



National Blue Ribbon Commission  
for Onsite Non-potable Water Systems

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# A Guidebook for Developing and Implementing Regulations for Onsite Non-potable Water Systems

Model Program Rules

A large, decorative graphic at the bottom of the page consisting of overlapping curved shapes in various shades of blue, from light to dark, creating a sense of movement and depth.

## How to Use This Template

These model program rules were developed in conjunction with *A Guidebook for Developing and Implementing Regulations for Onsite Non-potable Water Systems*. Onsite Non-potable Water System Programs can be developed and implemented through regulation at the state level, an ordinance at the local level, or a combination of the two. Pathways to implementation may look like:

- **States Develop Regulation, Local Authority Implements:** States establish regulation for the treatment, monitoring, and reporting requirements for ONWS. Local authorities establish oversight and management programs by adopting a local ordinance and accompanying rules.
- **States Develop Regulation and Implements:** States establish regulation for the treatment, monitoring, and reporting requirements for ONWS as well as provide oversight and management of ONWS.
- **Local Authority Develops Regulation and Implements:** Local authorities establish a local ordinance to regulate the treatment, monitoring, and reporting requirements for ONWS as well as provide all regulatory oversight.

The appropriate implementation structure will depend on the particular circumstances in each state and locality. The model program rules provided here are based on the approach that the state develops the regulation and the local authority implements the oversight and management program that complies with the state regulation. However, it should be noted that the local ordinance can also stand alone as sufficient regulation in the absence of a state regulation. At the time of this publication, San Francisco, CA is the only jurisdiction that has developed and implemented a local ordinance to regulate ONWS.

*A Guidebook for Developing and Implementing Regulations for Onsite Non-potable Water Systems*, along with a model state regulation, model local ordinance, and the appendix, can be downloaded at: <http://uswateralliance.org/initiatives/commission>.

## Model Program Rules for State Regulations and/or Local Ordinances for Onsite Non-potable Water Systems

The model program rules are intended to provide guidance for a permitting agency for the operation of onsite non-potable water systems (ONWS) in residential buildings containing more than two dwelling units, mixed-use, and commercial buildings, and where ONWS are shared across property lines or in multiple structures. The program rules provide specific details on implementation of an ONWS program, including ONWS treatment system design criteria, permitting, cross-connection control, reporting, notification, and enforcement procedures for ONWS. The permitting agency is responsible for ensuring that ONWS are in compliance with applicable laws. The permitting agency performs ongoing monitoring, review, and inspections of permitted ONWS to ensure such compliance is maintained.

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## Section PR.1 Definitions

**Air Gap:** a physical break between a supply pipe and a receiving vessel as set forth in the local or state plumbing code.

**Alternate Water Source:** a source of non-potable water that may include any of the following: graywater, roof runoff, stormwater, blackwater, and any other source approved by the state or local agency.

**Blackwater:** wastewater originating from toilets, urinals, and/or kitchen counters (e.g., kitchen sinks and dishwashers).

**Certified Laboratory:** an environmental testing laboratory certified by an accepted state accreditation program or the National Environmental Laboratory Accreditation Program. Laboratories must be certified to perform each test for which they are providing results.

**Challenge Test:** the evaluation of a unit treatment process for pathogen log<sub>10</sub> reduction performance using selected surrogate or indigenous constituents. In general, a surrogate is introduced to the process influent, and the process influent and effluent flow are monitored for the concentration of the surrogate.

**Commercial Building:** a building that is used for commercial purposes.

**Continuous Verification Monitoring:** ongoing confirmation of system performance using sensors for continuous observation of selected parameters, including surrogate parameters that are correlated with pathogen log reduction target requirements.

**Cross-connection:** when a plumbing system allows water from one system (e.g., non-potable) to enter into another system (e.g., potable), resulting in the contamination of potable water.

**Director:** the director of the local agency or any individual designated by the director to act on his or her behalf, including, but not limited to inspectors, and has authority to enforce the program rules.

**Disinfection:** a physical or chemical process, including, but not limited to, ultraviolet radiation, ozonation, and chlorination that is used for removal, deactivation, or killing of pathogenic microorganisms.

**District-Scale Project:** an ONWS for a defined service area that covers two or more properties and may cross public rights-of-way.

**Domestic Wastewater:** wastewater collected from residential uses.

**Enforceable Legal Agreement:** a legally enforceable agreement defining the roles and responsibilities of each property owner or entity acting as a permittee, Supplier, or User of an ONWS.

**Field Verification:** performance confirmation study conducted using challenge testing, including surrogate microorganisms and/or other non-biological surrogates, usually during startup and commissioning and may be repeated as needed. The need for, duration, and extent of the field verification procedure will depend on characteristics of the ONWS.

**First Flush Diverter:** a device operated by mechanical float valves or other types of automatic control that diverts a quantity of roof runoff collected from a surface following the onset of a rain event.

**Graywater:** wastewater collected from non-blackwater sources, such as bathroom sinks, showers, bathtubs, clothes washers, and laundry sinks.

**Incidental Runoff:** unintended small amounts (volume) of runoff from ONWS irrigation use areas, such as unintended, minimal over-spray that escapes the ONWS irrigation use area. Water leaving an ONWS irrigation use area is not incidental if it is part of the facility design, due to excessive application, intentional overflow or application, or negligence.

**Indoor Use:** toilet and urinal flush water and clothes washing.

**Log<sub>10</sub> Reduction:** the removal of a pathogen or surrogate in a unit process expressed in log<sub>10</sub> units. A 1-log reduction equates to 90-percent removal, 2-log reduction to 99-percent removal, 3-log reduction to 99.9-percent removal, and so on.

**Log<sub>10</sub> Reduction Credit:** the log<sub>10</sub> reduction value credited to a treatment technology based on results of the technology's validation test results and proposed surrogate parameter for continuous monitoring.

**Log<sub>10</sub> Reduction Target (LRT):** The log<sub>10</sub> reduction target for the specified pathogen group (e.g., viruses, bacteria, or protozoa) to achieve the identified level of risk to individuals (e.g., 10<sup>-4</sup> infection per year).

**Mixed-use Building:** a building containing both dwelling units and other non-residential spaces.

**Monitoring Report:** a report documenting the operation and water quality results of an ONWS permitted under the program rules.

**Multi-family Building:** a residential building containing three or more dwelling units.

**Multi-user Building:** any building that is not a single residence (e.g., multi-residential apartment, commercial, mixed-use, and others).

**Non-potable Water:** water collected from alternate water sources, treated, and intended to be used on the project applicant's site or district-scale project and is suitable for direct beneficial use.

**Non-Residential Building:** a building that contains occupancies other than dwelling units.

**Onsite Non-potable Water System (ONWS):** a system in which water from local sources is collected, treated, and used for non-potable uses at the building to district/neighborhood scale, generally at a location near the point of generation.

**ONWS Engineering Report (Engineering Report):** report submitted by the project applicant to the director describing the ONWS in accordance with the program rules adopted by the local agency.

**Operations and Maintenance Manual:** document providing comprehensive information on the ONWS operation, maintenance, and repair.

**Permit:** permit to operate an ONWS issued and enforced by the local agency.

**Permittee:** the person(s) who holds a valid permit granted by the local agency to operate an ONWS. The permittee is responsible for maintaining a permit, assuring that water collection, treatment, use, and water quality monitoring and reporting are consistent with the approved engineering report, the operations and maintenance manual, the program rules, and applicable state and local laws. A permittee may also be the supplier and/or user.

**Project Applicant:** The person(s) or entity(s) applying for initial authorization to install an ONWS, typically the property owner or lessee. The project applicant is responsible for applying for the permit, assuring that the ONWS is installed consistent with the approved engineering report, the operations and maintenance manual, the program rules, and applicable state and local laws. The project applicant becomes the permittee upon issuance of the first permit to operate.

**Residential Building:** a building that contains only dwelling units.

**Roof Runoff:** precipitation from rain or snowmelt events that is collected directly from a roof surface not subject to frequent public access.

**Site Supervisor:** in a district-scale project, the qualified person or entity designated by a User and/or a Supplier to oversee the operation and maintenance of the on-site distribution system and/or collection system and act as a liaison to the Treatment System Manager and/or permittee.

**Stormwater:** precipitation runoff from rain or snowmelt events that flows over land and/or impervious surfaces (e.g., streets and parking lots). Stormwater also includes runoff from roofs with frequent public access.

**Supplier:** an entity that supplies an untreated Alternate Water Source to the ONWS for treatment and reuse. A supplier may also be a permittee and/or user.

**Surrogate Parameter:** a measurable physical or chemical property that has been demonstrated to provide a direct correlation with the concentration of an indicator compound, can be used to monitor the efficiency of trace organic compounds removals by a treatment process, and/or provide indication of a treatment process failure.

**Template for ONWS Engineering Reports:** a fillable form identifying and describing the required elements of the ONWS Engineering Report.

**Template for ONWS Annual Reports:** a fillable form identifying and describing the required elements of the ONWS Annual Report.

**Treatment System Manager:** the qualified person or entity responsible for the daily management and oversight of the ONWS.

**Unrestricted Irrigation:** irrigation of ornamental plants (e.g., non-food) and dust suppression.

**User:** an entity that accepts treated water from an ONWS for beneficial purposes within its area of occupancy. A user may also be a permittee and/or supplier.

**Validation Report:** report documenting a detailed technology evaluation study that was conducted to challenge the treatment technology over a wide range of operational conditions. The validation report shall include evidence of the treatment technology's ability to reliably and consistently achieve the log reduction value, including information on the required operating conditions and surrogate parameters that require continuous monitoring.

**Water Balance:** the calculation of the potential volume of onsite alternate water supplies and demands of a development project.

**Water Balance Documentation:** an in-depth assessment of the project applicant's non-potable water use, including survey information, water meter readings, water service billing information, ONWS schematic drawings, or any other information deemed necessary by the director. For proposed district-scale projects, water balance documentation shall include implementation information that, at a minimum, shall address potential infrastructure and public right of way conflicts, demonstrate compliance with all applicable requirements, and establish the capabilities of the project applicant to effectively operate the district-scale System.

## Section PR.2 Allowed Alternate Water Sources

Collection, storage and/or treatment and subsequent reuse of the following alternate water sources may be permitted under these program rules:

- Roof runoff
- Stormwater
- Graywater
- Blackwater

## Section PR.3 Allowed Uses

The following uses may be permitted under these program rules:

- Indoor use:
  - Toilet and urinal flushing
  - Clothes washing
- Unrestricted irrigation:
  - Ornamental plant irrigation
  - Dust suppression

## Section PR.4 Permit Requirements

A permit from the Director is required for the operation of ONWS that serve the following implementation scales:

- Multi-Family Buildings
- Mixed-use Buildings
- Commercial Buildings
- District-scale Projects

Systems being operated without a valid Permit shall be subject to penalty.

### Section PR.4a Permit Application

The following are required elements for an ONWS Permit Application:

**Water Balance Application:** Project applicants shall submit a Water Balance Application. The Water Balance Application shall include a description and location of the proposed or existing ONWS, the project’s water balance, and other applicable information. The Water Balance Application must identify all User(s) and Supplier(s) data.

**Application for a Permit and Fee:** Project applicants shall submit an Application for a Permit to Operate an ONWS (Permit Application) to the Director accompanied by the appropriate fee.

**Engineering Report Approval:** Project applicants shall submit an ONWS Engineering Report (Engineering Report) to the Director for review and approval. The Engineering Report shall be prepared by a qualified licensed engineer and experienced in the field of wastewater treatment, and shall include all items in the Template for ONWS Engineering Reports. The



Engineering Report will not be reviewed unless and until all appropriate fees have been paid. The Director may request revisions to initial and subsequent Engineering Report submittals. The Director shall make reasonable efforts to provide a response to project applicants within 30 days of receipt of an initial or revised Engineering Report.

#### **Required Documents:**

- If the ONWS differs in any way from the approved Engineering Report, the project applicant must submit an updated Engineering Report to the Director. Any modifications to the system are subject to review and approval by the director.
- A finalized Operations and Maintenance Manual that complies with the requirements set forth in these Program Rules;
- An affidavit signed by the designated Treatment System Manager that verifies knowledge, skills, abilities, and training to operate the permitted system;
- Evidence of a contract with a certified laboratory to perform water quality analysis;
- System construction verification provided to the director on company letterhead, signed and stamped by the registered professional engineer stating that the ONWS was constructed in accordance with the approved Engineering Report, professionally certified plans, specifications, and applicable sections of state and local code; the Director may request to be present during system construction verification; and,

**Enforceable Legal Agreement (for district-scale projects only):** Project applicants for District-scale Projects shall provide to the Director an executed Enforceable Legal Agreement defining the roles and responsibilities of each property owner or entity with regard to the ONWS. The permittee and each of the Suppliers and Users shall be included in, and signatories of the agreement. The agreement shall be recorded.

#### **Section PR.4b Permit Issuance**

After the system is installed, evidence has been submitted of satisfactory performance of a cross-connection test overseen by certified personnel as determined by the Director, and all required elements and procedures in these Program Rules are completed and/or submitted and approved, the Director will issue a Permit for the Operation of the ONWS to the permittee. The Permit requires compliance with all requirements of these Program Rules, and will require increased monitoring and reporting frequencies in the Conditional Startup Mode before the Final Use Mode is granted.

#### **Conditional Startup Mode Permit:**

The Conditional Startup Mode allows for an initial system start-up period to operate the ONWS and confirm the system is performing per the approved Engineering Report.

**Duration:** The duration of the Conditional Startup Mode period shall be 180 days, unless the Director determines that a shorter or longer start-up period will best serve public

health. The Conditional Startup Mode allows for field verification of the ONWS treatment processes, instrumentation, water quality sampling, etc. The Conditional Startup Mode period may be extended for an additional 90 days by the Director.

**Monitoring and Reporting:** During the Conditional Startup Mode period, applicable surrogate parameters shall be monitored and water samples shall be analyzed by a Certified Laboratory at the applicable frequencies required in Sections 6-7. The Treatment System Manager shall submit results of laboratory analysis along with a completed and signed Monitoring Report to the Director at the frequencies required in Sections 6-7.

**Bypass Conditions:** During Conditional Startup Mode, the alternate water source shall be treated and diverted to the sanitary sewer. All fixtures in the building shall be operated using the municipally supplied make-up water source. The Director may allow roof runoff treatment systems to forego or end bypass conditions prior to the end of the Conditional Startup Mode upon written approval.

During Conditional Startup Mode, systems must comply with all requirements of the permit as set forth in these Program Rules.

#### **Final Use Mode Permit and Ongoing Permit Conditions:**

**Duration:** Upon completion of the Conditional Startup Mode period, the Director will revise the Permit to Final Use Mode. The Final Use Mode applies as long as all permit conditions and requirements are met.

**Monitoring and Reporting:** During Final Use Mode, applicable surrogate parameters shall be monitored and water samples shall be analyzed by a Certified Laboratory as applicable at the frequencies required in Sections 6-7. The Treatment System Manager shall submit results of laboratory analysis along with a completed and signed Monitoring Report to the Director at the frequencies required in Sections 6-7. Subject to the treatment processes utilized in the ONWS, it may be possible to minimize or eliminate water quality sampling requirements after the Conditional Startup Mode by continuously monitoring treatment system performance via surrogate parameters as detailed in Sections 6-7.

Applicable sampling, analysis, and reporting requirements must be continually met for the permit to remain valid.

During Final Use Mode, systems must comply with all requirements of the permit as set forth in these Program Rules.

**Bypass Conditions:** All ONWS shall immediately divert the alternate water source to the sanitary sewer system upon receipt of the results of any water quality test sample that does not meet the water quality requirements of the permit or indication of a process

malfunction based on continuous monitoring. Systems required to divert to the sanitary sewer may resume normal operation after the Director receives and approves documentation of three (3) consecutive days of full compliance along with a letter explaining why the performance was compromised and what actions were taken to prevent it from reoccurring.

#### **Section PR.4c      Permit Renewal**

Every permittee shall renew their permit annually. Upon the failure of the permittee to pay such fees, the permit shall be considered null and void until the permittee pays the fees and any penalties that might be assessed by the Director.

The ONWS permit shall be considered null and void if it is determined that the system was built without applicable building and plumbing permits.

#### **Section PR.4d      Permit Modification**

The Director may order the modification of any permit issued under these program rules upon: (1) a written application from the permittee or (2) receipt of evidence that the operation may (A) violate any provisions of these program rules or (B) endanger the public health.

Changes to the ONWS, including but not limited to changes in source water, end uses, treatment or other system components, may require permit modification.

In a district-scale project, the director may order the modification of any permit issued under these regulations given any changes in the roles of supplier, permittee, and or user as submitted to the director.

ONWS permittees will be charged an hourly rate for review and approval of permit modifications.

#### **Section PR.4e      Permit Transfer**

Permits to operate ONWS are not automatically transferable. New owners must submit documentation that they can and will properly operate an ONWS. The Director may approve or deny the transfer of a permit. The system may not be operated in absence of a current permit. Permit transfer requests require written application to the Director.

A new Water Balance Application is not required in order to request a permit transfer for an existing system in which construction and operation are consistent with a previously accepted Engineering Report.

## Section PR.5 System Design Requirements

### Section PR.5a Cross-Connection Control and Make-up Water Supply

Cross-connection testing shall be completed in accordance with applicable local and state plumbing codes prior to initial operation of the system and at intervals thereafter as mandated.

The municipal water connection serving properties with ONWS must be protected by a containment Reduced Pressure Principle Backflow Prevention Device (RP) within 25 feet downstream of the point of connection or water meter to protect the public water and/or recycled water system.

As shown in Table 1, ONWS must include municipally supplied make-up water via an air gap except:

- **Make-up Water Supply Exception 1:** Irrigation-only systems are not required to include a municipally supplied make-up;
- **Make-up Water Supply Exception 2:** Roof runoff systems that do not specify an isolation air-gap at the point of municipally supplied make-up may alternatively specify an isolation RP at the point of potable make-up to the ONWS.
- **Make-up Water Supply Exception 3:** For graywater systems used for irrigation, make-up water may be supplied for a non-pressurized storage tank provided the connection is protected by an air gap or RP.

**Table 1. Make-up Supply and Cross Connection Protection for ONWS**

	Roof Runoff Systems	All other Alternate Water Sources
Municipally supplied make-up water source <sup>1</sup>	Required	Required
Service Meter Protection	Containment RP <sup>2</sup> required <25 ft downstream of municipally supplied water service meter	Containment RP required <25 ft downstream of municipally supplied water service meter
Protection at the point of municipally supplied make-up to the ONWS	Isolation air gap OR Isolation RP	Isolation air gap <sup>3</sup>
<b>Notes:</b>		
1. Irrigation-only systems are not required to include a municipally supplied make-up.		
2. RP = Reduced Pressure Principle Backflow Prevention Device		
3. RP is allowed for graywater systems for irrigation for make-up water to a non-pressurized storage tank.		

## Section PR.5b Fail-Safe Mechanisms

All systems must be equipped with features that result in a controlled and non-hazardous automatic shutdown of the process in the event of a malfunction.

## Section PR.5c Flow Meter

All properties collecting, treating, receiving, or distributing water from an ONWS shall include a flow meter on the treated ONWS distribution system and a flow meter on the potable make-up water pipeline to the ONWS.

## Section PR.5d Overflow

All properties collecting, treating, receiving, or distributing water from an ONWS shall include overflow connections to the sanitary sewer system with an air gap or other approved backflow prevention device.

## Section PR.5e Plumbing Code Compliance

All properties collecting, treating, receiving, or distributing water from an ONWS shall include components or design features as required by applicable local and state plumbing codes, specifically:

- (1) Signage as required by applicable local and state Plumbing Code; signage shall be maintained in good condition and free from damage or removal;
- (2) For roof runoff systems, a first flush diverter or debris excluder as required by applicable local and state Plumbing Code;
- (3) Tanks that receive and/or store untreated graywater and/or blackwater shall be properly vented per applicable local and state Plumbing Code.

## Section PR.5f Irrigation System Requirements

ONWS providing non-potable water for irrigation purposes shall be designed and operated in accordance with the following:

- The treatment, storage, distribution, reuse, or discharge of alternate water sources shall not create a nuisance.
- Treated alternate water sources shall not be applied to designated irrigation areas during periods when soils are saturated and could lead to runoff, not including incidental runoff.
- Treated alternate water sources shall not be allowed to escape the designated irrigation areas as surface flow or spray that would either pond and/or enter surface waters.

- Irrigation spray or runoff caused by irrigation shall not enter a dwelling or food handling facility, and shall not contact any drinking water fountain, unless specifically protected with a shielding device.

## Section PR.6 Water Quality Requirements

A project applicant shall design and operate an ONWS such that the alternate water source receives treatment that achieves the LRTs for virus, protozoa, and bacteria as specified in Tables 2 and 3, as well as physical and chemical water quality criteria. Protozoa inactivation relates to the removal of *Giardia lamblia* and *Cryptosporidium*. Treatment requirements for bacteria are such that ONWS must meet the total Coliform monitoring requirements during Conditional Startup Mode, as well as the log reduction requirements for bacteria. If the log reduction requirements for bacteria can't be achieved, the ONWS shall be required to meet total Coliform sampling requirements in perpetuity.

**Table 2. Log reduction targets for 10<sup>-4</sup> per person per year benchmarks for ONWS using blackwater, graywater, or roof runoff**

Water Use Scenario	Enteric Viruses	Parasitic Protozoa	Enteric Bacteria
<b>Domestic Wastewater or Blackwater</b>			
Unrestricted Irrigation	8.0	7.0	6.0
Indoor Use	8.5	7.0	6.0
<b>Graywater</b>			
Unrestricted Irrigation	5.5	4.5	3.5
Indoor Use	6.0	4.5	3.5
<b>Roof runoff</b>			
Unrestricted Irrigation	Not applicable	No data	3.5
Indoor Use	Not applicable	No data	3.5

**Table 3. Log reduction targets for 10<sup>-4</sup> per person per year benchmarks for ONWS using stormwater**

Water Use Scenario	Enteric Viruses	Parasitic Protozoa	Enteric Bacteria
<b>Stormwater (10<sup>-1</sup> dilution)</b>			
Unrestricted Irrigation	5.0	4.5	4.0
Indoor Use	5.5	5.5	5.0
<b>Stormwater (10<sup>-3</sup> dilution)</b>			
Unrestricted Irrigation	3.0	2.5	2.0
Indoor Use	3.5	3.5	3.0

Water quality criteria specific to each alternate water source are specified in Table 4 through Table 8.

## Section PR.6a Domestic Wastewater or Blackwater Treatment Systems

Blackwater must be oxidized, filtered, and disinfected prior to use for non-potable applications.

- Oxidized effluent means an alternate water source that has been stabilized, is nonputrescible, and contains dissolved oxygen.
- Filtered effluent means an oxidized effluent that has passed through a media or membrane filter to meet established turbidity requirements.
- Disinfected effluent means oxidized and filtered effluent that has been disinfected to meet the established pathogenic microorganism control requirements.
  - Pathogenic microorganism control for virus and protozoa is achieved by meeting log reduction targets in Table 4.
  - Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted daily during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet log reduction targets as specified in Table 4.

Blackwater treatment systems shall meet the water quality requirements established in Table 4.

**Table 4. Water Quality Requirements for Domestic Wastewater or Blackwater Treatment Systems**

Parameter	Water Quality Limit	Monitoring Frequency
BOD <sub>5</sub>	The Director shall determine the specific BOD <sub>5</sub> limits based on the technologies proposed in the project applicant's Engineering Report.	
TSS	The Director shall determine the specific TSS limits based on the technologies proposed in the project applicant's Engineering Report.	
Virus	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 8.5-log reduction in enteric virus for indoor reuse OR</li> <li>• 8.0-log reduction in enteric virus for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Protozoa	Treatment must achieve at least 7.0-log reduction in parasitic protozoa.	Continuously (via surrogate parameter)
Bacteria <sup>2</sup>	Treatment must achieve at least 6.0-log reduction in enteric bacteria  AND/OR  meet the total Coliform requirements listed below: <ul style="list-style-type: none"> <li>• The median concentration shall not exceed an MPN of 2.2 /100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed; and</li> <li>• The maximum number shall not exceed an MPN of 23 /100 mL in more than one sample in any 30 day period; and</li> <li>• No sample shall exceed an MPN of 240 /100 ml at any time.</li> </ul>	Continuously (via surrogate parameter)  Daily, Other <sup>1</sup>
Turbidity	The Director shall determine the specific turbidity limits based on the technologies proposed in the project applicant's Engineering Report.	
pH	It is recommended that the pH shall be between 6 and 9 at all times.	Weekly
Odor	The system shall not emit offensive odors.	n/a
Flow	At least two flow meters must be installed.	Continuously
<p><u>Notes:</u></p> <p>1. Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted daily during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet the specified log reduction targets.</p>		



## Section PR.6b      Graywater Treatment Systems

Graywater must be oxidized, filtered, and disinfected prior to use for non-potable applications.

- Oxidized effluent means an alternate water source that has been stabilized, is nonputrescible, and contains dissolved oxygen.
- Filtered effluent means an oxidized effluent that has passed through a media or membrane filter to meet established turbidity requirements.
- Disinfected effluent means oxidized and filtered effluent that has been disinfected to meet the established pathogenic microorganism control requirements.
  - Pathogenic microorganism control for virus and protozoa is achieved by meeting log reduction targets in Table 5.
  - Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted daily during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet log reduction targets as specified in Table 5.

Graywater treatment systems shall meet the water quality requirements established in Table 5.

**Table 5. Water Quality Requirements for Graywater Treatment Systems**

Parameter	Water Quality Limit	Monitoring Frequency
BOD <sub>5</sub>	The Director shall determine the specific BOD <sub>5</sub> limits based on the technologies proposed in the project applicant's Engineering Report.	
TSS	The Director shall determine the specific TSS limits based on the technologies proposed in the project applicant's Engineering Report.	
Virus	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 6.0-log reduction in enteric virus for indoor reuse OR</li> <li>• 5.5-log reduction in enteric virus for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Protozoa	Treatment must achieve at least 4.5-log reduction in parasitic protozoa for all end use applications.	Continuously (via surrogate parameter)
Bacteria <sup>2</sup>	Treatment must achieve at least 3.5-log reduction in enteric bacteria  AND/OR  meet the total Coliform requirements listed below: <ul style="list-style-type: none"> <li>• The median concentration shall not exceed an MPN of 2.2 /100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed; and</li> <li>• No sample shall exceed an MPN of 240 /100 ml at any time.</li> </ul>	Continuously (via surrogate parameter)  Daily, Other <sup>1</sup>
Turbidity	The Director shall determine the specific turbidity limits based on the technologies proposed in the project applicant's Engineering Report.	
pH	It is recommended that the pH shall be between 6 and 9 at all times.	Weekly
Odor	The system shall not emit offensive odors.	n/a
Flow	At least two flow meters must be installed.	Continuously
<p><u>Notes:</u></p> <p>1. Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted daily during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet the specified log reduction targets.</p>		

## Section PR.6c Stormwater Treatment Systems

Stormwater treatment systems shall meet the water quality requirements established in Table 6 or Table 7.

- Pathogenic microorganism control for virus and protozoa is achieved by meeting log reduction targets in Table 6 or Table 7.
- Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted weekly during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet log reduction targets as specified in Table 6 or Table 7.

**Table 6. Water Quality Requirements for Stormwater Treatment Systems (10<sup>-1</sup> dilution)**

Parameter	Water Quality Limit	Monitoring Frequency
Virus	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 5.5-log reduction in enteric virus for indoor reuse OR</li> <li>• 5.0-log reduction in enteric virus for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Protozoa	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 5.5-log reduction in parasitic protozoa for indoor reuse OR</li> <li>• 4.5-log reduction in parasitic protozoa for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Bacteria <sup>1</sup>	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 5.0-log reduction in enteric bacteria for indoor reuse OR</li> <li>• 4.0-log reduction in enteric bacteria for outdoor reuse.</li> </ul> <p>AND/OR</p> <p>meet the total Coliform requirements listed below:</p> <ul style="list-style-type: none"> <li>• The median concentration shall not exceed an MPN of 2.2 /100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed; and</li> </ul> <p>No sample shall exceed an MPN of 240 /100 ml at any time.</p>	Continuously (via surrogate parameter)  Weekly, Other <sup>1</sup>
Turbidity	The Director shall determine the specific turbidity limits based on the technologies proposed in the project applicant's Engineering Report.	
Odor	The system shall not emit offensive odors.	n/a
Flow	At least two flow meters must be installed.	Continuously
<p><u>Notes:</u></p> <ol style="list-style-type: none"> <li>1. Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted weekly during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet the specified log reduction targets.</li> <li>2. The Director may reduce the frequency of VOC monitoring for stormwater systems that show consistent evidence of minimal risk of contamination by VOCs through monitoring results and/or demonstration of low risk stormwater collection environment.</li> </ol>		

**Table 7. Water Quality Requirements for Stormwater Treatment Systems (10<sup>-3</sup> dilution)**

Parameter	Water Quality Limit	Monitoring Frequency
Virus	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 3.5-log reduction in enteric virus for indoor reuse OR</li> <li>• 3.0-log reduction in enteric virus for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Protozoa	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 3.5-log reduction in parasitic protozoa for indoor reuse OR</li> <li>• 2.5-log reduction in parasitic protozoa for outdoor reuse.</li> </ul>	Continuously (via surrogate parameter)
Bacteria <sup>1</sup>	Treatment must achieve at least: <ul style="list-style-type: none"> <li>• 3.0-log reduction in enteric bacteria for indoor reuse OR</li> <li>• 2.0-log reduction in enteric bacteria for outdoor reuse.</li> </ul> <p>AND/OR</p> <p>meet the total Coliform requirements listed below:</p> <ul style="list-style-type: none"> <li>• The median concentration shall not exceed an MPN of 2.2 /100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed; and</li> </ul> <p>No sample shall exceed an MPN of 240 /100 ml at any time.</p>	Continuously (via surrogate parameter)  Weekly, Other <sup>1</sup>
Turbidity	The Director shall determine the specific turbidity limits based on the technologies proposed in the project applicant's Engineering Report.	
Odor	The system shall not emit offensive odors.	n/a
Flow	At least two flow meters must be installed.	Continuously
<p><u>Notes:</u></p> <ol style="list-style-type: none"> <li>1. Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted weekly during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet the specified log reduction targets.</li> <li>2. The Director may reduce the frequency of VOC monitoring for stormwater systems that show consistent evidence of minimal risk of contamination by VOCs through monitoring results and/or demonstration of low risk stormwater collection environment.</li> </ol>		

## Section PR.6d Roof Runoff Treatment Systems

Roof Runoff treatment systems shall meet the water quality requirements established in Table 8.

- Disinfection with chlorine, ozone, ultraviolet radiation, or other approved agent is required for all uses with potential for human contact.
- Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted weekly during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet log reduction targets as specified in Table 8.

**Table 8. Water Quality Requirements for Roof Runoff Treatment Systems**

Parameter	Water Quality Limit	Monitoring Frequency
Virus	Not applicable	N/A
Protozoa	No data	N/A
Bacteria <sup>1</sup>	<p>Treatment must achieve at least 3.5-log reduction in enteric bacteria</p> <p>AND/OR</p> <p>meet the total Coliform requirements listed below:</p> <ul style="list-style-type: none"> <li>• The median concentration shall not exceed an MPN of 2.2 /100 mL utilizing the bacteriological results of the last seven days for which analyses have been completed; and</li> <li>• No sample shall exceed an MPN of 240 /100 ml at any time.</li> </ul>	<p>Continuously (via surrogate parameter)</p> <p>Weekly, Other<sup>1</sup></p>
Turbidity	The Director shall determine the specific turbidity limits based on the technologies proposed in the project applicant's Engineering Report.	
Odor	The system shall not emit offensive odors.	n/a
Flow	At least two flow meters must be installed.	Continuously
<p><b>Notes:</b></p> <p>1. Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted weekly during the Conditional Startup Mode. Based on the results, the Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet the specified log reduction targets.</p>		

## Section PR.6e Pathogenic Microorganism Control Log Reduction Credits

To meet the pathogenic microorganism control for enteric virus and parasitic protozoa, project applicants must install treatment processes that achieve log reduction targets as shown in Tables 4-8.

Pathogenic microorganism control for bacteria is achieved by complying with water quality limits for total coliform. Total coliform sampling shall be conducted at frequencies shown in Tables 4-8 during the Conditional Startup Mode. The Director may reduce the frequency of total coliform sampling during Final Use Mode or may allow surrogate parameter monitoring for systems that can meet log reduction targets as shown in Tables 4-8.

**Log Reduction Credits.** The Director grants log reduction credits based on each technology's ability to achieve a defined log reduction value. Evidence of the treatment technology's ability to reliably and consistently achieve the log reduction value, including information on the required operating conditions and surrogate parameters that require continuous monitoring, must be included in a project applicant's Engineering Report.

For treatment technologies that submit validation reports as evidence for log reduction credits, the submitted validation reports must include a letter demonstrating the report has been accepted previously by a state public health official.

Table 9 provides example log reduction credits for different treatment processes and examples of required supporting information. Table 9 is not prescriptive or exhaustive as specific requirements will be approved by the Director based on details provided by the project applicant in the Engineering Report.

**Continuous Monitoring.** A project applicant shall propose and include in its Engineering Report, continuous monitoring, as described in Section 7, using the pathogenic microorganisms of concern or a microbial, chemical, or physical surrogate parameter(s) that verifies the performance of each treatment process's ability to achieve its credited log reduction.

**Table 9. Example Treatment Process Log<sub>10</sub> Reduction Credits**

Treatment Process	Log <sub>10</sub> Reduction Credits Virus/Protozoa/Bacteria	Example Information to be Included in an Engineering Report
Microfiltration or Ultrafiltration	0/4/0	Manufacturer’s informational sheet indicating ability to detect 0.3µm breach
Membrane Biological Reactor (MBR)	1.5/2/4	Operation with the Tier 1 operating envelope as defined in the AWRCE 2016, <i>Membrane bio-reactor</i> , WaterVal validation protocol <sup>2</sup>
Reverse Osmosis	Up to 2/2/2	Manufacturer’s informational sheet indicating ability to reject sodium chloride. Allow pathogen removal credit with continuous monitoring of either electrical conductivity or total organic carbon
Ultraviolet (UV) Light Disinfection	Up to 6/6/6 (dose dependent)	UV reactor’s Validation Report following state-approved procedures <sup>3</sup> or NSF/ANSI 55 Class A validated.
Chlorine Disinfection <sup>4</sup>	Up to 5/0/5 (CT dependent)	Calculations demonstrating log inactivation using CT disinfection, where CT = Concentration of Chlorine x Contact Time
Ozone Disinfection	Up to 4/3/0 (CT dependent)	Calculations demonstrating log inactivation using CT disinfection, where CT = Concentration of Ozone x Contact Time

**Notes:**

1. The information presented herein is for informational purposes. Specific requirements will be approved by the Director based on details provided by the project applicant in the Engineering Report.
2. AWRCE 2016, *Membrane bio-reactor*, WaterVal validation protocol, Australian Water Recycling Center of Excellence, Brisbane.
3. UV log<sub>10</sub> reduction credits are reactor-specific. UV Validation Reports shall be prepared by a licensed engineer. Validation reports must provide evidence of reactor’s ability to reliably and consistently achieve the log<sub>10</sub> reduction value, including information on the required operating conditions and surrogate parameters that require continuous monitoring. The Validation Report shall document results based on validation testing completed utilizing one of the following:
  - a. EPA UV Disinfection Guidance Manual (USEPA 2006),
  - b. German UV Devices for the Disinfection for Drinking Water Supply Standard (DVGW 2006), or
  - c. NWRI UV Disinfection: Guidelines for Drinking Water and Water Reuse, 3<sup>rd</sup> edition (NWRI 2012).
 Submitted validation reports must include a letter demonstrating the report has been accepted previously by a state public health official.
4. Bacteria credit may be given for free chlorine disinfection that is equivalent to the virus credit achieved based on the CT framework if it is preceded by a membrane filter or MBR that meets turbidity requirements.



## Section PR.7 Monitoring, Sampling, Reporting and Notification Requirements

### Section PR.7a Continuous Monitoring

Continuous monitoring is required as indicated in Tables 4-8. This includes flow meters, turbidimeters, and other instrumentation as needed to demonstrate compliance with pathogenic microorganism control.

For treatment processes that are used to meet a log reduction target, each treatment process shall have continuous monitoring using the pathogenic microorganisms of concern or a microbial, chemical, or physical surrogate parameter(s) that verifies the performance of each treatment process's ability to achieve its credited log reduction. The project applicant shall propose and include in its Engineering Report, for the director's review and approval, the type of continuous monitoring to be utilized and credited log reduction will be determined based on the surrogate parameter utilized for continuous monitoring.

Table 10 provides example continuous monitoring methods used for different treatment processes. It is not prescriptive or exhaustive as specific requirements will be approved by the local agency based on details provided by the project applicant in the Engineering Report.

**Table 10. Example Treatment Process Monitoring**

Treatment Process	Example Continuous Monitoring Methods
Microfiltration or Ultrafiltration	<ul style="list-style-type: none"> <li>• Pressure decay test</li> <li>• Effluent Turbidity</li> </ul>
Membrane Biological Reactor (MBR)	<ul style="list-style-type: none"> <li>• Transmembrane Pressure</li> <li>• Effluent Turbidity</li> </ul>
Reverse Osmosis	<ul style="list-style-type: none"> <li>• Total organic content (TOC)</li> <li>• Influent and Effluent Electrical Conductivity</li> </ul>
Ultraviolet Light Disinfection	<ul style="list-style-type: none"> <li>• Influent UV transmittance</li> <li>• Influent turbidity</li> <li>• UV intensity</li> <li>• Flow rate</li> </ul>
Chlorine Disinfection	<ul style="list-style-type: none"> <li>• Chlorine residual (Free/Total)</li> <li>• Flow rate</li> </ul>
Ozone Disinfection	<ul style="list-style-type: none"> <li>• Ozone residual</li> <li>• Flow rate</li> </ul>
<p><b>Notes:</b></p> <p>1. The information presented herein is for informational purposes. Specific requirements will be approved by the local agency based on details provided by the project applicant in the Engineering Report.</p>	

If a pathogen  $\log_{10}$  reduction target, as shown in Tables 4-8 is not being met based on the continuous monitoring required, the Treatment System Manager shall notify the Director in accordance with the Malfunction Notification requirements as included in these Program Rules.

### **Section PR.7b**      **Routine Sampling**

Tables 4-8 show water quality requirements and sampling frequencies; water sample locations will be based on the critical control point for each treatment process utilized. Permits issued under these Program Rules will adhere to the water quality sampling and analysis requirements specified in Tables 4-8 for the alternate source water and end use.

In general, monitoring is required quarterly, monthly, weekly, daily or continuously depending on the permit type, source, and end use. The Director may modify Permit requirements if evidence indicates that the modified requirements maintain public health protection. Subject to the treatment processes utilized in the ONWS, it may be possible to minimize or eliminate water quality sampling requirements after the Conditional Startup Mode by continuously monitoring treatment system performance via surrogate parameters as detailed in Sections 6-7.

The permittee shall ensure that all operational water quality sampling and reporting requirements are undertaken by a qualified entity as approved by the Director.

Where multiple alternate water sources are combined, the monitoring requirements of the alternate water source with the most stringent monitoring requirements will apply.

Water samples must be analyzed by a Certified Laboratory using methods approved by the Environmental Protection Agency for water sampling and analysis, or through approved in-line monitoring devices as detailed in the Engineering Report. Laboratory reports must be signed by the laboratory director or a designee. Instrumentation with continuous monitoring capabilities must be installed when continuous monitoring is required.

Upon request, the Director shall be allowed to be present during required water quality sample collections.

### **Section PR.7c**      **Routine Reporting**

Testing results shall be reported via approved Monitoring Reports and be accompanied by data in an approved electronic format. For continuous monitoring, regulators may determine the appropriate parameters (i.e. minimum, maximum, average) to be reported. A Monitoring Report form shall be provided by the Director. The information reported shall include:

- System treated water flow (gallons per day, gallons per week or gallons per month);
- Water quality characteristics in accordance with the Permit; and,

- Attachments describing any breakdowns, upsets, bypasses, odors, complaints, or other system operation anomalies.

Monitoring Reports shall be signed by the permittee or Treatment System Manager and submitted by the 15th of the month following the last day of the period reported.

Table 11 specifies reporting frequency for each type of ONWS. In general, results from monitoring must be reported to the Director on a monthly or annual basis, depending on the type of permit issued.

**Table 11. Routine Reporting Frequency**

Alternate Water Source	Routine Reporting Frequency <sup>1</sup>
Blackwater	Monthly
Graywater	Monthly during Conditional Startup Mode, Annually thereafter
Stormwater	Monthly during Conditional Startup Mode, Annually thereafter
Roof Runoff	Monthly during Conditional Startup Mode, Annually thereafter
<u>Notes:</u> 1. Operational changes, system malfunctions, and/or monitoring results which are outside of the applicable water quality limits shall be reported within 24 hours.	

### Section PR.7d Annual Report

The permittee or Treatment System Manager shall submit an Annual Report to the Director by January 15, each year. The Annual Report shall include all items in the Template for ONWS Annual Reports, and will describe compliance of the ONWS with these Program Rules and the limits and conditions established by the Permit.

The Annual Report shall be signed by the Treatment System Manager and the permittee.

### Section PR.7e Malfunction Notification

The Treatment System Manager shall notify the Director of any malfunction that results in or is likely to result in environmental harm or increased public risk. Malfunctions may include, but are not limited to overflows, unanticipated bypasses, or monitoring results outside of water quality requirements for microbial, chemical, or physical indicators or surrogate parameters approved by the Director.

Oral notification shall take place within 24 hours from the time the Treatment System Manager becomes aware of the circumstances and include, as applicable:

- A description of the malfunction, including location description
- If an overflow occurred: estimated volume and description of receiving waters
- A description of any component involved in the malfunction
- A description of the suspected causes
- Planned diagnostic and/ or mitigation steps
- The estimated date and time when the malfunction or the effects of the malfunction began and stopped or will be stopped

Written notification shall occur within 5 days and include:

- The cause or suspected cause of the circumstance
- Steps taken or planned to reduce, eliminate, and prevent reoccurrence and a schedule of major milestones for those steps
- Steps taken or planned to mitigate the impacts(s) and schedule of the major milestones for those steps
- Public notification steps taken

## **Section PR.7f      Notification of Facility Changes and Other Circumstances**

The permittee or Treatment System Manager shall notify the Director prior to any facility expansion, production increase, or process modification that is expected to result in a change in the character of the treated water.

The permittee or Treatment System Manager shall notify all users immediately of any circumstance which indicates that treated water quality may not meet acceptable standards.

## **Section PR.8      Recordkeeping**

The Treatment System Manager shall maintain system records on premises and available for inspection by the Director, including but not limited to (1) current permit; (2) current treatment system operations and maintenance manual; (3) signed results delivered by the certified laboratory and evidence of chain of custody; (4) monitoring reports; (5) annual reports; (6) notifications as described in Section 7; (7) a log of all calibrations, maintenance, and major changes in operation; and (8) a log of all system auto-generated alarms, causes and corrective actions. Records shall be maintained for at least five years.

## **Section PR.9 Treatment System Operation, Maintenance and Equipment**

### **Section PR.9a Treatment System Manager Capacity**

The permittee shall directly employ or maintain a service contract with a Treatment System Manager(s) to supervise the operation of the ONWS. The Treatment System Manager must:

- Be duly qualified to carry out the operation, maintenance, and monitoring requirements to assure continuous compliance with the conditions set forth in these Program Rules
- Sign an affidavit attesting that they possess sufficient knowledge, skills, abilities, and training to operate the ONWS
- Must be certified as a Grade II Wastewater Treatment Plant Operator through a state wastewater operator certification program or have comparable education and/or experience to operate a blackwater or graywater source system.

The permittee shall notify the Director in writing within thirty (30) days of replacement or re-designation of Treatment System Manager(s) responsible for supervising system operation (including shifts). This requirement is in addition to other reporting requirements contained in these Program Rules.

### **Section PR.9b Operations and Maintenance Manual**

A current Operations and Maintenance Manual must be kept on premises and in other locations specified in the manual. The manual shall be reviewed annually and updated as appropriate. The manual shall include but is not limited to descriptions of the treatment system operations, instrumentation, water quality, and monitoring reporting plan, troubleshooting, and emergency procedures.

### **Section PR.9c Equipment**

Equipment and instruments used to comply with the treatment and monitoring requirements set forth in these Program Rules shall be calibrated, maintained, and operated consistent with manufacturer's recommendations.

## **Section PR.10 Special Requirements for District-Scale ONWS**

A District-scale Project entails the sharing of an ONWS across two or more parcels or for use in multiple structures, whether under the jurisdiction of one entity or several. District-scale Projects are subject to additional permit requirements as outlined in this section.

## **Section PR.10a      Enforceable Legal Agreement**

Project applicants for District-scale Projects shall provide to the Director an executed Enforceable Legal Agreement defining the roles and responsibilities of each property owner or entity in relation to the maintenance and use of the System. The permittee and each of the Suppliers and Users shall be included in, and signatories of the agreement. The agreement shall be recorded.

## **Section PR.10b      Special Requirements for Operations and Maintenance for District Scale Systems**

Suppliers, permittees, and users shall, at all times, properly operate and maintain all technologies and systems which are installed or used to achieve compliance with the permit. All procedures shall be described in the Operations and Maintenance Manual.

The permittee shall conduct periodic inspections of all facilities to monitor and assure compliance with conditions of the permit. The permittee shall take all necessary actions to assure compliance as outlined in the Enforceable Legal Agreement, the Operations and Maintenance Manual, and these program rules.

All properties where alternate water is collected, treated and/or used shall allow entry for inspection by the permittee, Treatment System Manager, and the director.

All permittees, Treatment System Managers, suppliers, and users shall comply with these program rules and other regulations regarding the use of alternate water sources and recycled water.

## **Section PR.10c      Special Requirements for Notifications and Reporting for District Scale Systems**

The permittee is responsible for all notifications including those which result from equipment failures or system malfunctions on properties which are owned and operated by other entities named in the Legally Enforceable Agreement.

The permittee shall notify the Director prior to termination of system operation by the permittee, termination of the approved water source by the Supplier, and/or termination of the acceptance of treated water by a User.

## **Section PR.10d      Special Requirements for Records and Documentation for District Scale Systems**

A copy of the permit must be provided to all Suppliers and Users in a District-Scale system by the permittee. The permittee, Treatment System Manager, suppliers, and users must have the permit available at all times for inspection by the director.

Copies of the current Operations and Maintenance Manual must be kept on premise where each component resides.

### **Section PR.10e**      **Site Supervisor**

Each User and Supplier shall designate a Site Supervisor to oversee the operation and maintenance of the onsite distribution and/or collection systems and act as a liaison to the permittee or Treatment System Manager. The Site Supervisor must be an employee who is familiar with the plumbing system and available and be able to be reached by phone at all times. The User and or Supplier shall notify the permittee immediately of replacement or re-designation of Site Supervisor(s). The permittee shall notify the Director in writing within thirty (30) days of replacement or re-designation.

The Site Supervisor shall be adequately trained to operate and monitor all needed equipment to assure continuous compliance with the conditions set forth in these Program Rules.

The Site supervisor is responsible for:

- Overseeing the maintenance of the collection and/or distribution system;
- Overseeing repairs and/or modifications to the plumbing/sprinkler system to ensure it remains in compliance with all regulatory requirements;
- Maintaining all signs, labels, and tags on system components;
- Acting as a liaison between the actual users of the treated alternate water source and the Treatment System Manager and the Director;
- Understanding, and implementing emergency procedures and protocols; and,
- Reporting system issues, non-functioning system components, and any other condition that jeopardizes public health and/or permit compliance as needed to the Treatment System Manager and the Director.

### **Section PR.10f**      **Lockable Valves**

All properties collecting, treating, receiving, or distributing water from an ONWS shall include lockable valves which can be activated to control the flow of water from any source originating from another property and lockable valves which can be activated to control the flow of water to any user located at another property.

## Section PR.11 Legacy Systems

**Applicability:** This Section 11 of these program rules applies to ONWS operated by permittees or project applicants that, as of the date that these program rules took effect, either:

- Had a valid operating permit by the director; or
- Did not have a valid operating permit but did have an approved Engineering Report

These projects will be considered “Legacy Systems”. Permittees or project applicants to which this Section 11 applies have two options if their system design does not meet specific requirements of these program rules for treatment and LRTs. Note that Legacy Systems MUST comply with all other aspects of these Program Rules, including but not limited to: Treatment System Manager qualifications requirements, instrumentation for continuous monitoring of appropriate surrogate parameters, Operations and Maintenance Manual content and revision, and malfunction reporting requirements.

### **Option 1: Ongoing monitoring option.**

Under Option 1, a legacy system shall be required to demonstrate compliance through ongoing monitoring, sampling, laboratory analyses and reporting as specified by the director and may be required to monitor for additional parameters such as protozoa or viruses.

Option 1 will be available to approved legacy systems until such time as the director determines that best available technology options are feasible to implement.

### **Option 2: Revision, reassessment and approval under the new rules.**

Under Option 2, a legacy system may make changes to the existing treatment design or instrumentation to conform with new requirements under these program rules. Under Option 2, the director will evaluate submittals and approve design or instrumentation changes consistent with requirements set forth in these program rules. After approval under Option 2, projects will demonstrate continuing compliance with the law in accordance with all procedures in the program rules.

## Section PR.12 Enforcement

At the discretion of the Director, these Program Rules may be enforced through the following mechanisms:

- Inspection and notices of violation



- Suspension and revocation of permits
- Violations and administrative penalties
- Appeals