive Plan generally does not support development densities and intensities of an urban and suburban nature outside the Primary Service Area. Development of this nature is not consistent with the intent of both the Comprehensive Plan, Primary Settlement Areas and the Primary Service Area policy and in all cases will require approval of both the Board of Directors and Board of Supervisors. Where approved, the following will apply:

- (a) Local facilities. The responsibility of the developer is the same as that for any new development within the primary service areas. All conditions in Section 27.A.1.a shall apply.
- (b) System facilities. The Authority has no responsibility for the construction and installation of system facilities which serve developments outside the primary service areas. However, the Authority, under written contract, may permit the construction and installation of such facilities at the expense of the developer.

Provided further, the developer shall be required to pay a System Replacement Fee to cover the cost of increasing the incremental capacity in the existing system facilities, should the Authority allow the developer to connect the facilities which serve the development outside the primary service areas, to the system facilities inside the primary service areas, at some future date. The terms and amount of this fee shall be determined by the provisions of the written contract which shall be set forth before beginning construction of the system facilities outside the primary service areas.

3. Application and Contract Required. A developer who desires water or wastewater service or both such services for a certain specified area, shall make application to the Authority before starting construction of any water or wastewater facilities. Each application shall be approved by the King George County Zoning Administrator for that area to be served and has been officially zoned for the particular type, or types, of land use described in the application. Instructions as to the form and content of applications for water and wastewater services are set forth in Section 27G.

Upon approval of the application, the developer shall enter into a written contract with the Authority in accordance with Section 27.E. The contract shall describe in detail all fees, rebates, refunds, or exemptions that may occur as a result of the proposed project.

4. Dedication of facilities. Immediately upon completion and acceptance of the utility facilities, such facilities shall be dedicated to the Authority on a form prescribed by the Authority. The facilities to be dedicated shall include all local and system facilities, land and rights, structures and other necessary components of the utility system. The developer shall transfer such facilities free of debts, liens or other legal encumbrances. In addition, the developer shall submit simultaneously to the Authority a certificate of mechanic's lien waiver on all facilities dedicated by him.
5. Maintenance of facilities. The developer shall be responsible for any maintenance as a result of construction or defects of said facilities for one (1) year from the date of

initial operation or acceptance, whichever is later. To ensure compliance with this requirement, the developer shall post with the Authority a Virginia Surety Bond, certified check, or irrevocable letter of credit in a sum equal to ten percent (10%) of project costs, or shall provide an alternative guarantee in a form acceptable to the General Manager.

6. Owner responsibility. Building sewer pipes and water distributing pipes shall be installed at the expense of and maintained by the property owner.
7. Authority standards, specifications. The design of and the equipment, materials, workmanship and procedures used in the construction and installation of local and system facilities shall be in accordance with the "Standards" established, approved and adopted by the Authority.
8. Plan review. The Authority shall review and approve, or revise if necessary to conform with the "Standards," prepared plans for all projects for the construction and installation of all local and system facilities prior to any construction of any such project(s).
9. Site inspections. During progress of construction work, the authorized representatives of the Authority and others who are directly concerned with the construction work shall have access to the locations of construction for the purpose of establishing to their satisfaction that the project(s) is being constructed to the requirements of the Authority and in accordance with the approved plans, standards and specifications.
10. As-built drawings. As-built drawings, in the form prescribed by the "Standards," shall be submitted to the Authority before the final inspection of construction is performed.
11. Final inspection of construction. After completion of the construction and installation of the Authority facilities, and upon written request of the developer or owner responsible for the construction, and upon receipt of the final as-built drawings, the Authority shall make a final comprehensive inspection of the completed project(s) and shall be satisfied as to conformance with the plans and standards and specifications before accepting the utility facilities as a part of the utility system.
12. Non-transferability. Credits for construction and installation of system facilities are non-transferable from development to development.

B. Service To Existing Development.

1. Primary service area.

- (a) System facility capacity. The General Manager shall determine if capacity to serve existing developments inside the primary service areas is available in existing system facilities.
- (b) Local Facilities. The property owners of any existing subdivision or any residential, commercial, or industrial site in existence prior to the establishment of the Service Authority, or the owners of any combination thereof, may request the Authority to construct and install local facilities. Upon receipt of such request the Authority will determine if the request is in the best interest of the Authority, economically feasible, and whether system capacity is available. Upon approval of the request and upon completion of an Application for Service and Contract and the payment of applicable charges, the Authority shall construct and install such local facilities as herein required to serve each applicant reflected on the petition. The applicants shall remit in advance to the Authority a sum of money equal to:
 - (1) The amount which is equal to the sum of the availability charge for each property to be served by the proposed construction of local facilities, plus;
 - (2) The amount required to pay for the connection of the proposed local facilities to the Authority's existing system facilities.

Funds appropriated by the Authority, grant monies, donations and County funds contributed in aid of construction, or any combination thereof, shall be deducted from the monies required to be remitted in advance by the applicants.

- (c) System facilities fees. Upon completion of the construction and installation of such local facilities, but before physical connection, the applicants shall remit to the Authority the then prevailing system facilities availability fee. These fees may be paid in advance and accompany the Application for Service and Contract.
- (d) Refund to non-owners. If the availability charges for system facilities or construction costs have been advanced to the Authority by a party other than an owner of property to be served by the new facilities, these fees shall be considered a loan to the Authority. Such charges shall be refunded to the non-owners from the availability charges for system facilities that are remitted by the owners of the property, which is serviced by the new facilities, as the Authority receives such remittance. The sum of the monies

refunded shall not exceed the sum of the loan; no refund shall be made after a period of five (5) years from the date of such advance.

2. Outside the Primary Service Areas All terms and conditions in section 27.B.1 apply. The County's Comprehensive Plan generally does not support extension of facilities outside the Primary Settlement Areas and Primary Service Areas and in all cases such extensions will require the approval of both the Board of Directors and Board of Supervisors. In addition, should the Authority elect to construct and install system facilities to serve an existing development outside the primary service areas which development is independent of the system facilities within the primary service areas, the property owners shall remit in advance to the Authority a sum of money equal to the total estimated construction and installation costs of such system facilities. Grant funds, County funds and donations contributed in aid of construction shall be deducted from the monies required to be remitted in advance by the applicants.

- C. Service Initiated by the Authority. The Authority, upon approval by the Board of Directors, may construct and install local facilities and system facilities anywhere in its service area whenever it determines that circumstances warrant utility service; for example, to implement the land use element of the comprehensive plan, or to protect the health of its citizens or to promote economic development of the community. The financial performance standards of the Authority shall be observed when such construction work is undertaken.

If such service is initiated by the Authority, the funding procedures contained in Section 27, which are based on the cost of service philosophy, shall be observed to the maximum extent possible.

The Authority may enter into contracts with any person, firm, or corporation, or sanitary district, or other political subdivision or public body for the rendering of any unusual or extraordinary water or wastewater service or both such services; provided, the rates or charges to be paid thereunder shall be an amount which is fair and equitable, taking into account the cost to the Authority of providing such service.

- D. Off-site Extensions. Extensions to areas outside the Primary Service Area are not generally supported by the County's Comprehensive Plan and in all cases will require approval of both the Board of Directors and Board of Supervisors.

1. Extensions to new developments.

- (a) Cost of Extension. The construction and installation of an extension of a water or sewer line from existing local or system facilities to the property boundary of the developer shall be the responsibility of the developer and undertaken at his expense.

If, at the request of the Authority, the developer includes capacity beyond that needed for his development, the Authority shall refund to the developer the construction costs involved in including such extra capacity. The terms of the reimbursement shall be determined by the contract between the developer and the Authority.

- (b) Local facilities. The terms and conditions of Section 27.A.1.a shall be observed.
- (c) System Facilities. The terms and conditions of Section 27.A.1.b shall be observed.
- (d) General. The terms and conditions of Section 27.A.3 through 27.A.12 shall be observed.

2. Extensions to Existing Developments.

- (a) Cost of extension. The construction and installation of an extension of a water or sewer line, from existing local or system facilities to the property boundary of the applicants, shall be the responsibility of the applicant and undertaken at his expense.
- (b) Local Facilities. The terms and conditions of Section 27.B.1.b shall apply.
- (c) System Facilities. If system facilities to serve an existing development are necessary and are installed at the expense of the property owners, the reimbursement schedule, if applicable, shall be set forth in the contract between the applicants and the Authority.

E. Conditions for Authority Participation. The Authority may participate in the construction and installation costs of system facilities and off-site extensions to serve new development when the developer observes all of the terms and conditions set forth below; provided, the Authority reserves the right to decline to participate in a utility project with a developer if the project is either detrimental to the utility system, the project is economically unfeasible, or the project is inconsistent with the policies of the Comprehensive Plan. If the Authority selects to participate, the following conditions shall apply:

- 1. Pipe size. The size of pipe of water distribution mains and branch and lateral sewers shall be in accordance with the "Standards."
- 2. Developer responsibility. The developer accepts in writing sole responsibility for all matters relating to the construction and installation of all facilities required in the

project, including the acquisition of all necessary permits from regulatory agencies. The developer shall acquire at his expense all easements required to install utility service to his development.

3. Prior approvals required. All required federal, state and local government approvals of both the developer's building project and utility project shall be obtained by the developer and delivered in writing to the Authority before the Authority agrees to participate in the utility project.
4. Bidding required. The provisions of the County Purchasing Policy shall be observed by the developer in the award of a contract for the construction and installation of a utility project. The project shall be awarded by the developer to the lowest responsible and responsive bidder. Authority approval of the lowest responsible bidder and responsive shall be required prior to the award of the contract.
5. Performance guarantee. Prior to the award of the contract, the developer shall furnish to the Authority either a certified check, an irrevocable letter of credit or a Virginia Surety Bond in an amount equal to 110% of the contract award.
6. Payments to contractor; change orders. During progress of the construction work, the Authority shall approve: (1) all project partial payments prior to payment to the contractor; and (2) all change orders.
7. Eligible costs. In calculating the costs of facilities which are considered developer loans to the Authority, only labor and materials costs incurred by the developer in the construction of the project are considered eligible for refund. Costs of administration, engineering, and legal representation are not eligible.
8. Developer option to bid. The developer may elect not to publicly bid the utility project in which case the Authority shall not participate with the developer in the cost of the project as provided for in Sections 27.A. and 27.D.
9. Payments to developer; applicants. Payments on loans shall be remitted directly to the developer, his assignee or successor, or to the party or parties representing the applicants in the manner stipulated in the contract. Payments shall be made out of availability fee revenues collected from remittances made by applicants for service for connections made directly to the facilities. Payments will be made within thirty (30) days of the receipt of funds from applicants. No payments shall be made after five (5) years from the anniversary date stipulated below:
 - (a) Developer loans: date of acceptance of the facilities by the Authority.
 - (b) Applicant loans: date facilities are placed in operation by the Authority.

No payments shall be made to the developer or to the applicant by the Authority until the facilities constructed and installed are formally approved by the Board of Directors and accepted into the utility system.

10. Acceptance of new facilities.

(a) Conditions of acceptance. The General Manager shall accept newly constructed and installed water and wastewater facilities described in Sections 27.A and 27.D when satisfied that the following conditions have been observed:

- (1) Full compliance with all provisions of the contract between the developer or owner and the Authority.
- (2) Full compliance with all requirements of the "Standards."
- (3) Payment by the developer or owner of all applicable fees and charges prescribed in the Section 30.
- (4) The developer or owner understands fully that he shall be responsible for and obligated to correct all deficiencies in construction and installation of the project for a period of one year from the date of acceptance of the facilities by the Authority. (This condition shall be secured as defined in Section 27.A.5).
- (5) The final approval by all applicable State and Federal regulatory agencies to put the newly constructed facilities in service.

(b) Acceptance in writing. Acceptance of the newly constructed and installed facilities, when approved by the Authority, shall be made in writing to the developer or owner responsible for the construction by the General Manager of the project.

(c) Agreement irrevocable. The issuance of the written form of acceptance of all such facilities shall constitute an irrevocable agreement between the developer or owner responsible for construction and the Authority; and the officers, agents, servants and employees of the Authority shall be saved harmless by the developer or owner from liability and responsibility of any nature and kind for costs of, or payments on, labor, equipment, or material used in construction of the accepted facilities or on account of any patented or unpatented inventions, process, article or appliance manufactured for or

used in construction of, or for the intended operation of, the accepted facilities.

11. Written contract. All the provisions of this Section, and all other pertinent provisions considered peculiar to the project but not inconsistent with these provisions, shall be incorporated into a contract and executed by the developer and the authorized representative(s) of the Authority prior to advertisement for bid. In preparation of the written contract, in no case shall the developer receive either credit for availability fees or reimbursement in excess of the developer's actual cost to construct.
12. Prepaid facilities charge. Prepaid facilities charges shall not be permitted unless extreme circumstances apply and the following two conditions are strictly observed:
 - (a) The dedication of capacity expires within five years from estimated project beginning date as stated in the developer's agreement with the Authority, with no refund of prepaid charges which are outstanding at the end of the dedication period; and
 - (b) A current letter of credit is maintained which covers the anticipated service charges over the term of the agreement which provides for the prepaid charges; the letter of credit is drawn upon to make periodic service charge payments when due, according to a schedule in the developer's agreement with the Authority; in the event the letter of credit is not renewed at any time, a draft is presented to the issuer for payment of the full face value of the letter of credit, less draws thereon, and the prepaid charges outstanding are forfeited to the Authority at the expiration of the letter of credit.
13. Use of dedicated facilities unfettered. The Authority shall have the right at any and all times to make, connect or permit new connections, extensions, or improvements or to otherwise use the dedicated public utilities in the best interests of the Authority.
14. Economic feasibility. The General Manager shall determine the economic feasibility of a proposed extension or expansion, and provide the Board with his recommendation on same. The Board shall make the final determination. In making such a decision, the following factors shall be considered:
 - (a) Sufficient revenues to amortize all project costs on the accrual basis.
 - (b) Sufficient revenues to pay all operation, maintenance, and administration costs.

- (c) The time frame for the recovery of all expenses on the accrual basis shall not exceed twenty (20) years.
- (d) The availability of funds in the form of contributions in aid of construction, facilities charges, donations or grants.

F. Acquisition of privately owned systems. The Authority may consider the acquisition of privately owned water or wastewater systems when the following questions are answered in the affirmative:

1. Will a negotiated sales price (excluding nonutility funds) provide economic value to the Authority in terms of physical property and other rights or in an evaluation of the projected revenue stream?
2. Does the Authority have capacity to serve the customers of the private system?
3. Will the acquisition improve the customer's public health, public safety, quality or quantity of service, or the reliability of service?
4. In the opinion of the Board, do a majority of the Authority's customers not object to the acquisition?
5. Does the Authority have the ability to finance the acquisition through either internally generated funds or debt?
6. Is the privately owned system within the Primary Service Area?

If the answer to any of the questions above is negative, then the Authority may either seek to define mitigating factors or may choose not to acquire the system.

G. Application to Extend and Connect with Water and Sewer Facilities Outside Primary Service Area:

KING GEORGE COUNTY SERVICE AUTHORITY
TO THE KING GEORGE COUNTY SERVICE AUTHORITY

The undersigned, being the _____ of the property (owner, lessee, tenant, ect.) herein described does hereby request a permit to connect with and extend the waterworks or sewage works of the King George County Service Authority (Authority).

- A. A plat of the property showing accurately all sewers and drains now existing is attached hereto as Exhibit "A".
- B. Plans and specifications covering all work proposed to be performed under this permit is attached hereto as Exhibit "B".
- C. In consideration of the granting of this permit, the undersigned agrees:
 - 1. To accept and abide by the provisions of The Authority Regulations and all other pertinent ordinances or regulations, as amended;
 - 2. To install all facilities in strict accordance with the approved plans; for said purpose, the Authority shall have unrestricted access for the inspection of construction;
 - 3. To post a Virginia Surety bond or letter of credit, if at any time required by the Authority and County in a sum equal to 110% of the construction cost of the project to guarantee the satisfactory installation of the facilities and satisfactory compliance with the provisions of this application;
 - 4. To extend the water and sewer line and appurtenances at his expense;
 - 5. To size the water line(s) to serve the developer's land and any other land beyond the developer's land that the Authority considers necessary; and, to size the sewer line to serve the entire watershed. The required design flow shall be based on the highest density of development in the future probable use of the land, to be determined by the Authority;
 - 6. The contractor(s) installing such facilities shall be approved by the Authority;
 - 7. To keep accurate records of the cost of the water or sewage works and submit these to the manager upon completion and acceptance of the works by the county, supported by payment invoices of the actual water or sewer line cost;
 - 8. To plug or seal any part of the sewage works extended to him to prevent the entrance of debris and the use of such facilities during construction for general drainage or other purposes;

9. To maintain such waterworks or sewage works extended by him in a clean and normal operating condition until such time as the facilities are accepted by the Authority;
10. To make all new and existing manholes, valve boxes and other appurtenances accessible and properly adjust them to the final street elevations upon completion of roadway surfacing operations;
11. To assume liability for any and all claims arising out of or in connection with damages to the property to be served by the facilities of the Authority incurred by reason of the installation, operation and use of the facilities, until such time as the facilities are accepted by the Authority;
12. To furnish the Authority three (3) sets of detailed plans, prepared by a certified professional engineer, showing all facilities as actually built and easements as recorded prior to acceptance of such facilities by the Authority;
13. To convey, by appropriate instrument at the time of completion, the completed waterworks or sewage works, land, all permanent easements and fee simple title to the Authority;
14. To make no water or sewer connection without first obtaining a written permit from the General Manager or his designee;
15. To pay for any and all charges for the use of the waterworks or sewage works of the Authority when and as due until such time as he arranges for the transfer of the water or sewer accounts entered in his name to the name of the person or persons who acquired title to the above described property; and, in order to effectuate the transfer of such accounts, he will arrange for the processing of such transfers at the time of sale, rental or lease of each parcel of the above-described property;

D. The Authority hereby agrees as follows:

1. To rebate to the developer for the cost of off-site improvements and oversizing any water or sewer line greater than that required to serve his development.
2. That such rebate payments will be made to the developer twice a year from money collected from connection fees accruing as a result of subsequent connections to such extensions, subject to the agreement for development between the Authority and the developer.

E. The expiration date of this permit shall be five (5) years from the date of acceptance of the water or sewer line. If the amount of money collected from connection fees within the service extension area during the five (5) year period is not sufficient to reimburse the developer for the full cost, the developer waives this right to any future collection. Any amount collected after the expiration date of the agreement shall go to the Authority.

(Date)

(Applicant)
By: _____
(Title)

Address:

Approved by Authority

(Date)

(General Manager)

SECTION 28. CROSS CONNECTION AND BACKFLOW PREVENTION CONTROL

A. Purpose.

This Section is adopted to:

1. Protect the potable water system of the Authority from the possibility of contamination or pollution by isolating within its customers' internal distribution systems such contaminants or pollutants which could backflow through uncontrolled and/or unprotected cross connection into the public water supply system;
2. Eliminate or control the existing cross-connections, actual or potential, at each water outlet from the customer's service line; and
3. Provide for the continuing inspection program of cross-connection control that will systematically and effectively control all actual or potential contamination or pollution of the Authority's water system.

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, 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 Section. 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 five hundred dollars (\$500) or more than one thousand dollars (\$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 Building Official, the water supply system owner, and the backflow prevention device tester shall cooperate with each other for effective implementation of this program.
2. General Manager:
 - (a) The General Manager shall administer and enforce the provisions of this section.
 - (b) The General Manager or his designee is required to enter, survey, and inspect all premises served by the waterworks.
 - (c) The General 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 General Manager. Nothing in this section shall prevent the Authority from installing and operating approved devices or making repairs, the costs of which shall be borne by the water supply system owner.
 - (d) 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 General 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 General Manager.
 - (e) Where, in the opinion of the General Manager, the complexity of the consumer's water system warrants, the General 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 General 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.

- (f) The Building Official reviews building plans and inspects new plumbing as it is installed. When the review of building plans or the inspection of a water supply system suggests or detects an actual or potential cross connection the Building Official 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 General Manager shall provide technical assistance to the Building Official.
- (g) The Building official shall review plans for fire service connections and lawn or irrigation systems served by the waterworks and recommend to the General Manager if the plans are acceptable. If unacceptable, the designer and the General 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 Building Official shall construction commence. All plans shall be submitted to the Building Official with sufficient copies for the Building Official to forward two copies of the plans to the General 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 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.
- (c) Tests, maintenance, and repairs of backflow prevention devices shall be performed by backflow prevention device testers.

- (d) The water supply system owner shall maintain accurate records of tests and repairs made to backflow prevention devices and provide the General Manager with copies of such records on request. The records shall be on forms approved by the General 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 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 them 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 General Manager.
- (b) The tester shall be equipped with, and be competent in the use of, all the tools, gauges, manometers and other equipment necessary to properly test, repair, and maintain backflow prevention devices.

E. Inspections; Notice to Correct Defects

The General 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 General 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 General 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 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 Authority.
2. Premises that, in the judgment of the General 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 General 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 General 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 the BOCA Plumbing Code, 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 Authority water system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the General 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 General 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 General 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).

SECTION 29. GENERAL REGULATIONS

A. Conservation.

1. Flow rates for fixtures. In all new construction and in the repair and replacement of fixtures, only fixtures which do not exceed the following flow rates shall be permitted when Authority facilities are used. These rates are based on the equivalent of a pressure at the fixture of fifty psi.

<u>Fixture</u>	<u>Gallons per flush</u>
Water closets, tank type	1.6
Water closets, flushometer type	1.6
Urinals, tank type	1.0
Urinals, flushometer type	1.0
Shower heads	2.5 (gallons per minute)
Lavatory, sink faucets	2.2 (gallons per minute)

2. Public lavatories. In addition to the regulations in Section 29.a.1, only the following shall be permitted in public lavatories which use Authority facilities:

- (a) Faucets of lavatories located in restrooms intended for public use shall be of the metering or self-closing types, which limit the quantity of hot water delivered to a maximum of 0.25 gallons per cycle and are not to exceed a total flow rate of four gallons per minute for hot and cold water.
- (b) No urinal or water closet that operates on a continuous flow or continuous flush basis shall be permitted.

3. Car washes. All automated installations shall be equipped with an approved water recycling system. All existing car wash installations shall be equipped with such recycling devices no later than one year from the effective date of these Regulations.

B. Regulation of Water During Emergency. Whenever the public water supply diminishes to the extent that in the judgment of the General Manager the public health, safety and welfare are in danger, he may declare the existence of a water emergency. Whenever such emergency is declared, the public shall be notified by the publication of an emergency proclamation once a day for two (2) successive days in a newspaper of general circulation throughout the area served, or by the distribution of printed circulars in the area served. Such proclamation shall contain all the rules and regulations governing the use of water throughout the length of such period, and anyone violating any of the provisions thereof shall be guilty of a misdemeanor. All emergency declarations and restrictions shall comply with the King George County Drought Emergency Plan.

C. Water for Air Conditioning. It shall be unlawful for anyone to install in any one (1) building an air conditioner, any refrigerating device or any device of any kind which uses Authority provided water for cooling purposes or to replace any such existing air conditioner, refrigerating device, or such other device or equipment unless such air conditioner, refrigerating device or other such device or equipment is used in conjunction with a recirculating mechanism which is designed to reuse not less than ninety (90) percent of the water used for cooling, except that in any one (1) building one (1) air conditioner, or refrigerating mechanism or one (1) other such device using Authority provided water and having a capacity of three (3) tons or less may be installed without such recirculating mechanism.

D. Prohibitions.

1. The resale of water or wastewater services is prohibited, except by a contract with the Authority.
2. It shall be unlawful for any person to remove, alter, or open any sewer manhole, pipe, fire hydrant, meter box, valve, or any facilities connected with Authority facilities without written permission from the General Manager.
3. It shall be unlawful for any person to deposit or cause to be deposited any building materials, rubbish or other matter, or cover up with dirt or other material any Authority water or wastewater facility without written permission from the General Manager.
4. It shall be unlawful for any person to deface, injure, or otherwise damage any water or wastewater facility or appurtenance of the Authority.
5. No sewer or water lines, facilities or services shall be constructed, installed, or otherwise extended beyond the service area of the Authority without the express approval of the Authority.
6. It shall be unlawful and constitute a misdemeanor for anyone to make any connection to or extension of a public water main or public sewer or other facilities of the Authority unless authorized in writing by the General Manager or his designee.
7. It shall be unlawful for any person to trespass in any manner upon any land or building owned, leased or controlled by the Authority and used either directly or indirectly in association with the Authority water or wastewater system and related facilities.

E. Damage or Trespass to Utility Facilities; Tampering with Utility Facilities; Penalties.

1. Any person who shall intentionally destroy or damage any Authority facility used to furnish sewer, wastewater or water service to the public, shall be guilty of a Class 4 felony, provided that in the event the destruction or damage may be remedied or repaired for \$200 or less such act shall constitute a Class 3 misdemeanor.
2. Any person who willfully and maliciously (i) diverts any public wastewater or sewer line or (ii) diverts or wastes any public water supply by tampering with any fire hydrant shall be guilty of a Class 2 misdemeanor.
3. Any person who (i) tampers with any metering device incident to the facilities set forth in § 18.2-162, or otherwise intentionally prevents such a metering device from properly registering the degree, amount or quantity of service supplied, or (ii) diverts such service, except telephonic or electronic extension service not owned or controlled by any such company without authorization from the owner of the facility furnishing the service to the public, shall be guilty of a Class 1 misdemeanor.

The presence of any metering device found to have been altered, tampered with, or bypassed in a manner that would cause the metering device to inaccurately measure and register the degree, amount or quantity of service supplied or which would cause the service to be diverted from the recording apparatus of the meter shall be *prima facie* evidence of intent to violate and of the violation of this section by the person to whose benefit it is that such service be unmetered, unregistered or diverted.

The court may order restitution for the value of the services unlawfully used and for all costs. Such costs shall be limited to actual expenses, including the base wages of employees acting as witnesses for the Commonwealth, and suit costs. However, the total amount of allowable costs granted hereunder shall not exceed \$250, excluding the value of the service.

F. Severability. Should any section or provision of these Regulations be decided by the courts to be unconstitutional or invalid, such decisions shall not affect the validity of these Regulations as a whole, or any part thereof other than the part so held to be unconstitutional or invalid.

SECTION 30. GENERAL RATE POLICY AND RATE SCHEDULE

Costs relating to unique uses of the system, such as separate fire connections and grinder pumps, are proposed to be assessed separately to those customer classes who benefit. The Rate Schedule below may be revised from time to time. Any approved future rate changes shall be incorporated via a separate Rate Schedule incorporated by reference, herein. Copies of approved Rate Schedules can be obtained from the King George County Service Authority, King George County Finance Department, and/or King George County and Service Authority websites. The rates listed below were approved by the Board of Directors on June 20, 2017.

A. Account Service Fee.

The Authority will charge a twenty-five dollar (\$25.00) nonrefundable account service fee for each account established, revised or transferred. The purpose of this charge is to defray the cost incurred in clerical and bookkeeping activities, the turning on of services and/or meter reading required for each new account or transfer of account.

The Authority will collect a two hundred and fifty (\$250.00) refundable security deposit for all new customer water and sewer accounts at the time the account is established. The Authority will collect a one hundred and twenty-five (\$125.00) security deposit for all new customer water only or sewer only accounts. The deposit will be refunded to the customer upon account termination and final billing. The deposit shall be applied to the final utility billing for this account with any remaining deposit refunded via a refund check by U.S. mail, first class to the last address of record.

B. Transaction Charge for Late Payment.

A transaction charge for late payment of ten percent (10%) of the current bill balance due shall be added to a bill in the event the bill is not paid within thirty (30) days. The purpose of this charge is to defray the cost associated with the rebilling of accounts not paid on a prompt basis.

C. Restoration of Service Charge.

A restoration of service charge of forty dollars (\$40.00) shall be paid where service has been terminated for nonpayment prior to service being restored, except as defined in Section 16.A.2. The purpose of this charge is to defray the expenses of terminating and restoring service, including clerical and bookkeeping activities.

D. Interest Charge for Late Payments with a Lien.

An interest charge for late payment of eight (8) percent, or as permitted by law, simple interest on the principal (delinquent amount) due, shall be added to any account when a lien has been placed upon real estate. Such lien on any real estate may be discharged by the payment to the Authority of the total lien amount, penalty, and the interest which has accrued to the date of the payment.

E. Meter Test Deposit.

A test of a water meter shall be done at the request of a water customer upon payment of a meter test deposit as defined in Section 10. If the meter is found to be 3 percent or faster than the deposit shall be refunded. If inoperable or twenty five percent (25%) or slower, the deposit shall be credited against a revised billing. The deposit shall be determined by meter size, as follows:

<u>Meter size</u>	<u>Deposit</u>
5-8" - 3-4"	\$18
1" and over	\$75

F. Fire Hydrant Charge.

For customer requested hydrants installed under the provisions of Section 20, there shall be an installation cost of actual cost plus an allowance of twenty five percent (25%) for overhead. The applicant shall deposit with the KGCSC an estimated fee prepared by the Authority, subsequently adjusted at the completion of the installation with costs exceeding the estimate billed or, in case the estimate exceeds the cost, refunded to the applicant.

The purpose of this charge is to assess to the user the cost of installing fire hydrants for the benefit of the applicant.

G. Temporary Water Service Charge.

Under the provisions of Section 21, an applicant for temporary service shall pay, upon application, for the estimated costs of installing, replacing, and removing the facilities which are required to furnish such services plus an allowance of twenty five percent (25%) for overhead. The applicant shall receive a refund if the estimate exceeds the actual cost. The applicant shall also pay service charges and all charges caused by a late payment or nonpayment. The applicant may also be required to post a deposit as determined by the General Manager.

H. Fire Connection Detector Check Meter Charge.

Fire connection detector check meters shall be read and billed at least annually or on a more frequent basis, as determined by the Authority. Rates governing normal water usage shall be assessed.

Fire connection detector check meters monitor non-fire flow usage from a fire connection and there should be little or no water activity.

I. Water and Waste Water Connection Fees.

1. Customers desiring water and / or waste water services shall submit an application for service to the Authority for review and determination of service and capacity availability. Upon certification, the Authority will contact the applicant and advise of the approval. The applicant has seven (7) business days to pay a minimum of twenty five percent (25% at the time of application. The balance will be required in ninety (90) days (for residential service) or one hundred and eighty (180) days (for commercial service), or upon the issuance of an occupancy permit, whichever comes sooner.
2. The costs to connect into the Authority water and/or waste water system are dependent upon water meter size. The following chart lists those costs to be paid by the customer to access the system:

Meter sizes up to $\frac{3}{4}$ "

Water Availability	\$3,531.00
Water Connection	\$1,162.00
Water Connection "Debt" Fee	\$3,969.00
Wastewater Availability	\$5,855.00
Wastewater Connection	\$1,162.00
Wastewater Connection "Debt" Fee	\$4,166.00

1" meters

Water Availability	\$4,066.00
Water Connection	\$1,162.00
Water "Debt" Fee	\$4,662.00
Wastewater Availability	\$6,420.00
Wastewater Connection	\$1,162.00
Wastewater "Debt" Fee	\$5,257.00

1 $\frac{1}{4}$ " to 1 $\frac{1}{2}$ " Meters

Water Availability	\$4,661.00
Water Connection	\$1,162.00

Water "Debt" Fee	\$5,257.00
Wastewater Availability	\$6,996.00
Wastewater Connection	\$1,162.00
Wastewater "Debt" Fee	\$5,855.00

2"
Meters

Water Availability	\$5,267.00
Water Connection	\$1,745.00
Water "Debt" Fee	\$5,855.00
Wastewater Availability	\$8,136.00
Wastewater Connection	\$1,745.00
Wastewater "Debt" Fee	\$6,420.00

3"
Meters

Water Availability	\$6,151.00
Water Connection	\$1,745.00
Water "Debt" Fee	\$6,420.00
Wastewater Availability	\$8,732.00
Wastewater Connection	\$1,745.00
Wastewater "Debt" Fee	\$6,996.00

4"
Meters

Water Availability	\$6,300.00
Water Connection	\$1,745.00
Water "Debt" Fee	\$6,996.00
Wastewater Availability	\$9,328.00
Wastewater Connection	\$1,745.00
Wastewater "Debt" Fee	\$7,592.00

5"
Meters

Water Availability	\$7,559.00
Water Connection	\$2,333.00
Water "Debt" Fee	\$8,136.00
Wastewater Availability	\$10,516.00
Wastewater Connection	\$2,333.00
Wastewater "Debt" Fee	\$8,732.00

6"
Meters

Water Availability	\$8,136.00
Water Connection	\$4,662.00

Water "Debt" Fee	\$9,328.00
Wastewater Availability	\$11,660.00
Wastewater Connection	\$4,662.00
Wastewater "Debt" Fee	\$9,924.00

8"
Meters

Water Availability	\$9,328.00
Water Connection	\$4,662.00
Water "Debt" Fee	\$10,516.00
Wastewater Availability	\$12,850.00
Wastewater Connection	\$4,662.00
Wastewater "Debt" Fee	\$11,111.00

Those residential water only customers with a 5/8 inch meter will be assessed a total connection fee of \$8,662 which includes assessments for "water availability", "water connection", and "water debt" fees. Those residential water and waste water customers with a 5/8 inch water meter will be assessed a total connection fee of \$19,845. In both cases a twenty five percent (25%) deposit is required with the balance due within ninety (90) days (for residential connections) or one hundred and eighty (180) days (for commercial connections), or upon the issuance of an occupancy permit, which-ever comes first.

In addition to the above charges, there shall be a charge for each additional ERC (Equivalent Residential Connection) as follows:

Water - \$1,831.00 per each additional ERC

Sewer - \$2,749.00 per each additional ERC

Debt - \$3,205.00 per each additional ERC

- Equivalent residential connections are based on Virginia Department of Health guidelines that estimate three hundred (300) gallons per day of usage for each such connection. Other than single residential connections, charges for other levels of service will be calculated on the following gallons per day (gpd) equivalents to account for elevated requirements above that normally associated with residential usage.

<u>Service Type</u>	<u>Unit</u>	<u>Unit per day (gals.)</u>
High School with showers (based on permitted capacity)	per person	16 gpd
Elementary Schools without showers	per person	10 gpd

(based on permitted capacity)			
Boarding Schools	per person	75	gpd
(based on permitted capacity)			
Motels, Hotels, Tourist Cabin, Lodging House	per room	130	gpd
(based on permitted capacity)			
Trailer Courts	per trailer	300	gpd
Service Type	Unit	Unit per day (gals.)	
Restaurants (based on permitted capacity)	per seat	35	gpd
Service Station	per gross sf	0.18	gpd
Factories (per 8-hour shift)	per person	25	gpd
Shopping Centers (per 1000 sq. ft. of floor space)		200	gpd
Hospitals	per bed	300	gpd
Nursing Homes	per bed	200	gpd
Home for the Aged	per bed	100	gpd
Medical Office	per gross sf	0.175	gpd
Laundromats (9 to 12 lb. washing machines)	per machine	500	gpd
Community Colleges	per student & faculty	15	gpd
Swimming Pools (based on permitted capacity)	per swimmer	10	gpd
Theaters (drive-in)	per car	5	gpd
Theaters (auditorium)	per seat	1.5	gpd
Camps, Resort Day & Night with limited plumbing	per camp site	50	gpd
Picnic Areas	per person	5	gpd
Luxury Camps with flush toilets	per camp site	100	gpd
*Car Wash	per bay	750	gpd
*Office Space (based on permitted capacity)	per gross sf	0.10	gpd
*Churches	per sanctuary seat	4	gpd
*Grocery Stores (per 1000 sq. ft. of floor space)		200	gpd
*Convenience Store (per 1000 sq. ft. of floor space)		150	gpd
*Funeral Homes (per 1000 sq. ft. of floor space)		100	gpd

* Indicates that VDH Figures were not used to develop estimated consumption

J. Fire Suppression Availability Fee

Water Availability	\$3,531
Water "Debt" Fee	\$3,969

K. Water and Waste Water Service and Debt Fees.

1. Customers of the Authority water and/or wastewater systems will be billed bi-monthly

for services received and/or a minimum bill. The consumption fees are based on the following tiered structure for 5/8" meters. All meters larger than 5/8" will be charged at the first tier rates for the metered consumption:

TIER I: Measured Consumption up to 12,000 gallons

- (a) Water consumption fees shall be assessed at a rate of four dollars and fifty-three cents (\$4.53) per one thousand (1,000) gallons of use.
- (b) Waste Water consumption fees shall be assessed at a rate of ten dollars and fifty-seven cents (\$10.57) per one thousand (1,000) gallons of use.

TIER II: Measured Consumption above 12,000 gallons

- (a) Water consumption fees shall be assessed at a rate of five dollars and seventeen cents (\$5.17) per one thousand (1,000) gallons of use.
- (b) Waste Water consumption fees shall be assessed at a rate of eleven dollars and forty-nine cents (\$11.49) per one thousand (1,000) gallons of use.

2. Customers of Authority will be assessed bimonthly flat rate debt service fees as follows:

- (a) The flat rate water debt service fee shall be assessed at a rate of thirty-two dollars and sixty-six cents (\$32.66) per billing period for residential five eights inch (5/8") meter customers. Residential Accounts with a single meter which provide service to multiple dwelling units will be charged the debt service fee for each dwelling unit served. All non residential customers will be assessed a debt service fee per billing period of \$32.66 multiplied by the Meter Flow Equivalent (MFE) or number of units served, whichever is greater, up to a maximum of twenty five (25), as established in K.3, below.
- (b) The flat rate sewer debt service fee shall be assessed at a rate of fifty-three dollars and thirty-one cents (\$53.31) per billing period for residential five eights (5/8") meter customers. Residential Accounts with a single meter which provide service to multiple dwelling units will be charged the debt service fee for each dwelling unit served. All non residential customers will be assessed a debt service fee per billing period of \$53.31 multiplied by the Meter Flow Equivalent (MFE) or number of units served, whichever is greater, up to a maximum of twenty five (25 as established in K.3, below.
- (c) All non-residential customers will be charged additional debt service fees based on meter size multipliers of 1.5, 2.5, 3.5, 5.0, 8.0, 16.0, & 25.0 for $\frac{3}{4}$, 1, 1-1/4, 1-1/2, 2, 3, & 4-inch meters respectively.

(d) The debt service fees referenced in K.2.a and K.2.b, will be assessed for only those services which the customer receives.

3. All customers of the Service Authority will be assessed a bi-monthly flat rate Capital Reserve Fee of \$2.00 per bill.
4. Minimum Bills: Customers of Authority will be billed, bimonthly; at least a minimum bill based on the following service meter sizes and the respective minimum allowable consumption at the prevailing rates for water and/or sewer consumption plus the applicable prevailing debt service fees:

Meter size (inches)	Min. Allowable consumption (gals.)	Meter Flow Equivalent (MFE)
5/8	3,000	1
3/4	13,000	1.5
1	21,000	2.5
1-1/4	33,000	3.5
1-1/2	47,000	5
2	77,000	8
3	157,000	16
4	297,000	25

- (a) Those customers that exceed the minimum consumption referenced above will be billed at the prevailing rates for the actual metered consumption plus the applicable debt service fees.
- (b) The minimum bi-monthly water, wastewater and/or debt charges for all service connections consisting of more than one (1) residential dwelling unit or a combination of commercial and residential uses from a single connection shall be charged based on the minimum consumption for the meter size plus the applicable debt service charges as described in K.2.
- (c) Where the above schedules of connection charges and usage fees are not applicable for the required service, the proposed service shall be investigated by the General Manager. The General Manager, upon completion of the investigation, shall recommend to the Board of Directors a fair and equitable availability charge to be assessed to the applicant. Such charges shall be based upon volume of use and subject to adjustment if underestimated in the original application.

4. For customers receiving sewer services only, service charges shall be as follows:

- (a) For residential customers receiving sewer services only, a minimum bill will be assessed on a bi-monthly basis equal to the minimum charge for three thousand (3,000) gallons, as set forth in K.1.b, for each unit provided sewer service this charge includes the debt service as described in K.2.
- (b) For commercial customers receiving sewer services only, the customer will be required to purchase and install a water meter which meets KGCAS specifications. The meter must be accessible to Authority personnel for reading purposes on a bi-monthly basis. The sewer charge for each commercial sewer-only connection will be assessed at the current sewer rate per one thousand (1,000) gallons of water consumed with a minimum charge for five thousand (5,000) gallons, or; the charge for the allowable consumption for the meter size serving the connection, whichever is greater, this charge shall include the debt service charges as described in K.2.

K. Unmetered Accounts Physically Connected to Water and/or Sewer Services: Any unmetered utility account that is connected and using services shall be charged a minimum bi-monthly bill based on the average customer consumption, which is 9,000 gallons per bi-monthly cycle. The bill will be calculated at the applicable prevailing rates specified herein or as amended and approved by the Authority.

L. Grinder Pump Installation and Maintenance Charge.

1. Any applicant for a sewer connection requiring a residential grinder pump must purchase a grinder pump that meets Authority Standards and Specifications.
2. Applicants requiring grinder pumps will be under the jurisdiction of the Uniform Statewide Building Code, the Sewage Handling and Disposal Regulations, the Sewage Collection and Treatment Regulations, and all Authority regulations.
3. The Authority shall not maintain residential or nonresidential grinder pumps or other commercial pump stations unless such utility maintenance is deemed by the Authority to be in the interest of the public health or is necessary to protect the integrity of the system. Service charges will be based on actual cost. The Authority may contract with an outside agency or firm to provide utility maintenance.

M. Pump and Haul Rates.

The Authority does not provide pump and haul services for the general public. These services may be provided on a case by case basis as approved by the Board of Directors. The rates for these services will be determined at the time of approval.

N. Bulk Water Sales.

The following are the rates for sale of bulk water:

1. \$26.83 for vehicles up to 3,000 gallon capacity;
2. \$48.03 for vehicles over 3,000 gallon capacity;
3. \$8.01 per 1000 gallons or any part thereof.

O. Unusual Wastewater Fee.

The rate for acceptance of “unusual” wastewater shall be \$32.32 per one thousand (1,000) gallons

P. Septic Disposal Rate.

Any septic disposal shall be done in strict accordance with Section 31. The rate for septic disposal shall be \$68.95 per 1,000 gallons or portion thereof disposed plus a fixed ten dollar (\$10.00) administrative fee.

Q. No Free Service. There shall be no utility service provided to any customer without the assessment of service charges.

R. Plan Review Fee. A charge for technical review of utility plans reviewed by the Authority will be based on the actual cost of such review. The Authority may contract with an outside agency or firm to conduct such review.

S. Fire Suppression System Availability Fees: Any new, remodeled, or expanded structure that includes a fire suppression system shall be required to pay an additional water availability fee and a water debt fee specifically for the suppression system. These fees are \$3,531.00 and \$3,969.00 respectively. These fees are in addition to the applicable domestic connection fees specified above.

T. Effective Date of Changes in Service Fees. Any proposed rate changes shall be advertised for public hearing in accordance with State Code and shall become effective as of the first billing cycle, immediately following the Board of Directors approval and may include services already provided.

SECTION 31 SEPTIC WASTE DISPOSAL

The Authority is authorized to accept and to dispose of septic tank wastes (“wastes”). The Authority reserves the right to refuse or limit acceptance of wastes without advance warning if it is in the best interest of the Authority, as determined in its sole discretion.

A. Acceptable Septic Wastes.

Wastes shall meet the following criteria or will be otherwise rejected. All tests, methods, procedures, interpretation and results shall be at the sole discretion of the Authority.

1. Check-in and log: The septic hauler shall check in with the WWTP Operator upon arrival. The customer shall complete the daily log and provide any information requested in the log or by the WWTP Operator. In the event that the waste is not accepted, the WWTP Operator shall record the justification of refusal in the daily log.
2. Septic pH: Wastes shall have a pH reading between 5.5 and 9.0, as measured by an Authority employee prior to disposal.
3. Visible Inspection: A sample of at least one gallon shall be collected and presented by the pump truck hauler for a visual inspection by an Authority employee for verification that wastes do not have excessive grease, storm water, landfill leachate, industrial wastes or any other properties which may be detrimental to the wastewater treatment process.
4. Volume Verification: Wastes volume shall be verified, by either reading the septic tanker trucks level indicator gauge, estimating based on the manifest tickets, assuming a full load, or other acceptable means. The WWTP Operator will verify the load volume and initiate the disposal process.
5. Origin of Waste: Authority will accept only those wastes generated and pumped within King George County. The septic hauler shall present load manifests that clearly indicates the location of each septic tank pumped that is part or all of the current load. The manifest shall also include an estimated volume of septic waste pumped from the respective locations. The manifests shall be the official Authority Septic Waste Disposal Manifest, as contained within this Section. Each manifest shall bear the signature of the septic tank owner verifying that the septic tank was pumped on the date of the manifest.
6. Disposal: Upon approval from the WWTP Operator, the septic hauler shall proceed to the septic disposal station. The septic hauler shall connect the existing disposal station hose to the truck. The WWTP Operator will operate the disposal station once the hose is properly connected. Upon completion of disposal, the hauler will disconnect the

disposal hose and clean and spray down the disposal area. Water and spray nozzle will be provided by the Authority.

B. Approved Disposal Sites.

The only Authority approved septic waste disposal site is the Dahlgren WWTP. The WWTP is located at 16383 Dahlgren Road, King George, Virginia 22485.

C. Maximum Daily Volume Treated.

The Dahlgren WWTP has a maximum daily septic waste disposal limit of fifteen thousand (15,000) gallons per day. This limit may be adjusted up or down, at the discretion of the General Manager, depending on the operational efficiency of the plant. In the event that a truck is partially dumped when the maximum daily limit is reached, the rest of the load will be accepted, unless it is determined not to be in the best interest of the Authority, and the disposal operation will cease for the remainder of the day.

D. Hours of Operation.

Septic waste disposal shall be limited to Monday thru Friday between the hours of 9:00 am and 5:00 pm. The WWTP will not accept waste during inclement weather. Therefore, it is recommended to contact the WWTP, prior to delivering any load.

E. Account Fees.

Septic tank waste disposal haulers shall make application and pay a one-time application fee of twenty five dollars (\$25.00). This fee shall establish an account for billing purposes. The fee is due at the time of submission of application. Applications can be obtained from the King George County Finance Department located in the Revercomb Administration Building. The address for the Billing Department is 10459 Courthouse Drive, Suite 201, King George, VA 22485

F. Disposal Fees.

The cost for septic disposal shall be \$68.95 per one thousand (1,000) gallons disposed. Billing volume will be based on the methodology described in Paragraph A (4) of this Section. The billing will be based on the regular bimonthly billing cycle for the utility bills. Any partial load less than one thousand (1,000) gallons will be billed as one thousand (1,000) gallons. Each bimonthly bill will include a fixed administrative fee of ten dollars (\$10.00). The administrative fee is based on the costs for totaling the manifests and generating the bill.

G. Transaction Charge for Late Payment.

A transaction charge for late payment of ten percent (10%) of the current bill balance due shall be added to a bill in the event the bill is not paid within thirty (30) days.

H. Restoration of Service Charge.

A restoration of service charge of forty dollars (\$40.00) shall be paid where service has been terminated for nonpayment prior to service being restored.

I. Interest Charge for Late Payments with a Lien.

Interest at the statutory rate shall be added to any delinquent account. A lien may be placed upon real estate for any delinquent account. Such lien on any real estate may be discharged by the payment to the Authority of the total lien amount.



KING GEORGE COUNTY SERVICE AUTHORITY

SEPTIC WASTE DISPOSAL MANIFEST

- 1. Name of Licensed Hauler:** _____
- 2. Name of Septic Tank Owner:** _____
- 3. Address of Septic Tank Owner:** _____
(Street Address) _____

- 4. Estimated Volume Generated:** _____
- 5. Date Collected:** _____

The property owner listed above hereby acknowledges, by original signature, that the septic hauler listed above pumped the noted volume from the existing septic tank on the specified date.

Septic Tank Owner Signature

Date

Printed Name of Tank Owner

Appendix C. Water and Sewer Rates and Fees

AGENDA
REGULAR MEETING OF THE KING GEORGE COUNTY
SERVICE AUTHORITY BOARD OF DIRECTORS
Tuesday, May 7, 2019
6:30 P.M.

Call to Order

- ◆ Invocation by Ms. Binder
- ◆ Pledge of Allegiance by Mr. Weakley

AMENDMENTS TO THE AGENDA

6:30P.M. - PUBLIC COMMENT

- ◆ Comments will be limited to three minutes, per person, in order to afford everyone an opportunity to speak. If comments relate to a specific public hearing item, we ask that you offer those comments at the time of the public hearing

REPORTS OF MEMBERS OF THE BOARD

<u>ITEM NO</u>	<u>DESCRIPTION</u>
SA-05-01	Consent Agenda
SA-05-01.1	Issuance of warrants against the FY18-19 KGCSA Operating Fund in the total amount of \$30,905.04
SA-05-01.2	Verification of warrants issued to avoid late charges or disruption of service
SA-05-02	Report from County Attorney
SA-05-03	<u>Presentations and Reports:</u> A. Public Hearing: Proposed FY2019/2020 regulatory amendment to provide for rate revisions
SA-05-04	<u>Action Items:</u>
SA-05-05	<u>Discussion Items:</u>
SA-05-06	General Manager's Report
SA-05-07	<u>Information Items:</u>

Adjourn to May 21, 2019 at 6:30 p.m. in the board room

IF YOU ARE HEARING IMPAIRED AND WOULD LIKE TO ATTEND THIS MEETING, AND HAVE A NEED FOR AN INTERPRETER - PLEASE CONTACT OUR OFFICE AT 775-9181 (TDD 775-2049, SHERIFF'S OFFICE) BY NOON ON THE FRIDAY BEFORE THE MEETING.

A FINAL AGENDA WITH ALL SUPPORTING DOCUMENTATION IS AVAILABLE ON THE COUNTY'S WEBSITE: www.kinggeorgecountyva.gov

VIRGINIA:

At a regular meeting of the Board of Directors of King George, Virginia held on Tuesday, May 7, 2019 at 6:00 p.m.

PRESENT: Ruby Brabo, Member
Cathy E. Binder, Vice Chairman
Michael Bennett, Chairman
Richard A. Granger, Member
Christopher Werle, Member
Jonathon R. Weakley, General Manager
Neiman Young, County Administrator
Eric A. Gregory, County Attorney

The following accounts against the KGCSCA Operating Fund were presented, sworn to, examined, and be it resolved that same be approved and warrants for FY18-19 therefor ordered to be issued.

AP308 KING GEORGE COUNTY A/P REGULAR CHECK REGISTER TIME- 8:14:45

PAGE 1

P/O NO.	VEND. NAME	INVOICE NO.	INVOICE DATE	ACCOUNT NO.	NET AMOUNT	CHECK NO.	CHECK DATE	DESCRIPTION	BATCH
0000000 014257	AMAZON CAPITAL SERVICES	1M8K-1VP6-1K67	4/22/2019	4501-083000-6007-	-			67.97 1166363	5/07/2019
0000000 014257	AMAZON CAPITAL SERVICES	1M8K-1VP6-1K67	4/22/2019	4501-084000-6007-	-			67.98 1166363	5/07/2019
0000000 002705	AMERIGAS-FREDERICKSBURG	3091195959	4/12/2019	4501-083000-6008-	-			135.95	
0000000 014395	ATRUM CONSTRUCTION LLC	KGS1195	4/22/2019	4501-084000-3310-	-			93.86 1166364	5/07/2019
0000000 014395	ATRUM CONSTRUCTION LLC	KGS1196	4/23/2019	4501-084000-3310-	-			93.86	
0000000 001459	CARTER MACHINERY COMPANY	0575481	4/15/2019	4501-082800-3320-	-			304.00 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0575483	4/15/2019	4501-082900-3320-	-			304.00 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0575485	4/15/2019	4501-082800-3320-	-			234.14 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0575487	4/15/2019	4501-082900-3320-	-			224.00 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0575490	4/15/2019	4501-082800-3320-	-			239.95 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0576638	4/18/2019	4501-082900-3320-	-			704.00 1166373	5/07/2019
0000000 001459	CARTER MACHINERY COMPANY	0576620	4/18/2019	4501-082900-3320-	-			498.00 1166373	5/07/2019
0000000 003191	DOMINION ENERGY VIRGINIA	7445085165MAY19	4/16/2019	4501-082800-5110-	-			2,508.09	
0000000 003191	DOMINION ENERGY VIRGINIA	7445085165MAY19	4/16/2019	4501-082900-5110-	-			7,770.73 1166382	5/07/2019
0000000 001523	FIRE SAFETY SYSTEMS INC	56540	4/17/2019	4501-083000-6007-	-			9,276.15 1166382	5/07/2019
0000000 001523	FIRE SAFETY SYSTEMS INC	56540	4/17/2019	4501-084000-6007-	-			17,046.88	
0000000 003213	ENVIRONIATION INC	19-2251	3/16/2019	4501-083000-3310-	-			5,745.00	
0000000 001480	MID-ATLANTIC LAB INC	14902	4/16/2019	4501-082800-3164-	-			5,745.00	
0000000 010721	SOUTHERN COPIER	190418-0007	4/18/2019	4501-082800-5410-	-			117.97 1166427	5/07/2019
0000000 010721	SOUTHERN COPIER	190418-0007	4/18/2019	4501-083000-5410-	-			117.98 1166427	5/07/2019
0000000 010721	SOUTHERN COPIER	190418-0007	4/18/2019	4501-083000-5410-	-			117.98 1166427	5/07/2019
0000000 002015	UNIFIRST CORP	288 1863094	4/16/2019	4501-082800-3700-	-			44.49 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1863094	4/16/2019	4501-083000-3700-	-			65.90 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1863094	4/16/2019	4501-082900-3700-	-			113.64 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1863094	4/16/2019	4501-084000-3700-	-			49.82 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1863094	4/16/2019	4501-082900-3700-	-			43.31 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1865175	4/23/2019	4501-082800-3700-	-			37.35 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1865175	4/23/2019	4501-084000-3700-	-			37.36 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1865175	4/23/2019	4501-082900-3700-	-			51.56 1166431	5/07/2019
0000000 002015	UNIFIRST CORP	288 1865175	4/23/2019	4501-084000-3700-	-			509.34	

AP308	KING GEORGE COUNTY	A/P REGULAR CHECK REGISTER	TIME- 8:14:45					
P/O NO. ---	VENDOR NAME -----	INVOICE NO. -----	INVOICE DATE -----	ACCOUNT NO. -----	NET AMOUNT -----	CHECK NO. -----	CHECK DATE -----	BATCH -----
0000000	002017 UNIVAR USA INC	RIT53321	4/10/2019	4501-082900-6017-	-	-	1,033.60	1166432 5/07/2019
0000000	001602 USA BLUEBOOK	854719	4/01/2019	4501-084000-6007-	-	-	475.76	1166434 5/07/2019
0000000	001602 USA BLUEBOOK	858710	4/04/2019	4501-084000-6007-	-	-	584.95	1166434 5/07/2019
0000000	001602 USA BLUEBOOK	861459	4/10/2019	4501-084000-6007-	-	-	434.95	1166434 5/07/2019
0000000	001602 USA BLUEBOOK	861408	4/11/2019	4501-084000-6007-	-	-	187.35	1166434 5/07/2019
0000000	001602 USA BLUEBOOK	866894	4/12/2019	4501-082900-6004-	-	-	472.64	1166434 5/07/2019
				CHECK TOTAL			1,285.75	
0000000	001064 VERIZON	08059251	4/10/2019	4501-082800-5230-	-	-	34.81	1166435 5/07/2019
0000000	001064 VERIZON	08059251	4/10/2019	4501-082900-5230-	-	-	34.81	1166435 5/07/2019
				CHECK TOTAL			69.62	
0000000	004064 VERIZON	5406440116MAY19	4/16/2019	4501-082900-5230-	-	-	58.65	1166436 5/07/2019
0000000	004064 VERIZON	5406530800MAY19	4/16/2019	4501-082900-5230-	-	-	55.16	1166436 5/07/2019
0000000	004064 VERIZON	5406661205MAY19	4/16/2019	4501-082900-5230-	-	-	52.85	1166436 5/07/2019
0000000	004064 VERIZON	5407750327MAY19	4/13/2019	4501-082900-5230-	-	-	106.29	1166436 5/07/2019
0000000	004064 VERIZON	5407750614MAY19	4/16/2019	4501-082900-5230-	-	-	55.40	1166436 5/07/2019
0000000	004064 VERIZON	5407751740MAY19	4/13/2019	4501-082900-5230-	-	-	50.65	1166436 5/07/2019
0000000	004064 VERIZON	5407755855MAY19	4/13/2019	4501-082900-5230-	-	-	46.74	1166436 5/07/2019
0000000	004064 VERIZON	5407759154MAY19	4/16/2019	4501-082900-5230-	-	-	58.17	1166436 5/07/2019
				CHECK TOTAL			483.91	
				CHECK TYPE TOTAL			30,905.04	
				FINAL TOTAL			30,905.04	

VIRGINIA:

The Board of Directors of King George County Service Authority, King George, Virginia issued the following warrant(s) dated Friday, April 19, 2019 against the King George General checking account for FY18-19. As ordered issued by the authority granted by The Board of Directors.

AP308		KING GEORGE COUNTY		A/P REGULAR CHECK REGISTER		TIME- 7:59:58	PAGE 1
P/O NO.	VEND. NAME	INVOICE NO.	INVOICE DATE	ACCOUNT NO.	NET AMOUNT	CHECK NO.	DESCRIPTION
00000000	013001 AMERICAN BUSINESS CARD	16331	3/22/2019	4501-082800-3500-	-	90.00	1166215 4/19/2019
00000000	013001 AMERICAN BUSINESS CARD	16331	3/22/2019	4501-082900-3500-	-	30.00	1166215 4/19/2019
				CHECK TOTAL	120.00		
00000000	003361 AT&T	5407750064APR19	4/01/2019	4501-082900-5230-	-	38.63	1166117 4/19/2019
00000000	003261 AT&T	5407751142APR19	3/31/2019	4501-082900-5230-	-	38.85	1166217 4/19/2019
00000000	003261 AT&T	5407753170APR19	3/27/2019	4501-082900-5230-	-	52.40	1166217 4/19/2019
				CHECK TOTAL	129.68		
00000000	009805 ATLANTIC BROADBAND	KGSA 032819	3/28/2019	4501-082900-5230-	-	103.20	1166118 4/19/2019
				CHECK TOTAL	103.20		
00000000	004104 BOURNE & SONS JANITORIAL	10303	4/03/2019	4501-082900-6005-	-	124.85	1166220 4/19/2019
				CHECK TOTAL	124.85		
00000000	003191 DOMINION ENERGY VIRGINIA	2865020451APR19	4/01/2019	4501-082900-5110-	-	218.54	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	3661202805APR19	3/29/2019	4501-082800-5110-	-	550.38	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	4245525050APR19	4/01/2019	4501-082900-5110-	-	66.75	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	5303107501APR19	3/29/2019	4501-082900-5110-	-	198.05	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	55232227501APR19	3/29/2019	4501-082900-5110-	-	6.59	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	55234778948APR19	3/29/2019	4501-082900-5110-	-	197.12	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	5604603471APR19	4/01/2019	4501-082900-5110-	-	2,870.76	1166228 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	63613160883APR19	4/01/2019	4501-082900-5110-	-	142.08	1166228 4/19/2019
				CHECK TOTAL	4,250.27		
00000000	003191 DOMINION ENERGY VIRGINIA	9270162250APR19	3/29/2019	4501-082800-5110-	-	1,310.02	1166229 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	9455152371APR19	4/01/2019	4501-082800-5110-	-	1,973.24	1166229 4/19/2019
00000000	003191 DOMINION ENERGY VIRGINIA	98381151687APR19	3/29/2019	4501-082900-5110-	-	91.87	1166229 4/19/2019
				CHECK TOTAL	3,375.13		
00000000	002567 EAST COAST UTILITY	172	2/28/2019	4501-083000-3310-	-	7,965.85	1166231 4/19/2019
				CHECK TOTAL	7,965.85		
00000000	004505 ENVIROCOMPLIANCE LAB INC	STMT 033119	3/31/2019	4501-082900-3163-	-	14,080.00	1166233 4/19/2019
				CHECK TOTAL	14,080.00		
00000000	010870 KING GEORGE TRUCK & TIRE	028487	3/27/2019	4501-083000-6007-	-	290.88	1166238 4/19/2019
00000000	010870 KING GEORGE TRUCK & TIRE	028487	3/27/2019	4501-084000-6007-	-	250.86	1166238 4/19/2019
				CHECK TOTAL	581.76		
00000000	012037 MANSFIELD OIL COMPANY	SQLCD-501025	4/01/2019	4501-082800-6008-	-	528.05	1166241 4/19/2019
00000000	012037 MANSFIELD OIL COMPANY	SQLCD-501025	4/01/2019	4501-082900-6008-	-	528.05	1166241 4/19/2019
00000000	012037 MANSFIELD OIL COMPANY	SQLCD-501025	4/01/2019	4501-083000-6008-	-	528.05	1166241 4/19/2019
00000000	012037 MANSFIELD OIL COMPANY	SQLCD-501025	4/01/2019	4501-084000-6008-	-	528.03	1166241 4/19/2019
				CHECK TOTAL	2,112.18		
00000000	012998 NAPA OF FREDERICKSBURG	STMT 03312019	3/31/2019	4501-083000-6007-	-	50.28	1166243 4/19/2019
00000000	012998 NAPA OF FREDERICKSBURG	STMT 03312019	3/31/2019	4501-084000-6007-	-	50.28	1166243 4/19/2019
				CHECK TOTAL	100.57		
00000000	001940 RANDY JONES TREASURER	JAN/FEB19 KGCSA	3/22/2019	4501-083000-5130-	-	24.81	1166248 4/19/2019
				CHECK TOTAL			
							Water/Sewer Services 03095

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P/O NO.	VEND- NAME	VENDOR NAME	INVOICE NO.	INVOICE DATE	ACCOUNT NO.	NET AMOUNT	CHECK DATE	DESCRIPTION
00000000	001940 RANDY JONES TREASURER	JAN/FEB19 KGCSA	3/22/2019	4501-084000-5130-	-	24.81	1166248	4/19/2019
00000000	001940 RANDY JONES TREASURER	JAN/FEB19 KGCSA	3/22/2019	4501-082900-5130-	-	3,858.54	1166248	4/19/2019
00000000	001940 RANDY JONES TREASURER	JAN/FEB19 SA	3/22/2019	4501-082900-5130-	-	133.27	1166248	4/19/2019
00000000	009715 RANKINS TRUE VALUE INC	STMT 032519	3/25/2019	4501-083000-607-	-	216.30	1166250	4/19/2019
00000000	009715 RANKINS TRUE VALUE INC	STMT 032519	3/25/2019	4501-084000-607-	-	586.35	1166250	4/19/2019
00000000	002015 UNIFIRST CORP	288 1857159	3/26/2019	4501-082900-3700-	-	49.82	1166255	4/19/2019
00000000	002609 VERIZON	N55039784219084	3/25/2019	4501-082800-5230-	-	110.97	1166256	4/19/2019
00000000	002609 VERIZON	N55039784219084	3/25/2019	4501-083000-5230-	-	110.98	1166256	4/19/2019
00000000	002609 VERIZON	N55039784219084	3/25/2019	4501-084000-5230-	-	110.98	1166256	4/19/2019
00000000	004064 VERIZON	5406633512APR19	3/28/2019	4501-082900-5230-	-	161.67	1166257	4/19/2019
00000000	004064 VERIZON	5406633765APR19	3/28/2019	4501-082900-5230-	-	53.03	1166257	4/19/2019
00000000	004064 VERIZON	540775012APR19	3/28/2019	4501-082900-5230-	-	47.99	1166257	4/19/2019
00000000	004064 VERIZON	540775512APR19	3/28/2019	4501-082900-5230-	-	50.84	1166257	4/19/2019
00000000	004064 VERIZON	5407755560APR19	3/28/2019	4501-082800-5230-	-	98.39	1166257	4/19/2019
00000000	004064 VERIZON	5407755560APR19	3/28/2019	4501-083000-5230-	-	98.38	1166257	4/19/2019
00000000	004064 VERIZON	5407755560APR19	3/28/2019	4501-084000-5230-	-	98.38	1166257	4/19/2019
00000000	004064 VERIZON	54077559195APR19	3/28/2019	4501-082900-5230-	-	223.06	1166257	4/19/2019
00000000	002332 WALKER SAND & STONE INC	4712	2/28/2019	4501-083000-6007-	-	930.13	1166259	4/19/2019
00000000	002332 WALKER SAND & STONE INC	4712	2/28/2019	4501-083000-6007-	-	17.52	1166259	4/19/2019
				CHECK	TOTAL	17.52		
				CHECK	TOTAL		39,278.77	
				FINAL	TOTAL		39,278.77	

VIRGINIA:

The Board of Directors of King George County Service Authority, King George, Virginia issued the following warrant(s) dated Friday, April 26, 2019 against the King George General checking account for FY18-19. As ordered issued by the authority granted by The Board of Directors.

AP308		KING GEORGE COUNTY		A/P REGULAR CHECK REGISTER		TIME- 9:09:03	PAGE 1			
P/O NO.	VEND. NO.	VENOR NAME	INVOICE NO.	INVOICE DATE	ACCOUNT NO.	NET AMOUNT	CHECK NO.	CHECK DATE	DESCRIPTION	BATCH ---
0004250	001741	A C SCHULTES OF MD INC	0331.R8225	3/31/2019	4501-083000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	014257	AMAZON CAPITAL SERVICES	1MG9-3RTN-GK3R	4/12/2019	4501-083000-6007-	-			Repair & Maintenance Supplies	03097
0000000	002705	AMERIGAS-FREDERICKSBURG	804205484	3/31/2019	4501-083000-5120-	-			Heating/Cooling Services	03097
0000000	002705	AMERIGAS-FREDERICKSBURG	804205484	3/31/2019	4501-084000-5120-	-			Heating/Cooling Services	03097
0000000	014395	ATRIUM CONSTRUCTION LLC	KGS 1189	4/05/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	014395	ATRIUM CONSTRUCTION LLC	KGS 1193	4/06/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	014395	ATRIUM CONSTRUCTION LLC	KGS1188	4/03/2019	4501-083000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	014395	ATRIUM CONSTRUCTION LLC	KGS1190	4/05/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	014454	BETTERMED URGENT CARE	722KCL4171	4/01/2019	4501-083000-3110-	-			Professional Services - Health	03097
0000000	014454	BETTERMED URGENT CARE	722KCL4171	4/01/2019	4501-084000-3110-	-			Professional Services - Health	03097
0000000	014454	BETTERMED URGENT CARE	722KCL4171	4/01/2019	4501-082900-3110-	-			Professional Services - Health	03097
0000000	001459	CARTER MACHINERY COMPANY	0572587	4/04/2019	4501-082800-3320-	-			Maintenance Service Contracts	03097
0000000	001459	CARTER MACHINERY COMPANY	0572589	4/04/2019	4501-082800-3320-	-			Contracted Svc - Repair/Mainte	03097
0000000	001459	CARTER MACHINERY COMPANY	0572591	4/04/2019	4501-082800-3320-	-			Maintenance Service Contracts	03097
0000000	001459	CARTER MACHINERY COMPANY	0572598	4/04/2019	4501-082800-3320-	-			Contracted Svc - Repair/Mainte	03097
0000000	001459	CARTER MACHINERY COMPANY	0572800	4/04/2019	4501-082800-3320-	-			Maintenance Service Contracts	03097
0000000	001459	CARTER MACHINERY COMPANY	0572802	4/04/2019	4501-082800-3320-	-			Contracted Svc - Repair/Mainte	03097
0000000	001459	CARTER MACHINERY COMPANY	0572849	4/06/2019	4501-083000-3320-	-			Maintenance Service Contracts	03097
0000000	001459	CARTER MACHINERY COMPANY	0573645	4/09/2019	4501-082800-3320-	-			Contracted Svc - Repair/Mainte	03097
0000000	001459	CARTER MACHINERY COMPANY	0573651	4/09/2019	4501-082800-3320-	-			Maintenance Service Contracts	03097
0000000	001459	CARTER MACHINERY COMPANY	0573651	4/09/2019	4501-082800-3320-	-			Contracted Svc - Repair/Mainte	03097
0000000	012410	DSB SYSTEMS, LLC	1901-13	4/05/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	012410	DSB SYSTEMS, LLC	1901-10	4/01/2019	4501-084000-3310-	-			Maintenance Service Contracts	03097
0000000	012410	DSB SYSTEMS, LLC	1903-11	4/01/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	012410	DSB SYSTEMS, LLC	1903-12	4/01/2019	4501-084000-3310-	-			Maintenance Service Contracts	03097
0000000	012410	DSB SYSTEMS, LLC	1903-13	4/01/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	012410	DSB SYSTEMS, LLC	1903-14	4/01/2019	4501-084000-3310-	-			Maintenance Service Contracts	03097
0000000	012410	DSB SYSTEMS, LLC	1903-15	4/05/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	012410	DSB SYSTEMS, LLC	1903-16	4/05/2019	4501-083000-3310-	-			Maintenance Service Contracts	03097
0000000	012410	DSB SYSTEMS, LLC	1903-17	4/05/2019	4501-084000-3310-	-			Contracted Svc - Repair/Mainte	03097
0000000	002365	ENTERPRISE FLEET SERVICES	PEN3688190	4/03/2019	4501-083000-5410-	-			Lease/Rent of Equipment	03097
0000000	002365	ENTERPRISE FLEET SERVICES	PEN3688190	4/03/2019	4501-084000-5410-	-			Lease/Rent of Equipment	03097
0000000	002365	ENTERPRISE FLEET SERVICES	PEN3688190	4/03/2019	4501-082800-5410-	-			Lease/Rent of Equipment	03097
0000000	002365	ENTERPRISE FLEET SERVICES	PEN3688190	4/03/2019	4501-082800-5410-	-			Lease/Rent of Equipment	03097

AP308		KING GEORGE COUNTY		A/P REGULAR CHECK REGISTER		TIME- 9:09:03	PAGE 2				
P/O NO.	VEND. NO.	VENDOR NAME	INVOICE NO.	INVOICE DATE	ACCOUNT NO.	NET AMOUNT	CHECK NO.	CHECK DATE	DESCRIPTION	BATCH NO.	
00000000	010870	KING GEORGE TRUCK & TIRE	028550	3/29/2019	4501-083000-6007-	-	555.01	1166314	4/26/2019	Repair & Maintenance Supplies	03097
00000000	010870	KING GEORGE TRUCK & TIRE	028550	3/29/2019	4501-084000-6007-	-	555.01	1166314	4/26/2019	Repair & Maintenance Supplies	03097
00000000	01469	MCI COMM SERVICE	STWNT 041119	4/11/2019	4501-082800-5230-	-	32.86	1166317	4/26/2019	Telephone	03097
00000000	01469	MCI COMM SERVICE	STWNT 0412019	4/11/2019	4501-082800-5230-	-	32.86	1166317	4/26/2019	Telephone	03097
00000000	002528	REXEL OF AMERICA, LLC	SL24330914.001	4/02/2019	4501-083000-6007-	-	127.69	1166333	4/26/2019	Repair & Maintenance Supplies	03097
00000000	002621	TREASURER OF VIRGINIA	DW016463	4/11/2019	4501-082800-3164-	-	24.22	1166340	4/26/2019	Professional Services-Water	03097
00000000	002621	TREASURER OF VIRGINIA	DW016464	4/11/2019	4501-082800-3164-	-	48.44	1166340	4/26/2019	Professional Services-Water	03097
00000000	002621	TREASURER OF VIRGINIA	DW016465	4/11/2019	4501-082800-3164-	-	139.81	1166340	4/26/2019	Professional Services-Water	03097
00000000	002621	TREASURER OF VIRGINIA	DW016466	4/11/2019	4501-082800-3164-	-	1,172.14	1166340	4/26/2019	Professional Services-Water	03097
00000000	002015	UNIFIRST CORP	288 1861025	4/09/2019	4501-082800-3700-	-	1,384.61				
00000000	002015	UNIFIRST CORP	288 1861025	4/09/2019	4501-082800-3700-	-	34.13	1166342	4/26/2019	Laundry - Drycleaning	03097
00000000	002015	UNIFIRST CORP	288 1861025	4/09/2019	4501-084000-3700-	-	34.14	1166342	4/26/2019	Laundry - Drycleaning	03097
00000000	002015	UNIFIRST CORP	288 1861025	4/09/2019	4501-082800-3700-	-	50.59	1166342	4/26/2019	Laundry - Drycleaning	03097
00000000	002015	UNIFIRST CORP	288 1861293	4/09/2019	4501-082800-3700-	-	49.12	1166342	4/26/2019	Laundry - Drycleaning	03097
00000000	002017	UNIVAR USA INC	RT1753147	4/05/2019	4501-082800-6017-	-	1,033.60	1166344	4/26/2019	Chemical Supplies	03097
00000000	002017	UNIVAR USA INC	RT1753181	4/08/2019	4501-082800-6017-	-	1,272.00	1166344	4/26/2019	Chemical Supplies	03097
00000000	002017	UNIVAR USA INC	RT1753194	4/08/2019	4501-082800-6017-	-	1,636.00	1166344	4/26/2019	Chemical Supplies	03097
00000000	001602	USA BLUEBOOK	855447	4/02/2019	4501-083000-6007-	-	4,001.60				
00000000	001602	USA BLUEBOOK	855629	4/02/2019	4501-083000-6007-	-	257.90	1166346	4/26/2019	Repair & Maintenance Supplies	03097
00000000	004064	VERIZON	5406441713MAY19	4/07/2019	4501-082800-5230-	-	302.90	1166346	4/26/2019	Repair & Maintenance Supplies	03097
00000000	004064	VERIZON	5406448703MAY19	4/07/2019	4501-082800-5230-	-	56.00				
00000000	004064	VERIZON	5406630467MAY19	4/10/2019	4501-082800-5230-	-	48.95	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	540663083APR19	4/04/2019	4501-082800-5230-	-	58.65	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	540663295MAY19	4/10/2019	4501-082800-5230-	-	58.15	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	54077503APR19	4/04/2019	4501-082800-5230-	-	55.19	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	5407752113MAY19	4/10/2019	4501-082800-5230-	-	63.25	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	540775619MAY19	4/07/2019	4501-082800-5230-	-	44.94	1166347	4/26/2019	Telephone	03097
00000000	004064	VERIZON	540775619MAY19	4/07/2019	4501-082800-5230-	-	73.35	1166347	4/26/2019	Telephone	03097
00000000	002812	VIRGINIA UTILITY	03190272	3/31/2019	4501-083000-6007-	-	55.55	1166348	4/26/2019	Telephone	03097
00000000	002812	VIRGINIA UTILITY	03190272	3/31/2019	4501-084000-6007-	-	118.65	1166350	4/26/2019	Repair & Maintenance Supplies	03097
00000000	014282	WATER PROFESSIONAL	MARCH 2019	4/03/2019	4501-082800-3164-	-	118.65	1166350	4/26/2019	Repair & Maintenance Supplies	03097
00000000	014282	WATER PROFESSIONAL			CHECK TYPE TOTAL		237.30				
					CHECK TOTAL		375.50				
					FINAL TOTAL		48,646.96				



KING GEORGE COUNTY SERVICE AUTHORITY PROPOSED RATES FISCAL YEAR 19/20

The public hearing is to address a regulatory amendment that provides for rate revisions.

The public hearing is scheduled for Tuesday, May 7th, 2019 at 6:30p.m. The hearing will be held in the Robert H. Combs Board Room at 10459 Courthouse Drive, King George, Virginia. Those wishing to provide written comments concerning the proposed budget may be made to:

King George County Service Authority, General Manager
10459 Courthouse Drive, Suite 200, King George, VA 22485

Any questions regarding the proposed budget may be directed to the
General Manager's Office. (540) 775-2746, Monday through Friday, 8:00a.m. to 4:00p.m.

	PROPOSED RATES
Adopted FY 18/19	FY 19/20

Connection Fees

No proposed increase - prevailing fees remain as previously adopted

Usage Fees

Water Consumption fee - up to 10,000 gallons	\$4.53	\$4.98	Per 1000 gallons
Wastewater Consumption fee - up to 10,000 gallons	\$10.57	\$11.63	Per 1000 gallons
Water Consumption fee - 5/8 meter above 10,000 gallons	\$5.17	\$5.68	Per 1000 gallons
Wastewater Consumption fee - 5/8 meter above 10,000 gallons	\$11.49	\$12.63	Per 1000 gallons
Water Debt Service User Fee	\$32.66	\$35.93	Flat Fee per bill
Sewer Debt Service User Fee	\$53.31	\$58.64	Flat Fee per bill
Capital Reserve Fee	\$2.00	\$2.20	Flat Fee per bill

Minimum Bi-Monthly Residential Bill

\$133.27

\$146.60

*based on 3,000 gallons

*based on 3,000 gallons

Average Bi-Monthly Residential Bill

*** \$238.97

\$262.87

Based on 10,000 gallons

*** \$238.97 indicates previous rate based on 10,000 gallons versus prior 9,000 gallon structure.

Bulk Water Sales

Vehicles over 3,000 gallons capacity	\$48.03	\$48.03	Per vehicle
Vehicles up to 3,000 gallons capacity	\$26.83	\$26.83	Per vehicle
Per 1,000 gallons or any part thereof	\$8.01	\$8.01	Per gallon

Unusual Wastewater Fee

\$32.32

\$32.32

Per 1000 gallons

Septic Disposal Rate

\$68.95

\$68.95

Per 1000 gallons

New Utility Account Deposit

Water/Sewer Account Deposit	\$250.00	\$250.00	
Water Only Account Deposit	\$125.00	\$125.00	
Sewer Only Account Deposit	\$125.00	\$125.00	

Tampering Fee

\$250.00

\$250.00

Per occurrence

Unmetered Connection - Bi-Monthly Bill

Water/Sewer - based on 10,000 gallons	*** \$238.97	\$262.87	Per Billing Cycle
Water Only - based on 10,000 gallons	*** \$79.96	\$87.96	Per Billing Cycle
Sewer Only - based on 10,000 gallons	*** \$161.01	\$177.11	Per Billing Cycle

*** Unmetered connection rate indicates previous rate based on 10,000 gallons versus prior 9,000 gallon structure.

Fire Suppression Availability Fee

Water Availability	\$3,531.00	\$3,531.00	
Water "Debt" Fee	\$3,969.00	\$3,969.00	

BY THE ORDER OF THE SERVICE AUTHORITY
BOARD OF DIRECTORS KING GEORGE COUNTY, VIRGINIA

Appendix D. Links to Conservation Websites

King George County Service

Authority

Water Conservation Websites

<https://www.epa.gov/watersense/start-saving>

<https://www.epa.gov/watersense/outdoors>

<https://www.epa.gov/watersense/commercial-buildings>

<https://www.nationalgeographic.com/environment/freshwater/water-conservation-tips/>

<https://wateruseitwisely.com/100-ways-to-conserve/>

<https://www.constellation.com/energy-101/water-conservation-tips0.html>

https://thewaterproject.org/water_conservation_tips

<https://learn.eartheasy.com/guides/45-ways-to-conserve-water-in-the-home-and-yard/#intheyardgarden>

<https://www.conserveh2o.org/using-water-efficiently-outdoors>

Appendix E. Drought Assessment and Response Plan

DROUGHT ASSESSMENT AND RESPONSE PLAN KING GEORGE COUNTY, VIRGINIA

Introduction:

The water resources of King George County are critical to our quality of life and are essential to public health, safety and welfare. During times of drought, the County has the authority to restrict the nonessential use of water.

Authority:

There are two sections of the Code of Virginia that give governing bodies the authority to restrict the use of water: Section § 15.2-923 pertains to the nonessential use of ground water and Section § 15.2-924 provides the authority to restrict the use of water during a water supply emergency. The sections of the Code are as follows:

§ 15.2-923. Local water-saving ordinances:

Notwithstanding any contrary provision of law, as shall be necessary to protect the public health, safety and welfare, any locality may by ordinance (i) require the installation of water conservation devices in the case of the retrofitting of buildings constructed prior to July 1, 1978, and (ii) restrict the nonessential use of ground water during declared water shortages or water emergencies.

For purposes of this section "nonessential use" shall not include agricultural use.

§ 15.2-924. Water supply emergency ordinances.

A. Whenever the governing body of any locality finds that a water supply emergency exists or is reasonably likely to occur if water conservation measures are not taken, it may adopt an ordinance restricting the use of water by the citizens of such locality for the duration of such emergency or for a period of time necessary to prevent the occurrence of a water supply emergency. However, such ordinance shall apply only to water supplied by a locality, authority, or company distributing water for a fee or charge. Such ordinance may include appropriate penalties designed to prevent excessive use of water, including, but not limited to, a surcharge on excessive amounts used.

Drought Planning in King George County and in the Commonwealth:

King George County receives an average of 44.82 inches of rainfall annually¹. In most years, rainfall is adequate to maintain and replenish the ground and surface water supplies. However, the occurrence of droughts is a normal part of the weather cycle and should be expected. During droughts, water available from streams, rivers, springs, and wells can be

¹ Source: 2006 Comprehensive Plan for King George County, Virginia, prepared by King George County Planning Commission, 2006.

severely diminished. In addition, water use can increase drastically during drought conditions.

Severe drought throughout the Commonwealth from 1999-2002 prompted the state government to establish a Drought Response Technical Advisory Committee. This committee was tasked with the development of a Drought Assessment and Response Plan for the Commonwealth. The Virginia Drought Assessment and Response Plan was used as a framework for this Drought Assessment and Response Plan for King George County. The Virginia Drought Assessment and Response Plan was used as a model in order to provide consistency with the Virginia Plan and to utilize the expertise and effort that went into the development of the Virginia Plan.

Important differences between the Virginia Drought Assessment and Response Plan and this local plan include:

- 1) Drought onset and stage declarations shall be made by the County Board of Supervisors after review of the drought indicators discussed herein.
- 2) In order to monitor drought severity, the County will use three indicators which are based on the amount of precipitation and the effect of the precipitation (or lack of precipitation) on the hydrologic system. These indicators are precipitation, groundwater levels, and the monitoring of King George County Service Authority's operating conditions.²

The extent to which rural residents' and communities' drinking water supplies are impacted by drought depends on many factors. Obviously, the more severe and long-lasting the drought is, the greater the impact will be. Responding proactively to a developing water shortage can greatly reduce the risk that residents will face serious drinking water shortages during drought.

The County website will be used to provide information regarding current drought conditions, recommended or required responses, and where to get additional information. Further, the County website will provide information to encourage water conservation at all times, not just during periods of low supply.

Overall Water Use Policy:

This Drought Response Plan is part of an overall water use policy that emphasizes the efficient use of water at all times, not just during drought. Overall water conservation efforts made by King George County and the King George County Service Authority include:

² The Service Authority will develop a plan for monitoring the water levels in four wells. Three of the wells are active wells (Monmouth #1, Sealston, and Purkins Corner) and one well (Oakland Park 1A) is inactive. The monitoring of these wells is discussed on pages 5 and 6 of this Drought Assessment and Response Plan.

- **Water Loss Reduction:** The King George County Service Authority will continue to reduce unaccounted for water by reducing water leaks in the water systems owned and operated by the Authority.
- **Water Efficiency:** King George County will encourage ongoing water demand management, water use efficiency and water conservation activities throughout the County by increasing public education efforts. The County website will be used for public education efforts.
- **Public Education and Outreach:** Improve the effectiveness of drought awareness by increasing public education efforts. The County website will be used to provide information about drought awareness and other forms of media (newspaper, radio and local television) will be used as well.

Drought Monitoring:

This plan includes a monitoring framework that relies upon the monitoring of drought indicators to determine drought stages and resulting actions in the County. At the State level, during periods of normal moisture conditions, the Virginia Department of Environmental Quality (DEQ) monitors the National Oceanic and Atmospheric Administration (NOAA) U.S. Drought Monitor, and produces information from those reports specific to Virginia on a monthly basis.

The Virginia drought map is produced concurrent with the release of NOAA monthly and seasonal outlooks, which usually are released on the Thursday closest to the middle of the month. County staff will monitor the Drought Map and the advance of drought conditions in the Commonwealth using the drought indicators described herein in order to determine when conditions warrant a drought stage declaration. Other indicators such as the Standardized Precipitation Index, Palmer Drought Severity Index, Crop Moisture Index, Keetch-Byrum Drought Index, and NOAA monthly and seasonal precipitation outlooks will be monitored and will be used as necessary to enhance decision-making regarding drought declaration.

Local Drought Indicators:

In order to monitor potential drought conditions King George County staff will use two indicators to evaluate drought severity. These indicators include precipitation and groundwater levels. Both indicators are discussed below. Further, the King George County Service Authority will develop a procedure to monitor four Service Authority wells.

- **Precipitation Deficits** – Precipitation deficits will be monitored by comparing current precipitation amounts with historical precipitation values as a percent of normal long-term average values.

Comparisons will be made using data compiled by the Office of the State

Climatologist. Normal long-term average precipitation is defined as the mean precipitation for a thirty-year period of record for the area and time period being evaluated. Precipitation amounts will be evaluated based on the water year (beginning October 1)³. If a precipitation deficit outside of the normal range exists at the end of a water year, the precipitation records will carry forward until a normal condition is reached (i.e. if a precipitation deficit exists on October 1, precipitation records for the previous twelve months will be evaluated until the twelve month deficit is eliminated).

Because the significance of a precipitation deficit changes as the water year progresses, drought response stages will be declared at different percentages of normal depending on the date of evaluation. The criteria for the three drought response stages for precipitation levels are as follows:⁴

Table 1: King George County - Drought Stages Based on Precipitation Levels

Months Analyzed	Normal (% of Normal Precipitation)	Watch (% of Normal Precipitation)	Warning (% of Normal Precipitation)	Emergency (% of Normal Precipitation)
October – December	>75.0	<75.0	<65.0	<55.0
October – January	>80.0	<80.0	<70.0	<60.0
October – February	>80.0	<80.0	<70.0	<60.0
October – March	>80.0	<80.0	<70.0	<60.0
October – April	>81.5	<81.5	<71.5	<61.5
October – May	>82.5	<82.5	<72.5	<62.5
October – June	>83.5	<83.5	<73.5	<63.5
October – July	>85.0	<85.0	<75.0	<65.0
October – August	>85.0	<85.0	<75.0	<65.0
October – September (and previous 12 months)	>85.0	<85.0	<75.0	<65.0

- **Ground Water Levels** – There are several DEQ/USGS observation wells in King George and Westmoreland Counties. The wells are as follows:⁵

³ Water years are a natural dividing point for water supply drought, as precipitation that falls in the first six months of a water year is analogous to putting money in the bank. Precipitation that occurs during this six-month period has the potential to recharge ground water, which will sustain stream flows and support withdrawals from wells during the following six-month period when moisture deficits naturally develop as evaporation and plant transpiration generally exceed precipitation.

⁴ See Appendix I for sample precipitation data from NOAA.

⁵ Information from the USGS website is included in Appendix I.

Table 2: DEQ/USGS Observation Wells in and Near King George County

Locality	Site ID	Site Name	National Aquifer	Local Aquifer	Depth of Well
King George Co.	382129077005801	54Q21	No. Atlantic Coastal Plain	Paleocene Series	219.25 ft.
King George Co.	382341077032401	54R2	No. Atlantic Coastal Plain	Patapsco Formation	806 ft.
Westmoreland Co.	380538076490801	56N1SOW016	No. Atlantic Coastal Plain	Upper Cretaceous	641 ft.
Westmoreland Co.	381110076550501	55P5	No. Atlantic Coastal Plain	Patapsco Formation	471 ft.
Westmoreland Co.	381132076551001	55P9	No. Atlantic Coastal Plain	Quaternary System	22.6 ft.

Of the wells listed above, only the Westmoreland County well identified as 55P9 will be used as a drought indicator. This well will be used to monitor shallow ground water response to drought conditions. Measured ground water levels will be compared with historic level statistics for the period of record.⁶

Table 3: King George County - Drought Stages Based on Groundwater Levels

Drought Stage	Criteria
Watch	Measured groundwater level below the 25 th percentile for all historic levels.
Warning	Measured groundwater level between the 25 th and 10 th percentile for all historic levels
Emergency	Measured groundwater level less than the 10 th percentile for all historic levels.

Measured ground water level above the 25th percentile for all historic levels will be defined as normal conditions. Measured ground water level below the 25th percentile for all historic levels will be defined as drought watch conditions.

Measured ground water level between the 25th and 10th percentile for all historic levels will be defined as drought warning conditions. Measured ground water level below the 10th percentile for all historic levels will be defined as drought emergency conditions. Additional data may be available from the groundwater monitoring network established and maintained by USGS. Note this section is meant to address users from shallow wells only.

Monitoring of Service Authority Wells – King George County Service Authority staff will develop a protocol for measuring the water levels in three active wells and one inactive well. The three active wells that will be monitored are: Monmouth #1, Sealston, and Purkins Corner. Generally, the protocol for monitoring the wells will be as follows: the Service Authority staff will measure water level before turning the pump off, measure and record the water level in the well then continue to measure

⁶ See Appendix I for sample well data for this well and other nearby wells.

the levels every 5 minutes for one (1) hour with an air line gauge or electronic water level meter to determine the ability of the well to recover. Each of the three wells will be monitored on a quarterly basis. The Service Authority will review the data and use the data as an indicator of the operating condition of the three active wells. If deemed necessary, the Service Authority will advise the County Administrator of declining conditions in the wells.

Oakland Park 1A is an inactive well that will be monitored monthly by the Service Authority. The level of water in this well will be used as an additional source of information for determining if the County Administrator should be advised of the need to declare a drought.

Other Indicators - Staff will evaluate other available drought information during deliberations related to the development of drought stage recommendations. Other drought indicators that may be considered include the Standardized Precipitation Index, Palmer Drought Severity Index, Crop Moisture Index, NOAA monthly and seasonal precipitation outlooks. Also, antecedent effective ground-water recharge rates, as estimated from hydrograph separation techniques, will be considered.

Declaration of Drought:

Staff will use the following general descriptions of three drought stages when advising the County Administrator concerning drought declarations. These descriptions should not be viewed as absolute requirements for drought designation, but as a mechanism to be used by staff to reach the appropriate drought advisement. The specific response activities that are delineated Appendix III for the three drought stages should be viewed as activities that should be initiated in response to a drought stage declaration.

In the event that the Governor or the Virginia Drought Coordinator declares a drought emergency in the Northern Coastal Plain Region (which includes King George County), the mandatory conservation measures detailed below will be implemented upon the drought declaration, unless the governor's restrictions are more restrictive, or unless local conditions differ.

Drought Stages:

In King George County, there are three drought stages that are governed by precipitation levels and groundwater levels. These drought stages include drought watch, drought warning, and drought emergency. If the indicators (precipitation levels, groundwater level or level of water in the King George County Service Authority wells) meet the criteria for a drought stage to be declared, the stage will be declared by the County.

- **Drought Watch**

The drought watch stage is intended to increase public awareness of climatic conditions that are likely to precede the occurrence of a significant drought event. When a drought watch is warranted, the County Administrator will, through

appropriate means, call upon the general population to employ prudent restraint in water usage, and to conserve water voluntarily. See Appendix III for a list of suggested voluntary conservation efforts.

It is unlikely that significant water use reductions will occur at this stage although it is possible that the increased public awareness of water conservation activities may reduce water use up to 5%.

- **Drought Warning**

When a drought warning is declared in accordance with the Drought Assessment and Response Plan, the County Administrator shall request voluntary reduction of non-essential usages of water. See Appendix III for a list of water uses that should be curtailed during a drought warning stage.

Water conservation activities at this stage would be voluntary. Voluntary water conservation activities generally result in reductions in water use of 5-10%. In this stage all water users would be encouraged to spread out water use. For example, rather than filling large livestock water troughs once a day, consider installing automatic waterers that respond to demand by livestock throughout the day.

- **Drought Emergency**

When a drought emergency is declared in accordance with the Drought Assessment and Response Plan, the County Administrator shall restrict the use of water to purposes which are absolutely essential to life, health and safety. All nonessential uses of water should be eliminated.

During these times, it is likely that some water supplies will not provide the quantity of water needed by all users.

Mandatory water conservation activities usually result in water use reductions of 10-15%.

See Appendix III for a list of prohibited uses during a drought emergency.

Enforcement:

Enforcement of this plan will be in accordance with the County's Drought Ordinance included in Appendix IV.