



Waterworks Business Operations Plan Non-Transient Non-Community Waterworks Instructions

Effective December 2015



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Introduction

Owning and operating a public waterworks (PWS) is an important responsibility. Providing quality, affordable, and sustainable service is dependent upon thoughtful business planning. A Waterworks Business Operations Plan (WBOP) is the primary document by which the Virginia Department of Health (VDH) Office of Drinking Water (ODW) assesses technical, managerial, and financial (TMF) capacities of a waterworks, as required by § 32.1-172 of the *Code of Virginia*. A WBOP demonstrates whether a waterworks has sufficient TMF capacities or will need to implement sustainability improvements to enable it to achieve such capacities.

Technical capacity encompasses the infrastructure and water source of a waterworks (its “physical” assets), as well as intangible assets including the knowledge and skills needed to properly operate a waterworks.

Managerial capacity measures a waterworks’ planning and organizational expertise.

Financial capacity measures a waterworks’ ability to generate sufficient revenue (or to leverage other funding sources) to meet operational, maintenance, and expansion costs.

TMF capacities are interdependent, and all three -Technical, Managerial, Financial- are essential for ensuring the viability of a waterworks. Strength or weakness in one area can in turn either reinforce or impair the others.

The act of preparing a WBOP guides a waterworks through the process of identifying its responsibilities, assessing current and proposed conditions, identifying improvements, and establishing a plan to operate the waterworks using successful and sustainable methods.

Implementation of the final *Waterworks Business Operation Plan* improves the TMF capacities of the waterworks and enables it to function in a more “business-like”, sustainable manner. This plan, customized for the specific waterworks, provides structured guidance for long-range planning, establishing reserve accounts, evaluating staffing needs, understanding infrastructure assets, and establishing a budget that will appropriate funds (or other revenue) sufficient to cover all waterworks-related expenses.

To determine whether a WBOP is required for your waterworks, contact the appropriate regional ODW Field Office (refer to **Appendix B - Office of Drinking Water Field Offices**). Additionally, staff in the ODW Capacity Development Division is available to provide assistance and may be reached at (804) 864-7500.

Instructions

ODW has developed these instructions for Non-Transient Non-Community (NTNC) Waterworks (“**NTNC Instructions**”) along with an accompanying form (“**NTNC Form**”), workbook (“**NTNC Excel Workbook**”), and **Appendices** as tools to provide step-wise instruction to waterworks owners/preparers required to submit a completed Waterworks Business Operation Plan (WBOP). Definitions of relevant business terminology are included in Appendix A - Glossary.

The NTNC Instructions and NTNC Form were developed to be used *simultaneously* by the preparer. The instructions contain detailed, step-by-step explanation and commentary for each part of the Form, and should be referred to often. Financial analyses are part of the WBOP process, and the NTNC Excel Workbook contains worksheets and instructions to enable the preparer to perform these analyses.

The WBOP described in these instructions evaluates the waterworks over a **six-year period**. For existing systems, up to two years of historical data can be used with four years of projections. For new or proposed systems, the WBOP will evaluate the system for six forward-looking years using estimates (or projections) beginning with Year One of the operation.

For existing waterworks, the final WBOP submitted to ODW must accurately represent, to the best of the waterworks owner/preparer’s knowledge, current conditions (or proposed conditions if changes are anticipated) and include planned corrections for resolving any deficiencies.

For proposed and new waterworks, the final WBOP submitted to ODW will be a “*plan of action*” to ensure the proposed or new system will be sustainable.

For systems where a single owner owns multiple waterworks, the WBOP must include information from *each waterworks* as prescribed by, and in consultation with, ODW.

The completed WBOP (including the signed “Owner's Certification Statement”) should be sent to the appropriate regional ODW Field Office (refer to **Appendix B - Office of Drinking Water Field Offices**). *All pages submitted, including applicable supporting documentation, must be consecutively numbered.*

Completing the WBOP: Instructions, Form, and Excel Workbook

The Waterworks Business Operation Plan is divided into eight parts. Each part evaluates the waterworks’ capacities over a six-year period with at least four forward looking years, and requires input of information/data as appropriate. [Note: the NTNC Form can be adapted for owners reporting information and data for multiple public water systems in a single WBOP].

The eight parts of the NTNC Instructions and NTNC Form are as follows:

- Part 1** - Waterworks Information
- Part 2** - Staffing
- Part 3** - Management and Operations
- Part 4** - Planning
- Part 5** - Financial Information
- Part 6** - Sustainability Improvements
- Part 7** - Worksheets and Supporting Documentation
- Part 8** - Statements for Owner Signature

Completing the WBOP entails using three different documents: NTNC Instructions, NTNC Form, and NTNC Excel Workbook. These will be augmented with supporting documentation that is unique to the waterworks.

The **NTNC Instructions** include directions for filling out the **NTNC Form** and the **NTNC Excel Workbook**. The NTNC Form is a question/answer document into which the owner will enter information, including indicating the type of supporting documentation attached to the WBOP. Financial data will be entered into the **NTNC Excel Workbook**. The NTNC Excel Workbook contains one required worksheet (“Worksheet 1 – Six-Year Technical, Managerial & Financial Commitment Summary”) as well as additional supplemental worksheets the owner may elect to use for financial data entry.

Supporting Documentation

Sufficient supporting documentation is required for the WBOP to be considered complete and must be submitted with the WBOP to the appropriate regional ODW Field Office. Documentation must be sufficient to validate information in the WBOP. Supporting documentation should be gathered and available when preparing the WBOP and must be cross-referenced in each appropriate section. Documentation may be submitted as attachments as well as narrative explanations / summaries as directed by these Instructions throughout.

If attachments are submitted, they are to be identified by title and type of attachment (paper copy, electronic file, CD, etc.). If any required supporting documentation indicated in the NTNC Instructions or NTNC Form is not included with the final WBOP, a written explanation must be provided.

For *proposed waterworks*, owners must submit sufficient supporting documentation for the basis of financial estimates, to confirm that management and operational procedures are or will be in place, and must identify how sustainability improvements, if any, will be implemented.

For guidance on necessary documentation, the NTNC Form provides a checklist in **Part 7 – Worksheets and Supporting Documentation**.

Who Should Prepare the WBOP?

The waterworks owner has overall responsibility for the preparation, accuracy, and final certification of the completed WBOP. However, portions of the WBOP may be prepared by professionals in the applicable area.

To prepare a WBOP that accurately represents the condition of the waterworks, the preparers (or other appropriate professionals) should be knowledgeable in both sound business practices and the complexity of waterworks business operations.

Sustainability Improvements

When preparing a WBOP, the owner will be guided by questions that evaluate how well the waterworks is performing *technical*, *managerial*, and *financial* roles. In cases where the waterworks does not have adequate capacity (i.e. they do not have a licensed waterworks operator), the owner will be required to explain how this problem will be corrected.

Corrections that are designed to improve the long-term outlook for the waterworks are called “**sustainability improvements**”.

Sustainability Improvements may include changes in staffing, facility upgrades, corrections of protocols, and other changes. Identifying these improvements in the context of the business plan offers an opportunity to define solutions that will work for the specific waterworks. The goal, over time, is to move the waterworks into a position of being fully sustainable, both financially and operationally.

When prompted to provide a summary of needed sustainability improvements, the owner is encouraged to consider industry best practices and to consult with ODW Field Office staff and other waterworks professionals to determine the best approach for making needed improvements. Sustainability improvements are identified throughout the WBOP and must be summarized in **Part 6 – Sustainability Improvements of the NTNC Form**.

Annual Updates

The owner of the NTNC waterworks may be required to submit annual WBOP updates to ODW. Annual updates are usually only required in the following situations: a completed WBOP is necessary for a Drinking Water State Revolving Fund (DWSRF) project, enforcement actions have been taken, or there are other mitigating circumstances at the discretion of the Capacity Development Division. The Field Office that reviews your WBOP will let you know if Annual Updates will be required.

If a WBOP Section Doesn't Apply to Your Waterworks

Portions of the NTNC Form may not apply to your particular waterworks. For questions or sections not applicable to your waterworks, check the appropriate box and include an explanation (and/or supporting documentation) in the corresponding text field.

Where to Send Your Completed WBOP

One complete copy of the WBOP must be submitted to ODW for review and approval. This includes the completed NTNC Form, completed NTNC Excel Workbook for Non-Transient Non-Community waterworks, and all supporting documentation. The completed WBOP (including the signed "Owner's Certification Statement"), should be sent to the appropriate regional ODW Field Office (refer to **Appendix B - Office of Drinking Water Field Offices**). *All pages submitted, including applicable supporting documentation, must be consecutively numbered.*

For questions regarding completing the WBOP, contact the appropriate regional ODW Field Office. Additionally, staff in the ODW Capacity Development Division are available to provide assistance and may be reached at (804) 864-7500.

The WBOP NTNC Instructions, NTNC Form, NTNC Excel Workbook, and appendices are accessible on the Virginia Department of Health (VDH) ODW website (<http://www.vdh.virginia.gov/odw/>); they are also available through the appropriate regional ODW Field Office.

Part 1 - Waterworks Information

This section includes information about the waterworks owner, facility, and qualifications of the operator(s).

The final WBOP submittal must include supporting documentation and/or narrative explanation/summary for Part 1 for each waterworks included in this WBOP (where applicable).

Information to be provided includes the Public Water Supply Identification (PWSID). The PWSID is a unique number all public water systems in the Commonwealth of Virginia are issued. If your waterworks does not have a PWSID, please contact the appropriate regional ODW Field Office before proceeding further with the WBOP.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

I. OWNER INFORMATION

Provide required information for the individual(s), company, or entity that owns, or will own, the waterworks (e.g., individuals, Board of Directors, Town Council, Homeowner Association, Partnership, etc.).

Go to NTNC Form, Part 1 - I., and enter the requested information

II. WATERWORKS DESCRIPTION

Provide details about the waterworks' facilities in this section. For Question 7, the permitted waterworks design capacity can be found on the Waterworks Operation Permit. For Question 8, indicate if the waterworks is commercial, industrial, residential, or a combination thereof; include a written summary of the facilities and service area. A map showing the extent of the water system, including all facilities and the distribution system, is required to be attached.

Go to NTNC Form, Part 1 - II., and enter the requested information

III. OPERATOR REQUIREMENTS

For the protection of public health and operator safety, every public waterworks must be operated by qualified personnel. Waterworks must meet Virginia *Waterworks Regulations* minimum requirements for the number and class of operators that are to be in attendance at a facility (this includes additional operators, if applicable). The number of qualified personnel required for operating a waterworks depends on the facility size and type of treatment processes used.

Provide information regarding operator requirements for the waterworks. If you do not know the requirements, contact the appropriate regional ODW Field Office. If the minimum requirements for qualified operator/s are not being met, provide a brief explanation of **sustainability improvements** the waterworks will implement to resolve this.

Go to NTNC Form, Part 1 - III., and enter the requested information

Part 2 - Staffing

This section includes information about staff and individuals responsible for performing critical waterworks-related tasks described below. Each task requires commitments be made by the waterworks owner, and therefore each is a measure of the waterworks' TMF capacities. In order to meet essential waterworks needs, it may be necessary for the owner to develop specific descriptions of the job responsibilities that encompass each task.

Sustainability improvements identified in this section must also be summarized in **Part 6 – Sustainability Improvements**. The final WBOP submittal must include supporting documentation and/or narrative explanation/summary for Part 2 (where applicable) for each waterworks included in this WBOP.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

I. BUDGET PLANNER/PREPARER

Provide information regarding the individual(s) or contracted company responsible for preparing the waterworks budget. "Qualifications" include professional licenses or certifications, academic degrees, and technical or financial experience. "Professional memberships" include industry related and/or waterworks-specific organizations such as the National Association of Tax Preparers (NATP), American Institute of Certified Public Accountants (AICPA), American Water Works Association (AWWA), and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - I., and enter the requested information

II. TAX RETURNS AND ANNUAL AUDIT REPORTS

Provide information regarding the individual(s) or contracted company responsible for preparing the waterworks tax returns and annual audit reports. "Qualifications" include professional licenses or certifications, academic degrees, and technical or financial experience. "Professional memberships" include industry related and/or waterworks-specific organizations such as the National Association of Tax Preparers (NATP), American Institute of Certified Public Accountants (AICPA), American Water Works Association (AWWA), and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - II., and enter the requested information

III. OPERATIONS PERSONNEL

Waterworks operation comprises the constant operation and management of both facilities *and* personnel, and each facility may require separately qualified or licensed persons for day-to-day operations. Each waterworks-related position identified in this section must be assigned to a specific staff member or contracted individual/company, with designated responsibilities assigned to the position (a position or individual may be assigned more than one task at the waterworks).

Waterworks-related positions include: licensed operator, management, preventive maintenance, cross-connection control and backflow prevention program.

A. Licensed Operator(s)

To be issued an operation permit by ODW, a waterworks is required to have an appropriate number of licensed Operator(s) in Responsible Charge with the appropriate license class. This requirement may be fulfilled by hiring a licensed operator(s) or contracting with a company that provides an appropriately licensed operator(s). Licensing of Virginia waterworks operators is through the Department of Professional and Occupational Regulation (DPOR); for information refer to the DPOR website:

<http://www.dpor.virginia.gov/>

Provide information regarding the individuals(s) or contracted company fulfilling the responsibilities of Operator in Responsible Charge, and attach a copy of the job description or contract. For additional contract or staff operators, provide their information under "Additional operator(s)". If the waterworks does not have a licensed operator, provide a job description or proposed contract for such, along with a brief explanation of **sustainability improvements** the waterworks will implement to ensure this position is planned and budgeted for.

Go to NTNC Form, Part 2 - III. A., and enter the requested information

B. Management

Provide information regarding the individual(s) or contracted company responsible for managing day-to-day waterworks operations, such as overseeing budgets, planning, and personnel. "Qualifications" include professional licenses (i.e. DPOR Licensure) or certifications, academic degrees, technical or financial experience. "Professional memberships" include industry-related and/or waterworks-specific organizations such as the American Water Works Association (AWWA) and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - III. B., and enter the requested information

C. Preventive Maintenance

Provide information regarding the individual(s) or contracted company responsible for preventive maintenance of the waterworks. "Qualifications" include professional licenses (i.e. DPOR Licensure) or certifications, academic degrees, or technical experience. "Professional memberships" include industry related and/or waterworks-specific organizations such as the American Water Works Association (AWWA) and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - III. C., and enter the requested information

D. Cross-Connection Control & Backflow Prevention Program

Provide information regarding the individual(s) or contracted company responsible for cross-connection control services of the waterworks. "Qualifications" include professional licenses (i.e. DPOR Licensure) or certifications, academic degrees, or technical experience. "Professional memberships" include industry related and/or waterworks-specific organizations such as the American Backflow Prevention Association (ABPA), American Water Works Association (AWWA), and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - III. D., and enter the requested information

E. Other Personnel

Provide information regarding the individual(s), contracted company, and/or job positions responsible for other routine waterworks-related activities such as: sample collection, maintenance, meter reading, repairs, emergency service, and daily maintenance as applicable. List the specific duties and areas of responsibility for this individual or contracted company.

"Qualifications" include professional licenses (i.e. DPOR Licensure) or certifications, academic degrees, or technical experience.

"Professional memberships" include industry related and/or waterworks-specific organizations such as the American Backflow Prevention Association (ABPA), American Water Works Association (AWWA), and Virginia Rural Water Association (VRWA).

Go to NTNC Form, Part 2 - III. E., and enter the requested information

IV. PROFESSIONAL ENGINEER/ENGINEERING SERVICES

Provide information regarding the individual(s) or contracted company responsible for professional engineering services for the waterworks. The term "professional engineer" as used in this document means a professional engineer licensed in Virginia. Refer to §12VAC 5-590- 210 of the Virginia *Waterworks Regulations*.

Engineering services include: preparation of waterworks-related Preliminary Engineering Reports (PERs), plans and specifications, construction inspections, ongoing evaluations, and other technical reports. "Qualifications" include professional licenses or certifications, academic degrees, and technical experience. "Professional memberships" include industry related and/or waterworks-specific organizations such as the American Water Works Association (AWWA) and Virginia Rural Water Association (VRWA).

The term "professional engineer" as used in this document means a professional engineer licensed in Virginia. Refer to §12VAC 5-590- 210 of the Virginia *Waterworks Regulations*.

Go to NTNC Form, Part 2 - IV., and enter the requested information

Part 3 – Management and Operations

This section identifies critical business practices necessary for effective waterworks management and operation. Requirements essential to managing and operating a waterworks are defined and the processes, methods, or tasks necessary for complying with regulations are described. Associated costs are to be identified by the waterworks owner in Part 3, and tabulated in **Part 5 - Financial Information**.

Sustainability improvements identified in this section must also be summarized in Part 6 – Sustainability Improvements. The final WBOP submittal should include supporting documentation and/or narrative explanation/summary for Part 3 (where applicable) for each waterworks included in this WBOP.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

I. MANAGEMENT

A. Annual Budget

Budgeting is central to proper operation and management of a waterworks. Provide information about how budgeting is handled for the waterworks.

Go to NTNC Form, Part 3 - I. A., and enter the requested information

Additional information for NTNC Form, Part 3 – I. A., Questions 1- 6:

The waterworks may have a stand-alone budget or a separate line item as part of a larger business budget to account for the total expenses of the waterworks. If a budget (or line-item budget account) is available, attach it to the WBOP. If the waterworks does not have a budget, one will be developed in **Part 5 - Financial Information** of the WBOP.

For waterworks that are a secondary function of a larger business (i.e. manufacturing plant), the waterworks owner may elect to attach a “Statement of Financial Commitment” in lieu of a budget. If used, the Statement must clearly indicate that all expenses will be covered by the business (refer to **Part 8 - Statements for Owner Signature**).

Budget Development Procedures:

Budget development procedures are to be approved, adopted, and used annually during the budget development process. If budget development procedures are not currently in place, the waterworks should implement **sustainability improvements** to resolve this, and attach the procedures or a summary thereof to the final WBOP submittal.

Budget Management Controls and Policies:

Budget management procedures (controls and policies) are to be adopted and used. These management procedures govern how the waterworks covers actual expenses in the context of the current year budget and how changes to budgeted amounts are handled. Budget management procedures include periodic budget vs. actual reviews, reconciliation of bank statements vs. general ledger, and other waterworks-related expenditures. Deviations from the budget arising from unforeseen emergencies or changes in funding could bring financial stress upon the waterworks, and must be properly addressed in accordance with accounting principles and practices. Trial budgets should be reconciled to annual budgets regularly. If budget management procedures are not currently in place, the waterworks should implement **sustainability improvements** to resolve this, and attach a summary of the budget management controls and policies to the final WBOP submittal.

B. Accounting and Financial Bookkeeping Methods

Provide information about the methods of accounting, financial tracking, and financial planning used (manual general ledger, computer-based software, or other). If using software, describe the software package used along with any financial planning tools that are part of the software package.

Whether using manual or software-based bookkeeping, the waterworks should maintain a General Ledger of all accounts, sub-ledgers for each account represented in the general account, receipts for all transactions, and invoices for payments and/or credit accounts. All financial accounts should be reconciled at regular intervals (i.e. monthly). If methods of financial tracking and planning are not currently in place, the waterworks should implement **sustainability improvements** to resolve this.

Go to NTNC Form, Part 3 - I. B., and enter the requested information

C. Operations Requirements

Waterworks are required to have qualified operators in responsible charge of the waterworks. Management is to develop job descriptions for these required positions, fill the positions, and comply with operator-attendance requirements. Operators may be full-time employees dedicated solely to waterworks functions, or their duties may include other functions of the entity.

In situations where an operator's time and costs are part of non-waterworks-related functions, details are to be provided in this section to ensure proper information is included in the financial analysis. Provide information about how the waterworks provides for the necessary licensed operators. If the waterworks contracts with private water companies, other waterworks owners, or contract operators, check the appropriate boxes and attach copies of signed agreements or contracts.

Go to NTNC Form, Part 3 - I. C., and enter the requested information

D. Training Requirements

DPOR regulations, in conjunction with the *Virginia Waterworks Regulations*, require that licensed operators receive a specified amount of training contact hours per licensing period. This section includes information about how the waterworks ensures that its Licensed Waterworks Operator is getting that training. Describe how training requirements will be addressed in contracts or agreements, in operators' job descriptions, and/or internal requirements that the operators maintain their own certification.

Go to NTNC Form, Part 3 - I. D., and enter the requested information

E. Insurance

Various state laws may require that the waterworks owner have insurance coverage for the facilities. Refer to the Virginia Municipal League (VML), Virginia Association of Counties (VACO), or AWWA for information pertaining to insurance specific to waterworks. Provide a Certificate of Insurance (if available) as supporting documentation. If insurance coverage is not currently in place, provide a brief explanation of **sustainability improvements** the waterworks will implement to ensure replacement costs and how liability will be covered.

Go to NTNC Form, Part 3 - I. E., and enter the requested information

II. OPERATIONS

A. Monitoring

Monitoring of chemical, physical, bacteriological, and/or radiological parameters is required to ensure compliance with state and federal drinking water standards. Monitoring requirements are established by the Virginia *Waterworks Regulations* (12VAC5-590-340), which states in part “analyses for the purpose of demonstrating compliance...shall be performed by the Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services (DCLS) or in laboratories certified by DCLS” and that “the owner is responsible for the collection and submission of all samples,” and “a sample is deemed to have been collected only if and when its results are made known to ODW.

All water quality analyses must be in accordance with the latest edition of *Standard Methods for the Examination of Water and Wastewater*, published jointly by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

Specific sampling requirements may differ depending on the waterworks’ classification, type of source water in use, type of treatment and the population served. Sampling requirements may be modified as state and federal regulations are developed or updated.

Monitoring requirements must be addressed in the WBOP; at a minimum, the owner must indicate understanding of these requirements as they affect operating costs, staffing needs, and operation of the waterworks.

If minimum requirements are not currently being met for any of the following monitoring items, provide a brief explanation for each (if applicable) of the **sustainability improvements** the waterworks will implement to resolve the problem. For questions regarding monitoring, contact the appropriate regional ODW Field Office (refer to **Appendix B - Office of Drinking Water Field Offices**).

Bacteriological Sample Site Plan:

The Bacteriological Sample Site Plan (BSSP) is required of all NTNC waterworks prior to issuance of an Operation Permit for all waterworks and outlines when and where all bacteriological samples are collected at the waterworks. To determine the date your BSSP was approved, consult with the appropriate regional ODW Field Office.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
Bacteriological Sample Site Plan**

Lead & Copper Sample Site Justification/Survey Plan:

A Lead & Copper Sample Site Justification/Survey Plan is required of all NTNC waterworks. This plan outlines when and where all lead and copper samples are collected at the waterworks. To determine the date your Lead and Copper Plan was approved, consult with the appropriate regional ODW Field Office.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
Lead & Copper Sample Site Justification/Survey Plan**

General Chemical/Radiological Sample Scheduling Frequencies:

The rest of the required water quality samples fall under “General Chemical / Radiological” samples. This includes contaminants such as Nitrate/Nitrite, Volatile Organic Chemicals, and Radiological contaminants. Each group of contaminants has its own sampling schedule. In order to complete this section, review correspondence from ODW to confirm that the waterworks has a current sample schedule. If it does not, contact the appropriate regional ODW Field Office.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
General Chemical/Radiological Sampling Schedule Frequencies**

Synthetic Organic Chemicals (SOC) Waiver Application:

All NTNC water sources require a determination of their potential vulnerability or susceptibility to contamination from Synthetic Organic Chemicals (SOCs). This determination is jointly made with ODW Field Office staff. Some waterworks may be eligible for a waiver for SOC sampling.

In order to determine SOC sampling frequencies and associated costs for documentation in the WBOP, the waterworks should have a current waiver application on file with ODW for SOCs. To determine if the waterworks has a waiver, review correspondence from ODW or contact the appropriate regional ODW Field Office.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
Synthetic Organic Chemicals (SOC) Waiver Application**

Treatment Monitoring:

Waterworks using treatment must provide additional monitoring information to show adequate control of the treatment process. Treatment monitoring data must be included in the (typically monthly) operational reports. For specific monitoring requirements for the type(s) of treatment at the waterworks, contact the appropriate regional ODW Field Office.

Include in this section any changes the waterworks has been instructed make concerning treatment monitoring including which parameters must be included and/or the frequency of field testing.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
Treatment Monitoring**

Disinfectants/Disinfection Byproducts (D/DBP) Monitoring Plan:

The “Disinfectants/Disinfection Byproducts (D/DBP) Monitoring Plan” only applies to waterworks that disinfect using chlorine or chloramines. Waterworks that disinfect using chlorine or chloramines are required to sample for disinfectants and disinfection byproducts. To determine the date your Disinfectants/Disinfection Byproducts Monitoring Plan was approved, consult with the appropriate regional ODW Field Office.

**Go to NTNC Form, Part 3 - II. A., and enter the requested information for:
Disinfectants/Disinfection Byproducts (D/DBP) Plan**

B. Reporting

A Monthly Operation Report (MOR) is required to be submitted to the appropriate regional ODW Field Office by the tenth day of the month following the reporting period.

Reporting must include (but is not limited to) population, number of connections served, monthly water production, daily and average production, chemicals used, and any other process monitoring requirements specified by the ODW Field Office.

For questions or to obtain example MOR forms for inclusion in the WBOP, contact the appropriate regional ODW Field Office. If the waterworks has been instructed by ODW to change or correct the way that treatment monitoring is reported, include which parameters must be tested, sensitivity of field analysis, and the frequency of monitoring.

Go to NTNC Form, Part 3 - II. B., and enter the requested information

III. PROCEDURES

Procedures for routine maintenance, safety, complaints, etc., are critical aspects of waterworks reliability and operations. If these procedures are not currently in place and are applicable, provide a brief explanation of **sustainability improvements** the waterworks will implement to resolve this.

A. Maintenance

Provide information regarding how the waterworks handles and addresses routine and preventative maintenance for the facilities and equipment. These maintenance activities require financial commitments to be made by the waterworks, including setting up maintenance schedules and allocating the resources.

Go to NTNC Form, Part 3 - III. A., and enter the requested information

B. Customer Complaints

Provide information regarding how customer complaints are handled by the waterworks. Customer complaints include issues such as loss of service, low pressure, aesthetics (brown-colored water, unpleasant scent, bubbles, etc.), and billing and delivery issues.

Go to NTNC Form, Part 3 - III. B., and enter the requested information

C. Cross-Connection Control & Backflow Prevention Program (CCCP)

All waterworks must have an active cross-connection control and backflow program. Provide relevant information regarding the CCCP for the waterworks. For assistance if the waterworks does not have a CCCP, contact the appropriate regional ODW Field Office.

Go to NTNC Form, Part 3 - III. C., and enter the requested information

D. Safety

Thoroughly trained, proactive staff is the most important asset of a waterworks. An active safety program is an important component of staff training and waterworks operation. Provide documentation of the waterworks' safety program, including safety equipment maintained in the facilities and provided to staff. Include information on OSHA requirements the waterworks must meet and how those requirements are met.

Go to NTNC Form, Part 3 - III. D., and enter the requested information

E. Waterworks Security

Describe programs, policies, and/or procedures of the waterworks that address security issues. For guidance on security planning, refer to **Appendix C - Security Checklist**. For emergency contact information connecting with other stakeholders, refer to **Appendix D - Emergency Phone Numbers: State and Federal**.

Go to NTNC Form, Part 3 - III. E., and enter the requested information

F. Leak Detection

Loss of water through leaks in the distribution system can put a strain on the waterworks, can result in fluctuations in water pressure and quality, and in the case of pressure loss in the system can result in a direct cross-connection between the ponding water and the potable water lines. Describe programs and policies of the waterworks that address leak detection and mitigation.

Go to NTNC Form, Part 3 - III. F., and enter the requested information

IV. OTHER INFORMATION

A. Records

Most waterworks-related records (paper and digital copies) must be retained by the waterworks and made available to ODW upon request. If applicable records are not currently maintained and/or the waterworks owner is not aware of recordkeeping requirements, provide a brief explanation of **sustainability improvements** the waterworks will implement to resolve this.

For the various types of records and their required retention periods, refer to **Appendix E - Records Retention Checklist**.

Go to NTNC Form, Part 3 - IV. A., and enter the requested information

B. Existing Waterworks Issues

(This section only applies to existing waterworks; for new or proposed waterworks, skip this section and proceed to **Part 4 - Planning**).

Problems and Complaints:

Provide information regarding problems and complaints, including occasions of pressure problems, shutdowns, outages, and customer complaints (i.e. discolored water, taste, odor, quantity, etc.).

**Go to NTNC Form, Part 3 - IV. B., and enter the requested information for:
Problems and Complaints**

Technical Assistance:

Provide information regarding regular or occasional technical assistance received from *outside* sources such as the state, consulting engineers, or organizations specifically dedicated to providing waterworks-related technical assistance.

**Go to NTNC Form, Part 3 - IV. B., and enter the requested information for:
Technical Assistance**

Regulatory Agency Issues:

Provide information regarding regulatory agency issues, including deficiencies or concerns identified by any regulatory agency (such as the Environmental Protection Agency), and plans for correction.

**Go to NTNC Form, Part 3 - IV. B., and enter the requested information for:
Regulatory Agency Issues**

Actions:

If not described in preceding questions, provide details regarding additional activities ("actions") taken or planned to address other operations and management issues.

**Go to NTNC Form, Part 3 - IV. B., and enter the requested information for:
Actions**

Part 4 - Planning

This section covers short- and long-term planning for the waterworks. Planning is necessary for identifying facility costs related to (1) meeting growth requirements associated with general business activities including expansions; (2) replacing or renovating existing facilities or equipment at an existing waterworks; and (3) ensuring compliance with current and future drinking water regulations.

Much of the information needed to complete Part 4 may be found in waterworks documents such as a Preliminary Engineering Report (PER), Asset Management Plan, Capital Improvement Plan, or addressed by other planning methods.

PERs are required by ODW during the permit application process for the construction of a new waterworks and during a waterworks expansion. An Asset Management Plan and Capital Improvement Plan are not required during the permit process, but are *extremely valuable* tools the waterworks can utilize to plan for the long term.

The final WBOP submittal must include supporting documentation and/or narrative explanation/summary for Part 4 (where applicable) for each waterworks included in this WBOP.

If minimum requirements are not currently being met for any of the following planning items, provide a brief explanation for each (if applicable) of **sustainability improvements** the waterworks will implement to resolve the problem or improve the planning capability. Sustainability improvements identified in this section must also be summarized in Part 6 – Sustainability Improvements.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

I. GENERAL INFORMATION

This Waterworks Business Operation Plan covers a six-year evaluation period as defined earlier in these instructions. Before progressing through the planning section, define the six-year evaluation period. This period will be used throughout this WBOP.

Go to NTNC Form, Part 4 - I., and enter the requested information

A. Projected Water Demand

Provide information about projected changes in water demand for the six-year evaluation period.

Changes in water demand can be due to changes in usage due to conservation efforts, changes in industries served by the waterworks and their need for water supply, and/or changes in population (increases or decreases), which can directly affect the total number of connections.

Forecasts for population and industry change may be obtained from the local Planning District Commission, the Economic Development Association, or the United States Census.

Go to NTNC Form, Part 4 - I. A., and enter the requested information

B. Design Capacity

Consult with the appropriate regional ODW Field Office to determine the waterworks' capacities ("design capacity") for source, treatment, storage, and distribution to meet demands over the six-year window. Waterworks expansion and/or enhanced leak/water loss abatement may be needed in years when the capacity of the waterworks is not sufficient to cover demand.

Further, ODW requires waterworks that are operating at or above 80% design capacity to have a plan in place to cover additional demand. Planning for future demand will be covered in detail in subsequent sections.

Go to NTNC Form, Part 4 - I. B., and enter the requested information

C. Impacts

Describe known or anticipated impacts of water sources (wells, intakes) and other facilities (such as sewerage, industrial operations, etc.) on the source quantity or quality at the waterworks. Describe how such impacts affect or could affect operations and what contingencies/mitigation procedures are in place.

If contingencies/mitigation procedures are not currently in place provide a brief explanation of **sustainability improvements** the waterworks will implement to resolve this.

Go to NTNC Form, Part 4 - I. C., and enter the requested information

II. WATERWORKS IMPROVEMENTS AND EXPANSION

This section will identify and describe planned actions for waterworks improvements and expansion, developing on the issues of projected water demand, design capacity, and source water impacts described in the previous section.

Activities in this section may include replacement of existing facilities/equipment, growth-related improvements, projects/capital improvements, and/or upgrades of equipment to remain in compliance with the *Virginia Waterworks Regulations* (current edition).

Account for improvements, growth, or replacements in only *one* category of this section since this is how they will be handled in the budgeting process. Improvements to be made within the six-year evaluation window are required to be included in the financial analysis in **Part 5 - Financial Information**.

If waterworks improvements are covered in the general business CIP or Asset Management Plan, provide the relevant sections of those documents with the WBOP submittal.

A. Capital Improvement Plan (CIP)

A CIP is a formalized version of comprehensive planning, including the plan for changes and anticipated funding. If the waterworks has a written CIP, attach a copy to the WBOP; if there is not a written CIP, describe plans for waterworks improvements and expansion, with estimated cost and funding.

Go to NTNC Form, Part 4 - II. A., and enter the requested information

B. Planned Growth

Summarize new growth-related capital improvements. *Potential* projects should be identified and included in this section. Identify costs associated with these improvements, including costs to be incurred within the initial six-year evaluation window in the financial analysis.

Go to NTNC Form, Part 4 - II. B., and enter the requested information

C. Assessment of Future Compliance Requirements

Regulations are regularly modified with most changes announced well in advance of the effective date. After consultation with the appropriate ODW Field Office, summarize future compliance requirements (changes in regulations) that may impact the waterworks' operations, management, and finances.

Include waterworks improvements that will be needed to comply with the regulations. Identify associated costs that will occur within the initial six-year evaluation window.

Go to NTNC Form, Part 4 - II. C., and enter the requested information

D. Asset Management

Asset management incorporates detailed asset inventories, operation and maintenance tasks, long-range financial planning, and management of non-tangible assets such as employees, customers, and knowledge base. If the waterworks has an Asset Management Plan, attach it to the WBOP.

If the waterworks does not have a complete Asset Management Plan, attach what is available; the subsequent **sustainability improvement** will be to improve upon this existing document, and over time convert it to a complete Asset Management Plan.

If the waterworks does not have any asset management documents, complete an inventory (including distribution piping) and attach it to the WBOP. The subsequent **sustainability improvement** for this situation will be to enhance the inventory, and over time convert it to a complete Asset Management Plan.

Go to NTNC Form, Part 4 - II. D., and enter the requested information

E. Critical Components

From the asset inventory developed above, identify the most critical components in the waterworks (i.e., the facility/component whose failure will result in significant downtime and loss/interruption of service). Determine the replacement costs of these components.

Go to NTNC Form, Part 4 - II. E., and enter the requested information

Part 5 - Financial Information

This section addresses the financial viability of the waterworks over the long term. **Part 5 of the WBOP NTNC Form** is an evaluation of technical, managerial, and financial obligations and commitments and includes a self-assessment of financial capacity and sustainability.

[Note: The six-year evaluation period covered in Part 5 must be the same as defined in **Part 4 – Planning, I. General Information**].

Sustainability improvements identified in this section must additionally be summarized in **Part 6 – Sustainability Improvements**. The final WBOP submittal should include supporting documentation and/or narrative explanation/summary for Part 5 (where applicable) for each waterworks included in this WBOP.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

NTNC Excel Workbook

In addition to completing questions in the **NTNC Form**, there is an accompanying **NTNC Excel Workbook** containing financial worksheets that must be completed, attached, and submitted with the WBOP. The worksheets are used for identifying expenses, presenting financial data, and performing a financial self-assessment of the waterworks. The NTNC Excel Workbook includes general and line-by-line instructions, and supplemental worksheets (which may, or may not, apply to your waterworks).

The following NTNC Excel worksheets must be completed and included with the WBOP submittal as indicated below:

- **Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary**
Required - Worksheet 1 summarizes a six-year window of TMF commitments (accompanying instructions are on a separate worksheet)
- **Supplemental Worksheet: Budget Documentation**
Complete if needed - If the waterworks has a Statement of Financial Commitment, this worksheet may not apply (accompanying instructions are on a separate worksheet)
- **Supplemental Worksheet: Debt & Bond Reserve**
Complete if applicable - This worksheet may not apply

Completing the Financial Portion of the WBOP

The instructions on the following pages should be referred to simultaneously when completing the NTNC Form and NTNC Excel Workbook worksheets. Additional instructions for completing the worksheets can be found on corresponding tabs *within* the Workbook.

Existing Waterworks:

- **Complete Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;** provide two years of actual data and four years of projected data. An analysis of “Revenues ≥ Expenses” is part of this worksheet and will indicate if changes to business operations will be needed to make the water system financially viable.
- Provide a Statement of Financial Commitment, if applicable.

New or Proposed Waterworks:

- **Complete Worksheet 1:** Six-Year Technical, Managerial, & Financial Commitment Summary; provide a six-year projection based on reliable resources such as Preliminary Engineering Reports (PERs), data from systems of similar size and type, and documents that support conclusions made in the financial analysis. An analysis of “Revenues \geq Expenses” is part of this worksheet and will indicate if changes to business operations will be needed to make the water system financially viable.
- Provide a Statement of Financial Commitment, if applicable.

Define the Six-Year Evaluation Period

Before proceeding farther, provide the date range for the six-year evaluation period. This must match what was defined in Part 4 – Planning, I. General Information.

Go to NTNC Form, Part 5, and enter the date range for the six-year evaluation period

I. OWNER COMMITMENT

Financial Commitment – Waterworks Budget or Statement of Financial Commitment

Non-Transient Non-Community waterworks typically handle the budgeting for the waterworks as a line-item in their general business budget. If this is the case, the owner must begin by formally agreeing to cover waterworks expenses. This is done by providing a signed “Statement of Financial Commitment” from the appropriate individual(s) indicating they acknowledge waterworks-related expenses and that general business revenues will be committed to offset these expenses (refer to **Part 8 - Statements for Owner Signature** for a model form). The Statement of Financial Commitment must be submitted with the WBOP and signed by the business owner(s), president, chief executive officer, Board of Directors, or other financial officer(s). Waterworks expenses must still be accounted for in subsequent sections.

Some Non-Transient Non-Community waterworks may have their own stand-alone budget, separate from the general business budget. If the waterworks has its own stand-alone budget separate from the general business budget, indicate this in the NTNC Form and appropriate NTNC Excel worksheet, attach supporting documentation as directed in the NTNC Form (refer to the “Go to” sections below), and skip to the next section.

Important Note:

The Statement of Financial Commitment is different from the “Owner’s Certification Statement” the waterworks owner must additionally provide with the WBOP submittal.

Go to NTNC Form, Part 5 - I., and enter the requested information

Go to NTNC Excel Workbook and complete:

Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;

Line 2 – Statement of Financial Commitment or Budget Attached

[Note: Actual and anticipated expenses must be entered for each year of the six-year evaluation period on the relevant worksheets of the NTNC Excel Workbook].

II. OPERATIONS, MAINTENANCE, AND ADMINISTRATIVE EXPENSES

All operations, maintenance, and administrative expenses must be determined to complete the WBOP Form, Excel financial worksheets, and waterworks self-assessment. The following sections must be completed and sufficient supporting documentation must be provided to verify the data.

Actual and anticipated expenses must be entered for each year of the six-year evaluation period on the relevant worksheets of the NTNC Excel Workbook.

A. Budget: Summarizing Expenses

For this section, identify how budgeting is handled by the waterworks. It can either be as a line item within a larger business, as a separate stand-alone budget, or other. If documentation has already been attached (refer to previous sections), please indicate it here. If not, please attach.

Go to NTNC Form, Part 5 - II. A., and enter the requested information

If the system *does not* have a budget identifying waterworks-related expenses, a budget must be developed before proceeding with the WBOP.

The *Supplemental Worksheet: Budget Documentation* (and worksheet of accompanying instructions) provides guidance for developing a waterworks budget and identifying expenses.

**If needed, go to NTNC Excel Workbook and complete:
*Supplemental Worksheet: Budget Documentation***

B. Total Operations and Maintenance Expenses

All operations and maintenance (O&M) expenses associated with the waterworks must be included in this section, and supporting documentation must be attached. Some waterworks-related expenses such as electric power may be difficult to separate from the normal budget.

If it is impractical to separate an expense, the owner or his agent must identify those and provide sufficient documentation that they are included in the normal business budget.

Go to NTNC Form, Part 5 - II. B., and enter the requested information

**Go to NTNC Excel Workbook and complete:
Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;
*Line 4 - Total Operations and Maintenance Expenses***

If the system has not identified all O&M expenses, the *Supplemental Worksheet: Budget Documentation* (and worksheet of accompanying instructions) provides guidance for developing the budget and identifying expenses.

**If needed, go to NTNC Excel Workbook and complete:
*Supplemental Worksheet: Budget Documentation***

C. Total General and Administrative Expenses

Identify all general administrative (GA) expenses associated with the waterworks in this section, and attach supporting documentation. Some waterworks-related expenses such as administrative staffing, office supplies, postage, collections costs, etc., may not be easily separated from the normal budget. If it is impractical to separate an expense, the owner or his agent must identify those and provide sufficient documentation that they are included in the normal business budget.

Go to NTNC Form, Part 5 - II. C., and enter the requested information

Go to NTNC Excel Workbook and complete:

Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;

Line 5 – Total General and Administrative Expenses

If the system has not identified all general administrative expenses, the *Supplemental Worksheet: Budget Documentation* (and worksheet of accompanying instructions) provides guidance for developing the budget and identifying expenses.

If needed, go to NTNC Excel Workbook and complete:

Supplemental Worksheet: Budget Documentation

III. DEBT-RELATED EXPENSES

Many waterworks have debt associated with construction or upgrades of waterworks facilities. This section captures this piece of the financial picture for the six-year evaluation period. Existing waterworks should fill out section III. A., and proposed waterworks should fill out section III. B.

Actual and anticipated expenses must be entered for each year of the six-year evaluation period on the relevant worksheets of the NTNC Excel Workbook. Included in the NTNC Excel Workbook is the *Supplemental Worksheet: Debt & Bond Reserve*, which may be used to tabulate existing and future debt.

A. Existing Waterworks

This section will summarize *existing* debt attributed to *only* the waterworks. Only include debt incurred for the waterworks separately from the general business debt. An example is debt attributed to compliance actions (i.e. installing treatment) associated with the *Waterworks Regulations*. Provide sufficient documentation.

Go to NTNC Form, Part 5 - III. A., and enter the requested information

Enter the debt expense for each year of the six-year evaluation period in *Worksheet 1, Line 9*, and the *Supplemental Worksheet: Debt & Bond Reserve* if needed.

Go to NTNC Excel Workbook and complete as directed in NTNC Form:

- ***Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;***
Line 9 – Annual Debt Payments
- ***Supplemental Worksheet: Debt & Bond Reserve (optional)***

B. Proposed Waterworks

Provide a summary of the *future* debt expense associated with *just* the waterworks and include annual commitments in each of the applicable years of the six-year evaluation period. Any future debt associated and accounted for in the general business expansion *does not* need to be reported here. Provide sufficient documentation.

Go to NTNC Form, Part 5 - III. B., and enter the requested information

Go to NTNC Excel Workbook and complete as directed in NTNC Form:

- *Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary; Line 9 – Annual Debt Payments*
- *Supplemental Worksheet: Debt & Bond Reserve (optional)*

IV. CAPITAL IMPROVEMENT

Improvement of waterworks facilities is a long-term process that needs to be forward-thinking and proactive. This type of planning prioritizes upgrades needed to keep the waterworks optimized so it can provide the desired level of service to its customers. This section of the WBOP addresses the financial portion of the planning process, and works with information gathered earlier in the WBOP for **Part 4 – Planning**.

Important Note:

Waterworks that are part of a larger business (Non-Transient Non-Community waterworks with a Statement of Financial Commitment in full-force) might not have separate accounting for a formal waterworks CIP. In this case, the larger business would cover all expenses for the upgrades with its business revenue.

Waterworks that handle capital improvements this way may *skip this section and proceed to Section V – Completing the Worksheets*. Waterworks that cover capital improvement expenses with waterworks revenues must complete this section. Locate the necessary CIP documents. After retrieving needed documents:

Go to NTNC Form, Part 5, IV. A., and enter the requested information

The next step is to evaluate CIP expenses and the revenues that will cover them for each year of the six-year evaluation period.

Taken directly from the waterworks' PER/Business Plan Capital Improvement Plan, ***Total CIP Expenses*** include facility and non-facility costs related to 1) meeting growth requirements or improving waterworks' infrastructure to provide better service and reliability to existing customers, 2) replacing or renovating existing facilities, or 3) ensuring compliance with drinking water regulations.

Include professional services associated with Capital Improvement projects.

CIP Revenues include funds from loans, grants, special charges, and fund transfers from reserves. These act as direct offsets to capital expenditures.

If debt is used to offset capital expenditures, payments for that debt should be entered on *Line 9 – Annual Debt Payments* of **Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary**.

For each year of the six-year evaluation period, calculate the “Net CIP Expenses Needed” which are the expenses for CIP projects that must be provided from general business or waterworks revenues for that fiscal year:

$$\text{Total CIP Expenses} - \text{CIP Revenues} = \text{Net CIP Expenses Needed}$$

Go to NTNC Excel Workbook and complete as follows:

- **Enter “Net CIP Expenses Needed” onto:**
Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;
Line 6 – Net CIP Expenses Needed

In Line 6, include all capital expenses needed that will come out of general revenue for each year of the six-year period. Actual and anticipated expenses must be entered for each year of the six-year evaluation period on the relevant worksheets of the NTNC Excel Workbook.

We recommend that you refer to the NTNC Excel worksheet instructions for the *Supplemental Worksheet: Budget Documentation, Lines 36 through Line 38*. The following example also shows how to account for various types of funding for CIP.

Example (Well Replacement)

Total Project Cost = \$100,000

Enter \$100,000.00 in **Supplemental Worksheet: Budget Documentation;**
Line 31 - New CIP Facilities/Equipment Costs

Outside Loans = \$75,000

Enter \$75,000.00 in **Supplemental Worksheet: Budget Documentation;**
Line 36 - Loan/Bonds & Funds Secured

Transfers from General Business Reserves = \$10,000

Add this to Line 36 above -

Enter \$85,000 in **Supplemental Worksheet: Budget Documentation;** = \$75,000+10,000 = \$85,000
Line 36 - Loan/Bonds & Funds Secured

Cash Committed in Appropriate Fiscal Year Budget = \$15,000

There will be a Net CIP balance in **Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary, Line 6 - Net CIP Expenses Needed**, of \$15,000.

A balance on this line indicates the fiscal year revenues will be used to fund the CIP Expenses.

V. COMPLETING THE WORKSHEETS

At this point, all fields in *Worksheet 1: Six Year Technical, Managerial & Financial Commitment Summary* should be filled in. Please check to make certain that data entered is correct. If any fields are lacking data, go back to the previous sections of **Part 5 - Financial Information**, and complete the necessary steps.

Actual and anticipated expenses and revenues (except where a Statement of Financial Commitment is used) must be entered for each year of the six-year evaluation period on the relevant worksheets of the NTNC Excel Workbook.

Waterworks Self-Assessment: Revenues \geq Expenses

The lower half of Worksheet 1 consists of one financial analysis that will be auto-calculated as the upper portion (data entry) of the worksheet is completed.

**Refer to NTNC Excel Workbook,
Worksheet 1: Six-Year Technical, Managerial, & Financial Commitment Summary;
*Self-Assessment: Revenues \geq Expenses; Lines 12 -15***

The analysis, “Self-Assessment: Revenues \geq Expenses”, requires that all waterworks–related expenses be identified and fully funded, as evidenced by a Statement of Financial Commitment from the owner or a waterworks budget. The worksheet indicates if the waterworks is sustainable.

- **Line 12 - Statement of Financial Commitment or Budget attached**
This will have 'YES' entered once a valid *Statement of Financial Commitment* is provided.
- **Line 13 - Expenses identified**
This will have 'YES' entered if expenses have been tabulated in the upper half of the worksheet.
- **Line 14 - Are Revenues \geq Expenses**
This will have 'YES' entered, if expenses are covered by a Statement of Financial Commitment.

If the waterworks does not provide a Statement of Financial Commitment or does not have a waterworks budget, the Self-Assessment will indicate the waterworks is “Not Sustainable” (Line 14) and “Action Needed” (Line 15) and will direct the preparer to refer to "NOTE 1" at the bottom of Worksheet 1. If directed to plan for sustainability improvements, proceed to **Part 6 – Sustainability Improvements** of the NTNC Instructions.

Important Note:

Review of the WBOP by the ODW Field Office includes comparing the worksheets against supporting documentation, including the *Statement of Financial Commitment* or *Budget* that was submitted. If supporting documentation does not support the data presented, the waterworks will be asked to provide corrected documentation as a condition of acceptance of the WBOP.

Part 6 - Sustainability Improvements

The Waterworks Business Operation Plan is both a snapshot of current and past practices and a path forward for the waterworks. Beyond requiring documentation of business practices, it is geared toward identifying potential problems so that they can be averted.

Throughout the process of completing the WBOP, **sustainability improvements** may have been needed to address technical, managerial, and financial aspects of the waterworks' business and business processes that need improvement. If any sustainability improvements have already been identified, summarize them in this section.

Go to NTNC Form, Part 6 - Sustainability Improvements, Question 1, and enter the requested information

Additionally, if in any of the six years covered by the WBOP, the analysis comparing revenues to expenses indicate the waterworks was "Not Sustainable" or "Action Needed", then **sustainability improvements** are needed. (Refer to **Worksheet 1: Six-Year Technical, Managerial & Financial Commitment Summary**, Lines 14 & 15).

Go to NTNC Form, Part 6 - Sustainability Improvements, Question 2, and enter the requested information

Not all waterworks will be sustainable on the assessment in the first couple of years shown on the worksheet. However, by the end of the six-year evaluation period, the expectation is that the waterworks will have begun making improvements to its management resulting in moving toward being a sustainable utility and/or part of the larger business.

The final WBOP submittal should include supporting documentation and/or narrative explanation/summary for Part 6, where applicable.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

Sustainability improvements should be monitored by the waterworks owner, preferably on an ongoing basis, to achieve sustainability for operating the waterworks over the long term.

If the WBOP is being completed as part of a Drinking Water State Revolving Fund (DWSRF) project or as part of enforcement actions, or as the result of other mitigating circumstances at the discretion of the Capacity Development Division, then ODW may also monitor sustainability improvements, including requiring submittal of annual updates for review/evaluation by the Capacity Development Division.

If annual updates are required, sustainability improvements may be monitored until the waterworks demonstrates it has fully implemented those measures and "passed" the appropriate self-assessment analyses.

Part 7 - Worksheets and Supporting Documentation

This section of the WBOP Form provides a checklist of financial worksheets and supporting documentation required to be completed and submitted with the WBOP (some items may not be applicable to your waterworks).

For financial worksheets, supporting documentation, and any additional documentation submitted with the WBOP, provide either a copy of the document as an attachment or describe as narrative/text in the appropriate text box.

If attaching supporting documentation, provide the document title and the type of attachment (paper copy, electronic file, CD, narrative text, etc.).

The final WBOP submittal should include supporting documentation and/or narrative explanation/summary (where applicable) for each waterworks included in this WBOP.

Contact the appropriate regional ODW Field Office for questions or if you are missing any of the requested/required information (refer to **Appendix B - Office of Drinking Water Field Offices**).

Go to NTNC Form, Part 7 - Worksheets and Supporting Documentation, and enter the requested information

Part 8 - Statements for Owner Signature

Owner's Certification Statement

The Owner's Certification Statement must be completed and signed by the waterworks owner and submitted to the appropriate regional ODW Field Office with the initial WBOP and supporting documentation. This statement should also be submitted with any subsequent updates (annual or otherwise) submitted to the ODW Capacity Development Division.

Important Note:

This Certification Statement is *not* the Statement of Financial Commitment the NTNC waterworks owner must additionally provide with the WBOP submittal.

Owner's Certification Statement

I hereby certify the attached documents are complete and accurate to the best of my ability and submit them to the Office of Drinking Water, Virginia Department of Health, for review and acceptance.

Printed Name

Title

Owner's/Preparer's Signature

Date

Statement of Financial Commitment

If the waterworks elects to attach a “Statement of Financial Commitment” (refer to **Part 5 – Financial Information, I. Owner Commitment**), the following model form may be used or the waterworks may provide a separate, customized document as long as it contains the necessary language.

Statement of Financial Commitment

I hereby certify that the business described in this Waterworks Business Operations Plan (WBOP), _____, is aware of and committed to covering waterworks-related expenses. This business does not generate revenue from the sale of water, and expenses related to the waterworks must be paid for by revenues generated from other business activities. This document represents a commitment of funds to offset waterworks-related expenses with general business revenues.

Printed Name

Title

Owner's/Preparer's Signature

Date

Confidentiality Request (optional)

Confidentiality Request (optional)

I request that this Waterworks Business Operation Plan be retained in confidence to the extent allowed by § 32.1-172 B of the *Code of Virginia*.

Printed Name

Title

Owner's/Preparer's Signature

Date

Appendix A - Glossary

Terms	Definition/Meaning
Asset (Fixed Asset)	Any tangible item owned by the waterworks that is expected to provide benefit for more than one year and has an associated replacement cost. Fixed assets include equipment, buildings, water mains, booster pumps, and treatment facilities.
Asset Inventory	Inventory of the physical assets a waterworks owns. The inventory should include the location, condition, life expectancy, criticality, replacement cost, and replacement schedule for each asset.
Asset Management	Management of assets to build system capacity by minimizing total costs while delivering the desired level of service. A thorough asset management program incorporates detailed asset inventories, operation and maintenance tasks, long-range financial planning, and management of non-tangible assets such as employees, customers, and knowledge base.
Association Ownership	Type of ownership involving association officers with respective titles, a charter and by-laws, and managed either by association members or a contracted management organization.
Audit (Financial)	Evaluation of an organization's accounting and operating procedures that provide insight into the company's "financial" health.
Auditor's Report	Formal opinion issued by an internal auditor or independent external auditor resulting from an internal audit, external audit, or evaluation of a legal entity or subdivision (called an "auditee"). The audit report is an assurance service subsequently provided to a "user" (such as an individual, group of persons, general public, company, or government) for making decisions based on the audit results.
Board for Waterworks & Wastewater Works Operators and Onsite Sewage System Professionals (WWWOSSP)	Subsection of the Department of Professional and Occupational Regulation (DPOR) responsible for licensing individuals who operate water and wastewater treatment facilities. The Board is composed of licensed practitioners, one citizen, the Director of the Office of Drinking Water (ODW), and the Executive Director of the State Water Control Board. http://www.dpor.virginia.gov/Boards/WWWOSSP/

Terms	Definition/Meaning
Bookkeeping	<p>Business accounting practice involving the recording of financial transactions such as purchases, sales, receipts, and payments.</p> <p>A bookkeeper is responsible for ensuring all transactions are recorded in appropriate formats (such as journals and ledgers) for the subsequent preparation of financial statements that will describe the financial health of the business.</p>
Design Capacity	<p><i>Design Capacity</i> is the maximum theoretical output of a waterworks based on an engineering evaluation of the system. It is expressed in a specific number of gallons of water per day that a waterworks can produce and provide to its customers.</p> <p>Design capacity takes into consideration all physical components of the water system, including: source production, treatment, storage, and distribution constraints. It is part of the waterworks Operation Permit and may not be exceeded.</p>
Waterworks Capacity	<p><i>Waterworks Capacity</i> includes all limitations of a waterworks to consistently provide adequate quantity and quality of water to its customers. Waterworks capacity is evaluated by looking at the technical, managerial, and financial capacities of the system.</p>
Capacity Development	<p>The process of planning, procuring, and maintaining resources of a waterworks to demonstrate technical, financial, and managerial capabilities necessary for present and future delivery of safe and reliable drinking water.</p> <p>Planning includes Asset Management and goes beyond compliance to promote continuous improvement for the purpose of achieving sustainability.</p>
Capital Improvement Plan (CIP)	<p>A CIP is a budgeting and financial tool used to establish priorities and establish funding for improvements.</p> <p>It identifies fixed assets a waterworks will need to replace or upgrade within the planning period and how those modifications will be financed.</p>
Certificate of Deposit (CD)	<p>Time deposit issued by financial institutions that accrues interest over a fixed term. A CD is typically insured and virtually risk free. At maturity, the CD represents available funds to a waterworks.</p>
Certificate of Insurance	<p>Document issued by an insurance company/broker used to verify the existence of insurance coverage, the type of insurance coverage purchased, and the types and dollar amount of applicable liability.</p>

Terms	Definition/Meaning
Check Up Program for Small Systems (CUPSS)	Computer program developed by the EPA providing instructional tools for small drinking water and wastewater utilities to identify assets and develop effective asset management plans.
Contingency	Future event or circumstance that is possible, but cannot be predicted with certainty. Contingency is typically included in budgetary estimates for unforeseen costs.
Corporation Ownership	<p>Type of ownership involving corporate officers, a corporate charter and by-laws, and major shareholders.</p> <p>A corporation can be Profit or Nonprofit, Closely Held, Publicly Traded, or a Wholly Owned Subsidiary. If owned by a parent or related company, such entities must be clearly described.</p>
Credit Worthiness	Assessment of the likelihood a borrower will be able to repay debt. Based upon multiple factors, including: repayment history, credit score, availability of assets, and extent of liabilities.
Debt Service	Amount of principal and interest paid on a debt over a period of time, often calculated on either a monthly or yearly basis.
Dept. of Professional & Occupational Regulation (DPOR)	<p>State executive branch agency that oversees multiple regulatory boards composed of practitioners and citizens appointed by the governor.</p> <p>DPOR regulates certain professions and occupations by enforcing standards of professional conduct and issuing professional credentials.</p> <p>http://www.dpor.virginia.gov/</p>
Depreciation	<p>Estimate of the reduction in the value of a fixed asset due to wear and tear, obsolescence, or impairment. Also, the allocation of the cost of a fixed asset over time for accounting and tax purposes.</p> <p>An annual depreciation charge in accounts represents the amount of capital assets used up in the accounting period.</p>
Effective External Linkages	Effective business relationships formed when waterworks personnel interact regularly and positively with customers, regulatory agencies, technical assistance providers, and other institutions (such as banks) thereby increasing the ability to solve problems quickly.
Emergency Replacement Reserve	Allocation of funds set aside to pay for emergency repair or replacement of critical equipment. These funds function to avoid significant downtime and loss of service in the event of unpredictable system failures.

Terms	Definition/Meaning
Enterprise Fund	<p>Governmental accounting fund designated specifically to track all revenues and expenses for a government-owned public utility.</p> <p>An Enterprise Fund enables the separation of the utility's financial management from that government's General Fund.</p>
Escrow Funds	<p>Funds held by a third party on behalf of two other parties involved in a transaction. Funds are held in escrow until appropriate instructions or obligations have been fulfilled.</p>
Expenses	<p>Economic costs a business incurs through its operation.</p>
Facilities Management	<p>Management and quality control/quality assurance of multiple facility elements, including: personnel, finances, real estate assets, technical systems, and building maintenance.</p>
Financial Capacity	<p>Ability of a water system to acquire and manage sufficient financial resources to demonstrate sustainability and achieve compliance with SDWA requirements.</p> <p>Financial capacity includes revenue sufficiency, credit worthiness, fiscal controls, and management.</p>
Fiscal Controls	<p>Internal processes to ensure an organization's financial objectives are being met. Fiscal controls include budgeting, planning, adequate financial records of all transactions, managing revenues in support of the organization's goals, and proper checks and balances.</p>
Gap Funding	<p>Amount of money needed to fund ongoing operations or future development of a business or project not currently provided by cash, equity, or debt.</p> <p>Funding gaps can be covered by investment from venture capital (i.e., investors), equity sales, or through debt offerings and bank loans.</p>
Generally Accepted Accounting Principles (GAAP)	<p>Generally accepted set of rules, conventions, standards, and procedures for reporting financial information, as established by the Financial Accounting Standards Board</p> <p>http://www.fasb.org/home</p>
General Administrative Expenses	<p>Expenditures related to the day-to-day operations of a business such as rent, insurance, managerial salaries, etc.</p> <p>These do not include expenses directly related to the production of any goods or services.</p>

Terms	Definition/Meaning
Governmental Accounting Standards Board (GASB)	Source of Generally Accepted Accounting Principles (GAAP) used by state and local governments to establish and improve standards of governmental accounting and financial reporting, resulting in useful information to guide and educate the public. http://www.gasb.org/
Guarantor	Person who promises to pay back a loan if the original borrower does not pay it back.
Independent Financial Audit	Examination of a company's financial records and business transactions by a Certified Public Accountant (CPA). To avoid conflict of interest and ensure the integrity of the audit, the CPA must not be affiliated with the company being audited.
Infrastructure Adequacy	Ability of waterworks facilities, including the distribution system, to provide water that meets Safe Drinking Water Act (SDWA) standards, based on the condition of the infrastructure components and their life expectancy.
Line of Credit	Credit source extended by banks, financial institutions, and other licensed consumer lenders to creditworthy customers such as a government, business, or individual. A line of credit is effectively a source of funds that can be readily tapped at the borrower's discretion and represents accessibility to funds by a waterworks. Interest is paid only on money actually withdrawn. Lines of credit can be secured by collateral or be unsecured.
Life Cycle Cost	Sum of all recurring and one-time (non-recurring) costs over the full life span or specified period of a good, service, structure, equipment, or system. Life cycle costs include purchase price, installation costs, operating costs, maintenance and upgrade costs, and the remaining (residual or salvage) value at the end of ownership or its useful life.
Managerial Capacity	Ability of a water system to meet Safe Drinking Water Act (SDWA) requirements. Managerial capacity refers to the system's institutional and administrative capabilities, including: ownership, accountability, staffing, organization, planning, policies, programs/practices, and effective external linkages.
Median Household Income (MHI)	Dollar value representing an equal division between the number of households having income above that amount, and having income below that amount.

Terms	Definition/Meaning
Most Critical Facility/Component	Identified facility or component where failure will result in significant downtime and loss/interruption of service.
Municipal Authority Ownership	Type of ownership identifying each incorporating municipality and any applicable agreements. It is sometimes referred to as a Public Service Authority (PSA).
Municipality Ownership	Type of ownership identifying the town, city, or county and any applicable inter-municipal agreements involved with the ownership.
Non-Revenue Water (NRW)	<p>Water produced and utilized without having generated any revenue; non-revenue water can include water loss through leakage. Losses can be real losses (through leaks, sometimes also referred to as physical losses) or apparent losses (such as theft or metering inaccuracies).</p> <p>High levels of NRW are detrimental to the financial viability of water utilities, as well to the quality of water itself. NRW is typically measured as a volume of non-revenue water as a percentage of net water produced.</p>
Operating Cash Reserve	<p>Liquid assets a company is able to utilize immediately which can be used to meet short-term and immediate funding needs.</p> <p>Liquid assets include cash deposits, short-term bank deposits, money market instruments, and Treasury Bills. Sometimes referred to as Days Cash on Hand.</p>
Operator Certification	<p>Verification that an individual who intends to run a public drinking water system (“operator”) meets minimum requirements as specified by the Virginia Department of Professional and Occupational Regulation (DPOR).</p> <p>Operator certification is to ensure skilled professionals are overseeing the treatment and distribution of safe drinking water. Recertification is handled by DPOR on a fixed schedule of license expiration and renewal, and requires the operator having maintained their credentials and being in good standing.</p>
Ownership	Type of organization that owns or will own a waterworks. Ownership categories include Association, Corporation, Municipal Authority, Municipality Partnership, Public Service Authority (PSA), and Sole Proprietorship.
Ownership Accountability	Responsibilities that are clearly identified and communicated to prevent confusion and mistakes in the daily operation of the waterworks.
Partnership- Ownership	Type of ownership involving a general partner and any other partners under a “partnership agreement”.

Terms	Definition/Meaning
Prioritization	Process of evaluating fixed assets to ensure funds are allocated for the rehabilitation or replacement of the most important or critical assets.
Qualified Opinion	Issued when an auditor encounters situations that do not comply with Generally Accepted Accounting Principles (GAAP).
Redundancy	Provision or requirement that a duplicate system component be provided as “back-up” to reduce the potential of service interruption in the event one of the components fails.
Reserve Account	Account with funds set aside to address system emergencies or finance future system expenses such as infrastructure rehabilitation or replacement.
Revenue Sufficiency	Financial state of an organization or business in which income (revenue) is adequate (sufficient) to cover all current and future expenses during a specific period of time.
Revenues	Amount of money brought into a company by its business activities during a specific period of time.
Safe Drinking Water Act (SDWA)	Principal federal law in the United States intended to ensure safe drinking water for the public. It includes a required set of standards for drinking water quality and applies to all states, localities, and water suppliers who provide drinking water to the public. SDWA is enforced by the Environmental Protection Agency (EPA), or by primacy agencies, such as the Virginia Department of Health (VDH).
Sole Proprietorship Ownership	Type of ownership in which an individual owns the waterworks.
Source Water Adequacy	Adequate water source to meet current customer demands and future anticipated growth. The source is appropriately sampled and protected, and meets all applicable water quality standards.
Source Water Reliability	The degree to which source water is available in adequate quantity and quality to sustain long-term operations.
State Corporation Commission (SCC)	Virginia regulatory agency that oversees utilities, insurance, state-chartered financial institutions, securities, railroads, and retail franchising. It is the state’s central filing office for corporations, limited partnerships, limited liability companies, and Uniform Commercial Code liens. https://www.scc.virginia.gov/

Terms	Definition/Meaning
Statement of Financial Commitment	Written statement from a NTNC waterworks owner to provide assurance that all waterworks-related expenses will be covered by non-water revenues or reserves.
Strategic Planning	Process by which an organization defines its goals and objectives, based on the organization's mission. Strategic planning uses objectives and strategies as a framework to support the mission and advance the larger purpose of the business.
Sustainability Improvements	One or more actions taken to change a currently undesirable status or situation to a more desirable and improved status or situation.
Sustainable Waterworks	Waterworks having adequate technical, managerial, and financial capacities are "sustainable". A sustainable waterworks receives sufficient revenues from water service and user charges to finance all operating, maintenance, and reserve expenses including capital costs. Additionally, it uses natural, community, and utility resources in a manner that satisfies current needs without compromising future needs or options.
Technical Capacity	Physical and operational abilities of a water system to meet Safe Drinking Water Act (SDWA) requirements. This includes adequacy of physical infrastructure, the technical knowledge and capability of personnel, and adequate source water.
Unqualified Audit	Audit performed with emphasis on detail and accuracy that concludes the financial statements do not have discrepancies. Also known as a "clean" or "complete" audit.
Unqualified Opinion/Finding	Opinion/finding by an auditor that concludes the financial statements are accurate, fairly presented, and in accordance with the Generally Accepted Accounting Principles (GAAP) and/or the Governmental Accounting Standard Board (GASB)
Water Fees	The dollar amount a waterworks customer pays for water.
Water Rate Structure	Set of rates a waterworks uses to determine fees to charge customers for water.
Waterworks Self-Assessment Analysis	Analysis prepared and certified by the waterworks owner validating technical, financial, and managerial capabilities of the waterworks over a specific a time period after the initial WBOP. This analysis uses actual versus projected data over the time period, and is reported in an acceptable format to ODW.

Appendix B - Office of Drinking Water (ODW) Field Offices



ODW Field Offices	Service to...
Abingdon Field Office 454 East Main Street Abingdon, VA 24210 Ph: (276) 676 - 5650 Fax: (276) 676 - 5659	<i>Counties:</i> Bland, Buchanan, Carroll, Dickenson, Floyd, Giles, Grayson, Lee, Montgomery, Pulaski, Russell, Scott, Smyth, Tazewell, Washington, Wise, Wythe <i>Cities:</i> Bristol, Galax, Norton, Radford
Lexington Field Office 131 Walker Street Lexington, VA 24450 Ph: (540) 463 - 7136 Fax: (540) 463 - 3892	<i>Counties:</i> Albemarle, Alleghany, Augusta, Bath, Botetourt, Clarke, Craig, Fluvanna, Frederick, Greene, Highland, Louisa, Nelson, Page, Roanoke, Rockbridge, Rockingham, Shenandoah, Warren <i>Cities:</i> Buena Vista, Charlottesville, Covington, Harrisonburg, Lexington, Roanoke, Salem, Staunton, Waynesboro, Winchester
Southeast Virginia Field Office 830 Southampton Avenue Room 2058 Norfolk, VA 23510 Ph: (757) 683 - 2000 Fax: (757) 683 - 2007	<i>Counties:</i> Accomack, Dinwiddie, Gloucester, Greensville, Isle of Wight, James City, Lancaster, Mathews, Middlesex, Northampton, Northumberland, Prince George, Southampton, Surry, Sussex, York <i>Cities:</i> Chesapeake, Colonial Heights, Emporia, Franklin, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg
Danville Field Office 211 Nor Dan Drive Suite 1040 Danville, VA 24540 Ph: (434) 836 - 8416 Fax: (434) 836 - 8424	<i>Counties:</i> Amelia, Amherst, Appomattox, Bedford, Brunswick, Buckingham, Campbell, Charlotte, Cumberland, Franklin, Halifax, Henry, Lunenburg, Mecklenburg, Nottoway, Patrick, Pittsylvania, Prince Edward <i>Cities:</i> Bedford, Danville, Lynchburg, Martinsville, South Boston
Culpeper Field Office 400 South Main Street 2 nd Floor Culpeper, VA 22701 Ph: (540) 829 - 7340 Fax: (540) 829 - 7337	<i>Counties:</i> Arlington, Caroline, Charles City, Chesterfield, Culpeper, Essex, Fairfax, Fauquier, Goochland, Hanover, Henrico, King & Queen, King George, King William, Loudoun, Madison, New Kent, Orange, Powhatan, Prince William, Rappahannock, Richmond, Spotsylvania, Stafford, Westmoreland <i>Cities:</i> Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, Manassas Park, Richmond

Appendix C - Security Checklist

Drinking water security and emergency response planning are critical necessities in managing a drinking water system. They are also Homeland Security national priorities. ODW urges water suppliers to examine their operations and implement needed improvements for security and emergency preparedness.

1. *Security Vulnerability Assessment*

- Identify system vulnerabilities.
- Determine and implement solutions that reduce or eliminate the vulnerabilities.

2. *Emergency Response Plan*

- Prepare/update an Emergency Response Plan.
- Train employees on the plan; ensure they understand their roles in the event of an emergency.

3. *Emergency 24-Hour Phone Numbers*

- Keep emergency phone numbers up-to-date.
- Post emergency phone numbers in highly visible areas at your facility (office, pump house door, work vehicles, restrooms, etc.); ensure key personnel are provided with emergency numbers.
- Provide local law enforcement/response officials with phone numbers of key personnel.

4. *Get to Know Your Local Police Department*

- Request your local police department add your facility to their routine rounds.
- Practice emergency procedures with local police, emergency response and public health officials.

5. *Install Barriers*

- Fence drinking water facilities and vulnerable areas (wellheads, manholes, house doors, treatment buildings, storage tanks).
- Routinely inspect fences and entryways such as gates; secure portions that could be climbed over/through/under.

6. *Install locks*

- Install locks on entry gates, doors, and other access points to the finished water. This is especially important with untended systems and access points located in areas not readily visible.
- Lock monitoring wells to prevent vandals or terrorists from pouring contaminants directly into ground water near your source.
- Set alarms that will indicate illegal or unauthorized activity.

7. *Install Lighting*

- Install quality lighting around your pump house, treatment facility, and/or parking lot.
- Consider motion activated lighting, especially within fenced areas.

8. *Limit Access*

- Verify the identity of delivery people. Do not allow anyone unassociated with your system to enter or wander the facility; request strangers to leave.
- Contact local law enforcement if you have suspicious trespassers.

9. *Monitor Water Quality*

- Monitor often and routinely. Be especially observant of conditions such as fish kills, unusual water color/odors/sheens, and sudden increased chlorine demand. These could indicate intrusion and/or contamination.

10. *In the event of an emergency, follow your Emergency Response Plan.*

Appendix D - Emergency Phone Numbers: State and Federal

STATE AGENCIES	PHONE NUMBER
Virginia Dept. of Health (VDH), Office of Drinking Water (ODW) http://www.vdh.state.va.us/odw/	(804) 864-7500
VDH ODW Field & Support Offices:	
Abingdon (AFO)	(276) 676-5650
Lexington (LFO)	(540) 463-7136
Southeast Virginia (SEVFO)	(757) 683-2000
Danville (DFO)	(434) 836-8416
Culpeper (CFO)	(540) 829-7340
Virginia Dept. of Conservation & Recreation (DCR) http://www.dcr.virginia.gov/	(804) 786-1712
Virginia Dept. of Emergency Management (VDEM) http://www.vaemergency.gov/	(804) 897-6500
VDEM: Virginia Emergency Operations Center (VEOC) http://www.vaemergency.gov/content/veoc	(804) 674-2400 1-(800) 468-8892 <i>24hrs</i>
VDEM: Regional Coordinators http://www.vaemergency.gov/aboutus/locationscontact-us	<i>(map with addresses)</i>
Virginia Dept. of Environmental Quality (VDEQ) http://www.deq.virginia.gov/	(804) 698-4000 1-(800) 592-5482
Virginia Dept. of Game & Inland Fisheries (DGIF) http://www.dgif.virginia.gov/	(804) 367-1000
Virginia Division of Consolidated Laboratory Services (DCLS) http://www.dgs.state.va.us/divisionofconsolidatedlaboratoryservices/tabid/453/default.aspx	(804) 648-4480 (804) 335-4617 <i>After hrs</i>
Virginia Rural Water Association (VRWA) http://www.vrwa.org/	(540) 261-7178
Virginia State Police (VSP) http://www.vsp.state.va.us/	(804) 674-2000
VSP: Regional Offices http://www.vsp.state.va.us/Office_Locations.shtm	<i>(map with contact info.)</i>

FEDERAL AGENCIES	PHONE NUMBER
Environmental Protection Agency (EPA) Region 3 - Mid-Atlantic http://www.epa.gov/region03/index.htm	(215) 814-5000 1-(800) 438-2474
EPA: Office of Emergency Management http://www2.epa.gov/emergency-response/forms/contact-us-about-emergency-response	(202) 564-8600
EPA: Office of Emergency Response (oil or chemical spills) http://www2.epa.gov/emergency-response	1-(800) 424-8802
EPA: Hotline - Safe Drinking Water http://water.epa.gov/drink/hotline/index.cfm	1-(800) 426-4791
EPA: Hotlines - all http://www2.epa.gov/home/epa-hotlines	(various)
EPA: Office of Solid Waste and Emergency Response (OSWER) http://www2.epa.gov/aboutepa/about-office-solid-waste-and-emergency-response-oswer	(202) 272-0167
Federal Bureau of Investigation (FBI) http://www.fbi.gov/homepage.htm	(202) 324-3000
FBI: Field Offices (all) http://www.fbi.gov/contact-us/field	(various)
FBI: Norfolk VA Field Office https://www.fbi.gov/norfolk	(757) 455-0100
FBI: Richmond VA Field Office https://www.fbi.gov/richmond	(804) 261-1044
FBI: Washington, D.C. Field Office https://www.fbi.gov/washingtondc	(202) 278-2000
National Capital Poison Center http://www.poison.org/	1-(800) 222-1222
National Rural Water Association (NRWA) http://www.nrwa.org/	(580) 252-0629

FEDERAL AGENCIES, cont.	PHONE NUMBER
National Weather Service (NWS) http://www.weather.gov/	<i>(national weather map)</i>
NWS: Blacksburg VA Field Office http://origin.www.erh.noaa.gov/ersd/rnk.htm	1-(800) 221-2659
NWS: Wakefield VA Field Office http://origin.www.erh.noaa.gov/ersd/akq.htm	(757) 899-4200 <i>24hrs</i>
NWS: Local Contacts Storm Map http://www.stormready.noaa.gov/stormmaps/va-cwa.htm	<i>(map w/contact info.)</i>
U.S. Coast Guard (USCG) Region III Response Team http://www.nrt.org/production/NRT/RRT3.nsf/AllPages/index.htm	(757) 398-6364
U.S. Marshals Service http://www.usmarshals.gov/contacts/index.html	(202) 307-9100
U.S. Marshals Service: Eastern District of Virginia http://www.usmarshals.gov/district/va-e/index.html	(703) 837-5500
U.S. Marshals Service: Western District of Virginia http://www.usmarshals.gov/district/va-w/index.html	(540) 857-2230

OTHER AGENCIES	PHONE NUMBER
va811.com (Miss Utility) http://www.va811.com/	1-(800) 552-7001 8-1-1 (in Virginia)

Appendix E - Records Retention Checklist

The Records Retention Checklist on the following page provides the minimum amount of time (retention period) a specific type of record is required to be held before it may be disposed of. The checklist is a tool to aid waterworks personnel manage their records, including identifying the location where the records are kept (on- or off-site the facility, as the case may be).

Record retention requirements ("*Records Retention and Disposition Schedules*") have been developed by the Commonwealth of Virginia, Library of Virginia, Records Analysis Section (RAS), under the authority of the Virginia Public Records Act (VPRA), Section 42.1-76, *Code of Virginia*.

Primary categories of records in the checklist include:

- Administrative, Emergency Planning, Personnel
- Fiscal
- Permits, Water Wells (water well completion)
- System Design and Construction (as-built drawings, title documentation, etc.)
- Waterworks Systems (bacteriological records, Cross-Connection Control records, etc.)

Retention requirements for waterworks systems are primarily provided by the overarching *General Schedule No. 7 (GS-07), Public Utilities Records*. However, retention schedules for administrative, emergency planning, personnel, and fiscal records are provided by General Schedules (GS) 19, 16, 03, and 02, respectively.

Administrative Records GS-19

Library of Virginia, *General Schedules for Localities: GS-19, Administrative*

Effective schedule date 6/18/2015

http://www.lva.virginia.gov/agencies/records/sched_local/GS-19.pdf

General Services: Emergency Planning GS-16

Library of Virginia, *General Schedules for Localities: GS-16, General Services*

Effective schedule date 11/21/2011

http://www.lva.virginia.gov/agencies/records/sched_local/GS-16.pdf

Personnel Records GS-03

Library of Virginia, *General Schedules for Localities: GS-03, Personnel*

Effective schedule date 2/12/2015.

http://www.lva.virginia.gov/agencies/records/sched_local/GS-03.pdf

Fiscal Records GS-02

Library of Virginia, *General Schedules for Localities: GS-02, Fiscal*

Effective schedule date 2/12/2015

http://www.lva.virginia.gov/agencies/records/sched_local/GS-02.pdf

Public Utilities Records GS-07

Library of Virginia, *General Schedules for Localities: GS-07, Public Utilities*

Effective schedule date 11/21/2011

http://www.lva.virginia.gov/agencies/records/sched_local/GS-07.pdf

Please note: the checklist is not all inclusive; a comprehensive listing of retention periods for all record types is provided by the Library of Virginia, Records Analysis Section (RAS), Retention Schedules, *General Schedules for Localities* (http://www.lva.virginia.gov/agencies/records/sched_local/index.htm).

ADMINISTRATIVE RECORDS (GS-19)		
Record Type	Required Retention	Record Location
Annual Report (reports prepared by or for the locality addressing the "state" of the locality; incl. goals, targets, objectives, finances)	<i>Permanently</i>	
Consultants' Reports and Related Documents	<i>5 years after end of calendar year</i>	
Environmental Impact Studies	<i>Permanently</i>	
Feasibility Studies	<i>Permanently</i>	
Grant: Funded (non-fiscal grant stipulations)	<i>5 years after project completion</i>	
Grants: Unfunded (grant proposals that did not receive funding; incl. letter of intent, budget application, notification of denial)	<i>1 year after decision</i>	
Information and Public Education (pamphlets, visual aids, and/or news clippings regarding historically significant events about the locality)	<i>Permanently</i>	
Information and Public Education: Other Records	<i>0 years until superseded, obsolete, or rescinded</i>	
Investigative Reports (internal investigations of incidents, local officials, employees, departments or operations, and policies)	<i>3 years after last action</i>	
Legal Case Files (status of legal cases involving the locality, its officials, employees, or departments.	<i>10 years after last action</i>	
Legal Opinions (opinions requested by the locality, its officials, employees, or departments, from the city or county attorney or the Attorney General's office on matters of law)	<i>Permanently</i>	
Safety (accident reports, safety policy records)	<i>3 years after last action</i>	
Work Orders: Administrative Copies	<i>3 years after end of calendar year</i>	
GENERAL SERVICES: EMERGENCY PLANNING (GS-16)		
Record Type	Required Retention	Record Location
Security: Disaster and Emergency Planning Files	<i>Until superseded, obsolete or rescinded</i>	
PERSONNEL RECORDS (GS-03)		
Record Type	Required Retention	Record Locations
Accident/Illness Reports (excludes sick leave reports maintained for payroll purposes)	<i>5 years after event</i>	
Employee Personnel Records: Long Term (incl. date range employed, contact information, compensation and position history, reason for separation/termination, retirement benefits)	<i>50 years after separation</i>	
Employee Personnel Records: Short Term (incl. test results, professional certification and qualification records, evaluations, disciplinary actions, layoff, termination)	<i>5 years after separation</i>	

FISCAL RECORDS (GS-02)		
Record Type	Required Retention	Record Location
Accounts Payable (incl. invoices, receipts, bills, canceled checks, returned checks, check registers, and checking statements)	<i>3 years after end of state fiscal year</i>	
Accounts Receivable (incl. deposit receipts, invoices, bills, purchase orders, vouchers, permits, receipt records)	<i>3 years after end of state fiscal year</i>	
Audit Records: External	<i>Permanently</i>	
Audit Records: Internal	<i>8 years after end of state fiscal year</i>	
Budget: Adopted Budget Files (adopted locality budget, outlining approved expenditures for the year)	<i>Permanently</i>	
Budget: Working Files	<i>5 years after end of state fiscal year</i>	
Cash and Bank Records (incl. cash report, bank statements, reconciliation documentation, warrant reports, settlements and transmittals)	<i>3 years after end of state fiscal year</i>	
Contracts	<i>5 years after expiration</i>	
Fixed Asset Files (land, buildings, equipment owned; incl. logs, inventories, reconciliation files)	<i>0 years after equipment, facility, or property sold or no longer in use</i>	
Grant Files: State and Federal (includes ledger, journals, and reports)	<i>3 years after project completion</i>	
Insurance	<i>3 years after end of state fiscal year</i>	
Ledgers: General	<i>10 years after end of state fiscal year</i>	
Payroll (incl. deduction authorizations and registers, leave, ledgers/reports, compensation files, W-2s, retirement contributions, time/attendance, tax statements, Form 1099)	<i>5 years after end of state fiscal year</i>	
Purchasing Records (incl. bids, bid proposals, purchase orders, requisitions, agreements, contracts)	<i>5 years after end of state fiscal year</i>	
Retirement Files: Locally Managed (incl. employee participating and financial documentation.	<i>3 years after last action</i>	
Retirement Files: Virginia Retirement System (VRS); participation of the locality in the VRS.	<i>3 years after end of state fiscal year</i>	
Unemployment Insurance/Compensation Records (correspondence, reports, forms)	<i>5 years after closed</i>	
Workers' Compensation	<i>5 years after end of state fiscal year</i>	

PERMIT and WATER WELL RECORDS (GS-07)		
Record Type	Required Retention	Record Location
Permit Files: Application and Approval Documentation (for various types of water permits)	3 years after expiration	
Water Well Completion Reports (locality owned)	5 years after well abandonment	
SYSTEM DESIGN & CONSTRUCTION RECORDS (GS-07)		
Record Type	Required Retention	Record Location
Drawings and Plans (incl. final plans, as-built drawings, highway agreements or permits, construction permits, title documentation)	Permanently in locality	
Supporting Documentation (correspondence, specifications, working plans and drawings)	5 years after project completion, until audit completion, until all terms of contracts or agreements fulfilled, or until no longer administratively or legally useful, whichever is longer	
WATERWORKS SYSTEMS RECORDS (GS-07)		
Record Type	Required Retention	Record Location
Bacteriological	5 years after end of calendar year	
Chemical Analysis	10 years after end of calendar year	
Consumer Confidence Report	3 years after issuance	
Cross-Connection and Backflow	10 years after end of calendar year	
Sanitary Surveys	10 years after last inspection	
Variance and Exemption Reports	5 years after expiration	
Violation Corrections	3 years after last action	
Other Records (GS-07)		
Record Type	Required Retention	Record Location
Billing: Utility (customer utility bills, incl. billing registers and bill payment stubs from individual customers)	3 years or until audited, whichever is longer	
Complaints: Utility Customer Complaints (incl. contact information, nature of complaint, response to complaint)	3 years after final resolution of complaint	
Fuel Accounting	3 years after end of fiscal year	
Meter Reading	3 years after end of billing cycle or until audited, whichever is longer	
Meter Testing and Calibration	3 years after last test performed	
Service Requests: Utility (customer service requests for work to be performed)	3 years after request is denied or work completed	
va811.com (Miss Utility)	5 years after project completion	