



POST-CONSTRUCTION SITE RUNOFF FOR NEW DEVELOPMENT AND REDEVELOPMENT PLAN

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Developed for the City of Millersburg

by

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List of Appendices

This Post-construction Plan is Appendix D of the City of Millersburg Stormwater Management Program (SWMP). The Appendix connected with the Post-construction Plan shown below are numbered sequentially and include the report name in which they appear and that report's SWMP Appendix designation.

PC for NDRD Appendix D-1: Operation and Maintenance Agreement and Checklists

Acronyms

DEQ	Oregon Department of Environmental Quality
EPSC	Erosion Prevention and Sediment Control
LID	Low Impact Development
MMC	Millersburg Municipal Code
MS4	Municipal Separate Storm Sewer System
NDRD	New Development and Redevelopment
NOV	Notice of Violation
NSRR	Numeric Stormwater Retention Requirement
O & M	Operation and Maintenance
PCPI	Private Construction of Public Infrastructure
SWMP	Stormwater Management Program
SWQ	Stormwater Quality

Post-Construction for NDRD Revisions

Date	Revisions

1 INTRODUCTION

On June 1, 2021, the City of Millersburg (the City) was issued a Phase II Municipal Separate Storm Sewer System (MS4) General Permit¹ from the Oregon Department of Environmental Quality (DEQ). An MS4 is the storm sewer system that is owned and maintained by the City through which runoff from precipitation and snow melt events flow, eventually discharging into waters of the state. The City's MS4 discharges to the Willamette Basin through Crooks Creek and Crooks Creek Tributary. Implementation of the programs described in the Permit results in discharges that are essentially void of pollutants to the maximum extent practicable.

The City is in the process of satisfying the significant requirements that are outlined in the Phase II MS4 General Permit (MS4 Permit), including development of a Stormwater Management Program (SWMP). One of the six major requirements outlined in the MS4 Permit is the Post-Construction Site Runoff for New Development and Redevelopment (NDRD) minimum control measure, for which this Plan was developed.

2 POST-CONSTRUCTION SITE RUNOFF FOR NEW DEVELOPMENT AND REDEVELOPMENT PROGRAM

The MS4 Permit requires that NDRD meet a certain threshold to construct post-construction runoff controls (stormwater quality facilities), which are structural stormwater controls that are designed to reduce discharges of pollutants in stormwater runoff. By implementing runoff reduction controls and / or stormwater treatment controls at these sites, stormwater runoff that would typically result from development and increased impervious areas is reduced significantly, and runoff that may contain pollutants from a development is treated onsite, limiting the amount of pollutants discharged to local waterways.

To address the requirements of the Post-construction Program, the following elements are described in this Plan:

- Regulatory Authority
- Low Impact Development
- Stormwater Quality Facility Design Standards
- Review of Development Plans
- Stormwater Quality Permit
- Installation of Runoff Controls
- Long-term Maintenance of Runoff Controls

¹ Phase I MS4 permittees are communities with populations over 100,000. Phase II permits are issued for those public entities with populations less than 100,000 located in urbanized areas.

- Routine Inspection of Stormwater Quality Facilities
- Compliance Assurance and Enforcement

3 REGULATORY AUTHORITY

The Millersburg Municipal Code (MMC) Title 12, "Surface Water," was adopted to "protect the health, safety, and general welfare of the citizens of the City of Millersburg" and to "protect and enhance the water quality and natural functions of watercourses and water bodies through the regulation of storm water" among other goals. The MMC can be found on the City's website under the "Our Government" tab at https://library.municode.com/or/millersburg/codes/municipal_code?nodeId=COORMIQR.

The MMC Section 12.45 of Title 12 sets forth the requirements of the City's Post-construction Program and provides the authority to approve, install, inspect, and require maintenance of stormwater quality facilities. The MMC contains the following titles:

- Design and Construction Standards
- Applicability of post-construction storm water quality requirements
- Permit required
- Post-construction storm water quality plan required
- Relationship to Chapter 15.20 MMC, Private Construction of Public Improvements
- Permit fees
- Authorization for private storm water facilities operation and maintenance agreements
- Private storm water facilities operation and maintenance agreements
- Completion of construction
- Right of entry – Inspection and testing
- Continuing obligation of owners and entities using, occupying, or controlling subject property
- Unlawful conduct

The MMC Section 12.80 provides the authority for the City to conduct enforcement to the extent allowable under state law.

3.1 Applicability

The City requires structural stormwater controls to be constructed on NDRD sites that create or replace 5,000 square feet or more of new impervious surface area. Structural stormwater controls must be designed to target pre-development runoff conditions and in no case shall the post-construction release rates increase the flooding conditions

downstream. Property owners must conduct long-term maintenance of structural stormwater quality facilities, so these controls continue to operate as designed.

Along with the authority to enforce the Post-construction Program, the City has codified its Engineering Standards. The City's Stormwater Management Engineering Standards – Division E (Engineering Standards) can be found at <https://www.millersburgoregon.gov/publicworks/page/engineering> and contains design requirements for post-construction runoff control.

More specifically, Section E 1.03 of the Engineering Standards specifies that “Permanent stormwater management facilities shall be provided on all property improvements within the City of Millersburg per these Engineering Standards for the following types of development”:

- A. All partitions and subdivisions where required.
- B. All public and private development that requires stormwater reviews and/or approvals from the City of Millersburg.
- C. Developments entailing construction that would change the point of discharge of surface waters, the quantity of discharge, or discharge surface waters at a higher velocity or flow than that of the preconstruction discharge rate or could contribute to pollution of surface waters.
- D. Construction or reconstruction of public roadways and temporary detours.
- E. Developments entailing construction in or adjacent to any existing stream or surface watercourse including intermittent streams.
- F. Developments requiring construction in or adjacent to the 100-year floodplain of any stream.

Submittal requirements for proposed development plans can be found in Section E 2.00 of the Engineering Standards.

4 LOW IMPACT DEVELOPMENT

The MS4 Permit defines Low Impact Development (LID) as a “stormwater management approach that seeks to mitigate the impacts of increased runoff and stormwater pollution using a set of planning, design and construction approaches and stormwater management practices that promote the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater, and can occur at a wide range of

landscape scales (i.e., regional, community and site). Low impact development is a comprehensive land planning and engineering design approach to stormwater management with a goal of mimicking the pre-development hydrologic regime of urban and developing watersheds."

A goal of the Post-construction Program is to mimic predevelopment runoff by infiltrating stormwater runoff. Implementing LID supports stormwater runoff infiltration into the vegetated areas of a developed site. The less runoff discharged from a developed site, the less potential for pollution to enter area waterways.

The City has reviewed the MMC, Engineering Standards, and Land Development Code and found that LID is encouraged in all supporting documents.

5 STORMWATER QUALITY FACILITY DESIGN STANDARDS

Section E 3.01 of the City's Engineering Standards specifies that "Post-construction stormwater quality facilities are encouraged on all development and redevelopment projects and are required in most situations per Title 12 of the Millersburg Municipal Code." Post-construction stormwater quality facilities are defined in Section E 1.06 of the Engineering Standards as "Permanent stormwater infrastructure incorporated into a development or redevelopment project designed to reduce pollutant loads and runoff velocity from impervious surfaces, and which may also include improvements constructed to reduce the quantity of stormwater runoff leaving the site."

5.1 Acceptable Stormwater Quality Facilities

Section E 3.02 of the Engineering Standards outlines acceptable post-construction structural stormwater quality facilities that may be proposed:

- 1) Vegetated Stormwater Quality Facilities, and
- 2) Manufactured Facilities.

Vegetated stormwater quality facilities, which are considered a LID technique, are designed to filter stormwater through soil and plant material. These facilities are encouraged for use on all projects on private property. Design of vegetated facilities must meet the performance standards provided in the City's Engineering Standards and in Section 5.2 of this Plan.

Manufactured facilities are underground vault type treatment systems, which may be approved on a case-by-case basis when vegetated stormwater facilities are not a feasible option due to site constraints. Manufactured facilities are not typically allowed if the City will be responsible for them as publicly owned, operated, or maintained facilities.

The City can be flexible with stormwater quality facilities that are proposed for a development if they meet or exceed the City's Engineering Standards. Detention ponds are often proposed for developments to reduce stormwater runoff peak flows and velocities prior to discharge. Information on detention pond requirements can be found in Section E 8.00 of the Engineering Standards. As for stormwater quality, however, the City's MS4 Permit specifically states that "Detention ponds are not a sufficient stand-alone treatment method and must be combined with other structural stormwater controls." Because the City is required to comply with the MS4 Permit, detention ponds can only be accepted if additional stormwater quality facilities are included, sometimes referred to as a treatment train.

5.2 Performance and Treatment Standards

The size of a stormwater quality facility is based upon the impervious area flowing to it. Implementing solutions to reduce stormwater runoff, such as pervious pavement and green roofs, helps to reduce the size of any stormwater quality facility being proposed and, therefore, reduces the cost of treating stormwater runoff.

Performance Standard

Section E 3.03 of the Engineering Standards sets the site performance standards that must be met with any stormwater quality facilities proposed. The MS4 Permit refers to a Numeric Stormwater Retention Requirement (NSRR) that quantifies the runoff that must be retained (infiltrated, evapotranspired, or reused onsite). The City's NSRR requires the capture and treatment of 80% of the average annual runoff, which in Millersburg's case is one inch of precipitation in a 24-hour rain event. The site performance standard is that 100% of the NSRR volume is routed to one or more stormwater quality facilities where the water will fully infiltrate, evapotranspire, or be used onsite.

Treatment Standard

For sites where 100% of the NSRR volume cannot be retained due to technical infeasibility or site constraints, runoff that cannot be retained must be treated prior to discharge. The treatment design goal of proposed stormwater quality facilities is removal of 80% of the total suspended solids. Infiltration through soil media with underdrains (facilities such as planters or swales) generally meet this design goal if sufficient capacity is implemented and appropriate infiltration media is utilized.

The location of proposed stormwater quality facilities is important. For NDRD, no more than 20,000 square feet of impervious area should drain to a vegetated stormwater quality facility, such as a planter or a swale, unless otherwise approved by the City Engineer. Methods that may be used to retain stormwater runoff include:

- Pervious Pavement
- Pervious Asphalt
- Pervious Concrete

- Permeable Paver
- Green Roof

A description of each of these methods can be found in the Engineering Standards.

Although manufactured stormwater quality facilities may be approved on a case-by-case basis, green infrastructure techniques are more desirable and will be given priority above hardscaped structural controls for stormwater treatment. Should manufactured stormwater quality facilities be proposed, they must be sized as per the manufacturer's specifications to treat the impervious area runoff of the contributing basin.

Development plans submitted to the City for review must show that these performance standards are being met for each of the stormwater quality facilities proposed.

The City does not currently offer offsite mitigation options, including a stormwater mitigation bank or payment-in-lieu program.

6 REVIEW OF DEVELOPMENT PLANS

All major projects for NDRD that are required to implement stormwater quality facilities are reviewed by the City to ensure compliance with the MMC and Engineering Standards.

6.1 Plan Submission

A complete Stormwater Report that describes the existing topographic features and proposed structural stormwater controls that will manage stormwater runoff must be submitted to the City.

The existing topographic features must be provided in a topographic contour map drawn to scale that describes existing site conditions and includes the following information:

- Drainage basins within, and/or contributing to, the improvement limits. Existing routing and discharge locations of the basins shall be shown.
- Existing contours of the land at one (1)-foot intervals, or as otherwise required or approved by the City Engineer, with the location of existing buildings, structures, impervious area, and public and private utilities on the property. Location of any existing building or structure on adjacent property that is within 15 feet of a proposed stormwater facility.
- All areas improved or unimproved, lying upstream and draining to or through the proposed development.

- All areas improved or unimproved, lying downstream, to a trunk line, that will receive the runoff developed from the site.
- Location of existing stormwater facilities that transport surface water onto, across, or from the site, including natural watercourses, artificial channels, drain pipes, or culverts.
- Location of any existing post-construction stormwater quality facilities.
- Location of any septic drain fields and areas of known contaminated soil or groundwater.
- Locations of springs, wells, or other subsurface water sources.
- Arrows indicating drainage direction in all public and private property and for all stormwater conveyance systems.
- Route used in determining the pre-developed time of concentration.
- Floodplains, Natural Resource Overlay Districts, and wetlands.

The Stormwater Report must provide information on proposed drainage improvements and anything necessary to evaluate the performance of these improvements, including the following:

- Drainage basins within, and/or contributing to, the improvement limits. Proposed routing of all piping and other drainage improvements and discharge locations of the basins shall be shown.
- Proposed contours of the land after completion of the project at one (1)-foot intervals, or as otherwise required or approved by the City Engineer. This shall include elevations, dimensions and location, extent, and slopes of all grading work proposed to be done.
- Cut and fill areas, soil types, topography, and vegetation.
- Location of proposed stormwater facilities that transport surface water across or from the site, including, but not limited to, natural watercourses, artificial channels, under drain pipes, and culverts.
- Location, type, size, capacity, and details of proposed post-construction stormwater quality facilities, detention facilities, impervious area reduction measures, and excess flow escape routing. Clearly identify all impervious surfaces contributing to each facility.
- Planting plans for vegetated post-construction stormwater quality facilities.

- Boundaries and total square footage of all impervious surfaces and areas that will be otherwise altered in a manner that will increase surface water runoff and boundaries of all areas to remain in an existing or natural condition.
- The route used in determining the post-developed time of concentration.

Specific submittal and design requirements can be found in the City's Engineering Standards.

6.2 Plan Review and Approval

The City Engineer or their designee will review all plans submitted, with special attention to those that contain proposed stormwater quality facilities. The City evaluates the completeness of the Stormwater Report submitted, determines whether all standards are being met, and ensures submission requirements are consistent with each site.

The proposed Stormwater Report cannot be approved until all Post-construction Program conditions have been met, including required retention and design standards. The City reserves the right to request additional analysis should the plans submitted not provide a complete description of the proposed stormwater management system.

When all pages of the final construction plans are stamped and signed by the design engineer and by the City Engineer, the project design is considered approved.

7 STORMWATER QUALITY PERMIT

Once the Stormwater Report is approved and plan sheets are stamped, permits must be obtained. No clearing, grubbing, grading, or other dirt work can be conducted without the approved permits.

7.1 Construction Permits

All projects requiring post-construction stormwater quality facilities are required to obtain a Stormwater Quality Permit. Projects that require a stormwater quality facility may also be required to obtain a Grading Permit and/or Right-of-Way Permit, which are often issued as a Combined Construction Permit.

Larger, more complex construction sites such as subdivisions, commercial, and street projects may also be subject to the Private Construction of Public Infrastructure (PCPI) Permit identified in Title 15 of the MMC. These projects build infrastructure, streets, and utilities that will eventually be dedicated to the City and require City oversight to ensure engineering standards are followed and infrastructure is constructed using high quality

materials. When a PCPI Permit is issued, it takes the place of individual Grading and Right-of-Way Permits. However, a Stormwater Quality Permit is still required for PCPI projects.

7.2 Stormwater Quality Permit

A Stormwater Quality (SWQ) Permit is required when stormwater quality facilities are to be constructed as part of the project. The SWQ Permit ensures that:

- Stormwater quality facilities are designed in accordance with the City's Engineering Standards.
- Stormwater quality facilities that were proposed are built in the approved location and as designed.
- Materials used to construct the stormwater quality facilities are of acceptable quality.
- Construction of stormwater quality facilities is conducted using best management practices.
- Stormwater quality facilities are inspected throughout their construction.
- Vegetation within stormwater quality facilities is installed as per plan and compliant with the City's Engineering Standards.
- Stormwater quality facilities that are not constructed as per design may be required to be reconstructed.

The SWQ Permit Application is included in the permitting package received prior to construction. The Application must be completed and approved before construction begins.

The SWQ Permit requires the permit holder to notify the City when stormwater quality facilities are being constructed and allow the City to inspect them. The City will inspect each stormwater quality facility during construction and once approved, will sign off on them. Only one SWQ Permit is required to cover all stormwater quality facilities on a project. However, if one stormwater quality facility does not pass inspection, the entire project will be considered noncompliant.

A SWQ Permit is valid for a period of one year or until construction of stormwater quality facilities are completed and surface conditions are stabilized with permanent measures. If the stormwater quality facilities have not been completed within that one year, the permit holder must make a written request for an extension. Extensions, if approved, shall be for twelve months and may be subject to administrative fees.

Once all stormwater quality facilities are constructed and subsequent revegetation has taken place, the owner will make a request to the City to perform a final inspection. Upon verification by the inspector that permanent stormwater quality facilities have been installed and are functioning effectively, and revegetation has occurred, the SWQ Permit will be closed. No "in lieu of" work may be substituted for permanent stabilization within any public right-of-way.

7.3 Erosion Prevention and Sediment Control Permit

The City also requires an Erosion Prevention and Sediment Control (EPSC) Permit for any construction activities disturbing an area of 10,000 square feet or greater, cumulatively. The owner of the property on which the activity is proposed must apply for the EPSC Permit. As part of the application, the owner must sign a statement of financial responsibility for damages resulting from noncompliance with EPSC requirements. EPSC Permits are valid for one year and must be renewed annually.

Information concerning the EPSC Permit can be found in the City's EPSC Manual.

8 INSTALLATION OF RUNOFF CONTROLS

The Stormwater Quality Report and project design drawings must contain all the information necessary to install the stormwater quality facilities as designed and approved by the City. Because the City Engineer approved the stormwater quality facilities being proposed on a site, those facilities must be constructed as per plan detail. Location, size, depth, and thickness and composition of media, underdrains, and liners must all comply with the approved details. Any deviation from the approved plans must be submitted in writing to the City for their consideration. No changes can be made until such time as the City has had an opportunity to review the proposed revisions and has approved of them in writing.

Once a project is completed, the developer is required to submit as-built drawings to the City. As-built drawings must contain any revisions to the originally approved stormwater quality facilities. These as-built plans will then be provided to the City of Albany, who updates the City's Geographic Information System. All as-built plans will also be maintained by the City to show compliance with the MS4 Permit.

9 LONG-TERM MAINTENANCE OF RUNOFF CONTROLS

To function for their intended purpose over the long term, stormwater quality facilities must be periodically maintained. Public facilities will be maintained by the City. Private facility maintenance is the responsibility of the property owner.

Per Title 12 of the MMC, private stormwater quality facilities require that the owner sign a Private Stormwater Facilities Operations and Maintenance (O & M) Agreement with the City, committing the owner, and future owners, to certain operation and maintenance activities. The standard O & M Agreement and stormwater quality facility checklists that describe operation and maintenance activities can be found in [PC for NDRD Appendix](#)

[D-1](#) of this Plan. The operation and maintenance practices have been adapted from the [Low Impact Development Approaches Handbook](#) developed by Clean Water Services.²

The City's O & M Agreement and Checklists do not provide maintenance checklists for manufactured facilities. Manufactured facilities shall be maintained according to manufacturer's recommendations.

10 ROUTINE INSPECTION OF STORMWATER QUALITY FACILITIES

Upon signing the O & M Agreement, the owner agrees to operate, inspect, and maintain each stormwater quality facility in accordance with design parameters and the O & M Plan. The O & M Plan represents current best management practices for operation and maintenance activities and includes the specific checklists that pertain to the stormwater quality facilities on site. Checklists can be found in [PC for NDRD Appendix D-1](#).

Checklists should be used during required owner inspections. For example, planters and swales should be inspected a minimum of once annually for sediment accumulation, erosion scouring, standing water, rodents, insect, trash, and debris among other issues. Maintenance practices to resolve these issues are also provided in the checklists. After any inspection that finds issues with the stormwater quality facility, the owner is expected to resolve those issues within 30 days. Documentation of resolution efforts should be maintained as evidence of proper O & M Agreement compliance.

The owner is expected to retain a copy of the O & M Agreement, the O & M Plan, and applicable as-built drawings on site. The owner must also maintain a log of all inspection activities on site and maintenance activities. The O & M Agreements, O & M Plan, as-builts, and maintenance log must be available to the City upon request or during City inspections.

The O & M Agreement also grants the City right of entry to inspect the stormwater quality facilities. The City will give ten (10) days prior notice to the Owner, except that no notice shall be required in cases of an emergency. Inspections are not limited to the activities identified in the O & M plan and may include testing as necessary to determine if the stormwater quality facilities are retaining their designed treatment capacity. The City will identify any deficiencies that may need to be corrected. Owner will be notified in writing of any and all deficiencies identified and shall make corrections within 30 days of the date of the notice.

² Chapter 1 of the Low Impact Development Approaches Handbook: "The handbook is a collaborative product of the Tualatin Basin Natural Resources Coordinating Committee, which includes the land use jurisdictions within urban Washington County, and Clean Water Services, Tualatin Hills Park and Recreation District and Metro. Clean Water Services is a water resources management utility in urban areas of the Tualatin River Watershed that builds, maintains and enhances the public drainage system in partnership with Washington County and its member cities."

The O & M Agreement is a covenant that runs with the land and is recorded with the appropriate records department of Linn County. The O & M Agreement is binding on all owners of the property at the present and in the future, and their heirs, successors, and assigns. The owner is responsible for notifying the City of any change in property ownership and/or change in the owner representative designated to receive notices.

11 COMPLIANCE ASSISTANCE AND ENFORCEMENT

The owner of the land on which a stormwater quality facility is located must comply with not only the SWQ Permit conditions, but also all the conditions set forth in the O & M Agreement. The owner is critical in making sure stormwater quality is always protected at a developed site. It is necessary to have proper documentation, complete inspections, and timely stormwater quality maintenance. The owner is responsible for:

1. Ensuring compliance with all water quality permits and requirements in effect during the construction work, and
2. Maintaining stormwater quality facilities onsite after construction.

The City may provide compliance assistance depending upon the results of its investigations. The City's compliance assistance and enforcement actions achieve multiple objectives including:

- Achieving compliance at the outset of a project,
- Documenting instances of noncompliance,
- Ensuring that sites return to compliance, and
- Assessing penalties, as appropriate.

The most effective way to show compliance is to maintain all applicable records including permits, plans, inspections, City approvals, maintenance, and remedies.

11.1 Stormwater Quality Permit Compliance

The site must have all the necessary permits secured and approved before any clearing or grading work begins. A SWQ Permit must be obtained from the City to show that the stormwater quality facilities proposed for the site have been reviewed and approved by the City for construction. This Permit should be maintained with the other permits required for the project for review by the City upon request.

Effectively managing the required documentation reflects an organized and most likely compliant site. Poor management of required documentation can represent problems with understanding the requirements and implementing the project design. The following documentation should be maintained to show compliance with the SWQ Permit:

1. Stormwater Quality Permit
2. Approved Stormwater Report

3. City notifications
4. City inspections
5. Documentation of all corrective actions made as a result of City inspections, such as invoices, bill of sale, labor costs
6. Documentation of all maintenance records such as invoices, bill of sale, labor costs

11.2 O & M Agreement Compliance

Once stormwater quality facilities have been constructed and approved, and before the construction is complete, O & M Agreements and the O & M Plan must be finalized. Future inspection and maintenance of stormwater quality facilities is required by the owner of record to maintain the original and approved design and function of the facilities.

Often, businesses, landscapers or Homeowner's Associations are not familiar with the maintenance required for the stormwater quality facilities. The City understands that outreach to owners / managers of projects may be required to assist them with additional information on maintenance requirements. The City will, from time to time, contact all facility owners / managers to offer assistance as may be needed. In addition, every City inspection is an opportunity for the owners / managers to understand the City's expectations more clearly with respect to maintaining these facilities.

Proper operation and maintenance of stormwater quality facilities is not optional and is required by the City's MS4 Permit issued by the DEQ. The City must enforce the operation and maintenance requirements to comply with the MS4 Permit, so it is imperative that owners / managers make every effort to maintain their facilities and, if questions arise, reach out to the City Engineer for clarification.

The following is taken from the O & M Agreement that is signed and recorded once construction is complete:

CITY CORRECTIONS If correction of all Owner or City identified Deficiencies is not completed within thirty (30) days after Owner's inspection or City notice, City shall have the right to have any Deficiencies corrected. City shall have access to the Facilities for the purpose of correcting such Deficiencies. Owner shall pay all costs reasonably incurred by City for work performed to correct the Deficiencies (City Correction Costs) following Owner's failure to correct any Deficiencies in the Facilities. Owner shall pay City the City Correction Costs within thirty (30) days of the date of the invoice. Owner understands and agrees that upon non-payment, City Correction Costs shall be secured by a lien on the Property for the City Correction Cost plus interest and penalties which lien, shall take priority over all other liens and encumbrances to the maximum extent permitted by law. City Correction Costs are defined as all City expenses incurred in taking the corrective actions authorized herein. These costs include, but are not limited to, all amounts paid, or to be paid, to third party contractors as well as all direct and indirect City costs including, but not limited to, labor, benefits, equipment, engineering, administrative, and legal costs. Costs will be determined using the City's current cost accounting methodology.

11.3 Enforcement

In the event of noncompliance with the terms and conditions of either the SWQ Permit or O & M Agreements, and compliance assistance has not been successful, compliance assurance will be taken. Compliance assurance, otherwise known as enforcement, includes clear communication with the permittee, clear direction as to what is required, and a compliance schedule for completing the work.

Once compliance assistance is ineffective and maintenance of the stormwater quality facilities is not being conducted within the agreed upon schedule, or within 30 days as required by the O & M Agreements, escalation of enforcement actions must be conducted by the City. Enforcement escalation is conducted by using one or more of the following enforcement actions:

1. Verbal Warning
A verbal warning is considered to be advisory in nature. A file notation shall be made of the warning.
2. Compliance Advisory
A compliance advisory includes written recommendation(s) and/or requirement(s) to remedy potential noncompliance(s) that are non-egregious in nature but may result in impairment to waters of the state or minor discharges of sediment. Frequent compliance advisories may

result in a determination of recalcitrant or chronic violators/violations.

3. Notice of Violation with Corrective Order

A Notice of Violation (NOV) with a Corrective Order directs field correction of an identified violation. The NOV with Corrective Order may be issued for a violation that results in significant potential and/or observed discharges to the MS4 which are non-egregious to egregious³ in nature. An NOV with Corrective Order is issued when overall site conditions are considered to have violations that present potential for significant discharge to the MS4 and/or observed discharges to the MS4 that require reasonable remedial action to restore an impaired segment.

4. Notice of Violation with an Emergency Suspension of Municipal Stormwater System Access

An NOV with an Emergency Suspension of Municipal Stormwater System Access will direct the discharger to immediately comply with all requirements or stop or eliminate any endangering discharge. An endangering discharge could mean any discharge that contributes pollutants offsite, or any discharge that could result in an exceedance of a Total Maximum Daily Load in the Willamette Watershed. The NOV/Emergency Suspension may be issued if/when the requirements of an NOV with Corrective Order have not been timely satisfied, site conditions present significant potential for discharge to the MS4, or actual discharges to the MS4 are observed. With respect to the SWQ Permit, the City may place holds on approvals of permits and/or other inspections pending receipt of proof that the project has been returned to compliance.

5. Administrative Orders

An Administrative Order may be issued to those who continue to be out of compliance with their stormwater facilities even after other enforcement escalation attempts have been exhausted. Penalties may be issued to owners / managers with single or multiple permitted stormwater facilities who are alleged to be knowingly or willfully operating in noncompliance with the terms and conditions of their SWQ Permit and/or O&M Agreement, or when observed discharges are egregious in nature. The City Engineer may fine the permitted entity an amount of not less than \$250 per violation nor more than \$2,500 per violation. Each day a violation occurs or continues

³ "Egregious" is defined as a situation resulting in significant potential for impairment to waters of the state and/or have resulted in discharges of sediment to the MS4 as determined by the City Engineer, or designee.

constitutes a separate violation. Administrative Orders may also include administrative fees, cost recovery and/or criminal penalties.

In so much as the owner / manager does not conduct the necessary efforts to return to compliance and ensure the stormwater quality facilities are operational as designed, the City may, at its discretion and in satisfaction of the O & M Agreement, conduct abatement activities using contractors, as necessary. Within 30 days of abatement, the City will then prepare a summary of the costs to be delivered to the person or persons receiving the enforcement action advising them of the costs being levied against the real property. Those responsible for the stormwater quality facilities have 15 days from the date of receipt of the notice to submit a written request for a hearing before City Council. Should a written request not be submitted, and City Council finds the costs reasonable, a lien will be placed upon the real property for all costs related to the abatement and any interest as determined by City Council at the time the lien resolution is approved.

Further, expenses to mitigate any damage or impairs to the City's storm sewer system as a result of the owner / managers' failure to maintain stormwater quality facilities must be reimbursed to the City, including any reasonable administrative costs, fees for testing, attorney fees, court costs, and all expenses of litigation. Should the City suffer penalties because of the discharge, the responsible party must reimburse the City for any and all fines or penalties levied against the City as a result of the discharge.

Once enforcement is complete, documentation of the site returning to compliance must be recorded by the City.

Additional Notes:

- No action taken by the City Engineer, or designee, will be contingent on any requirement for any preceding or qualifying action on the part of the City Engineer, or their designee.
- No enforcement action taken by the City Engineer, or their designee, will limit the authority of the City Engineer from taking any other action available.

PC for NDRD Appendix D-1:

Operation and Maintenance Agreement and Checklists

**CITY OF MILLERSBURG
PRIVATE STORMWATER FACILITIES OPERATIONS AND MAINTENANCE AGREEMENT**

This Agreement is made and entered into this _____ day of 20____, by and between City of Millersburg (City) and _____(Owner).

RECITALS

A. Owner has developed or will develop the private stormwater facilities (Facilities) listed below and shown on attached, and/or referenced, as-built construction drawings in order to satisfy the requirements of Chapter 12.45 of the Millersburg Municipal Code:

B. The Facilities enable development of property while mitigating the impacts of additional surface water and pollutants associated with stormwater runoff prior to discharge from the property to the public stormwater system or waters of the state. The consideration for this Agreement is connection to the public stormwater system or waters of the state.

C. The property benefited by the Facilities and subject to the obligation of this Agreement is described with the legal description below or in Exhibit A (Property) attached hereto and incorporated by reference.

D. The Facilities have been designed by a registered design professional and constructed to accommodate the anticipated volume of runoff and to detain and treat runoff in accordance with Millersburg's Municipal Code, Development Code, Engineering standards, and Standard Construction Specifications, as applicable.

E. For the Facilities to function properly over time they must be maintained in accordance with the attached Operations and Maintenance (O & M) Plan.

F. The O & M Plan represents current best management practices for operation and maintenance activities. It is acknowledged that best management practices for O & M activities may change over time.

G. Even with routine maintenance conducted through the O & M Plan, over time, there is potential for the Facilities to lose treatment capacity through extended filtration and absorption of pollutants.

H. Failure to inspect and maintain the Facilities can result in an unacceptable impact to the public stormwater system and/or waters of the state.

NOW, THEREFORE, it is agreed by and between the parties as follows:

1. **INCORPORATION OF RECITALS** The recitals above are acknowledged and agreed to by all parties.
2. **CONSIDERATION** Owner undertakes the obligations set forth herein in consideration of development approval granted by the City of Millersburg and acknowledges that said consideration is adequate to support these obligations.
3. **PARTIES** The terms of this agreement apply to the named parties, their agents, contractors, successors, and assigns.
4. **O & M PLAN** As best management practices for O & M activities change over time the

owner will be bound to the most current standard operation and maintenance requirements set forth in the most current version of the City's Engineering Standards or like requirements. It is the City's responsibility to notify the owner of any required modifications to current practices.

5. TERM Owners obligations hereunder are perpetual and may only be modified or eliminated by amendment as described herein.

6. OWNER INSPECTIONS Owner agrees to operate, inspect and maintain each Facility in accordance with design parameters and the O&M Plan, attached hereto as Exhibit B and incorporated by reference. Owner shall retain a copy of this agreement, the O & M plan, and applicable as-built drawings on site. The owner shall also maintain a log of all inspection activities on site. The agreements, O & M plan, as-builts, and maintenance log shall be available to the City upon request or during City inspections.

7. OWNER NOTICE OF FACILITY FAILURE Owner shall provide notice to the City if Facilities fail to function as designed. Notice shall be provided within ten (10) days of identifying the failure. Additionally, Owner shall provide immediate notice to the City of any potentially damaging discharge or spill to the Facilities, public storm drain system, or water of the state.

8. DEFICIENCIES All aspects in which the Facilities fail to satisfy the O&M Plan, and/or provide the level of treatment intended with their design, shall be noted as "Deficiencies".

9. OWNER CORRECTIONS All Deficiencies shall be corrected at Owner's expense within thirty (30) days after completion of the inspection. In addition to the maintenance practices identified in the O & M Plan, corrections may include replacement of treatment soil, vegetation, drain rock, and/or other system components as applicable if the City determines that the Facility no longer provides the designed level of treatment. If more than 30 days is reasonably needed to correct a Deficiency, Owner shall have a reasonable period to correct the Deficiency so long as the correction is commenced within the 30-day period and is diligently prosecuted to completion.

10. CITY INSPECTIONS Owner grants City right of entry to inspect the Facilities. City will endeavor to give ten (10) days prior notice to Owner, except that no notice shall be required in case of an emergency. Inspections are not limited to the activities identified in the O & M plan and may include testing as necessary to determine if the Facilities are retaining their designed treatment capacity. City shall determine whether Deficiencies need to be corrected. Owner will be notified in writing of the Deficiencies and shall make corrections within 30 days of the date of the notice.

11. RIGHT OF ENTRY Owner hereby authorizes and consents to the exercise of all entry authority granted to the City pursuant to MMC 12.45.150 as it now exists, or may hereafter be amended, to permit inspections and testing of the private post-construction stormwater quality facilities. The same rights of entry shall apply to City Corrections.

12. CITY CORRECTIONS If correction of all Owner or City identified Deficiencies is not completed within thirty (30) days after Owner's inspection or City notice, City shall have the right to have any Deficiencies corrected. City shall have access to the Facilities for the purpose of correcting such Deficiencies. Owner shall pay all costs reasonably incurred by City for work performed to correct the Deficiencies (City Correction Costs) following Owner's failure to correct any Deficiencies in the Facilities. Owner shall pay City the City Correction Costs within thirty (30) days of the date of the invoice. Owner understands and agrees that upon non-payment, City Correction Costs shall be secured by a lien on the Property for the City Correction Cost plus interest and penalties which lien, shall take priority over all other liens and encumbrances to the maximum extent permitted by law. City Correction Costs are defined as all City expenses incurred in taking the corrective actions authorized herein. These costs include, but are not limited to, all amounts paid, or to be paid, to third party contractors as well as all direct and indirect City costs including, but not limited

to, labor, benefits, equipment, engineering, administrative, and legal costs. Costs will be determined using the City's current cost accounting methodology.

13. EMERGENCY MEASURES If at any time City reasonably determines that the Facilities create any imminent threat to public health, safety or welfare, City is hereby granted immediate right of access and may immediately and without prior notice to Owner take measures reasonably designed to remedy the threat. City shall provide notice of the threat and the measures taken to Owner as soon as reasonably practicable, and charge Owner for the cost of these corrective measures.

14. COVENANT RUNNING WITH THE LAND The terms of this agreement shall be recorded with the appropriate records department of the County in which the property is located and shall be a covenant running with the land and binding on all owners of the Property present and future, and their heirs, successors and assigns. Owner shall notify City of any change in property ownership and/or change in the owner representative designated to receive notices in Section 21 below.

15. AMENDMENTS The terms of this Agreement may be amended only by mutual agreement of the parties. Any amendments shall be in writing, shall refer specifically to this Agreement, and shall be valid only when executed by the owners of the Property, City and recorded in the Official Records of the county where the Property is located.

16. REMEDIES CUMULATIVE Remedies provided herein for breach of this agreement are cumulative and in addition to any and all other civil and criminal remedies.

17. VENUE AND ATTORNEY FEES Any litigation concerning this Agreement shall be brought in the Circuit Court of the State of Oregon for Linn County and the prevailing party shall be entitled to recover all costs, including reasonable attorney's fees as may be determined by the court, including those on appeal.

18. SEVERABILITY The invalidity of any section, clause, sentence, or provision of this Agreement shall not affect the validity of any other part of this Agreement, which can be given effect without such invalid part or parts.

19. AMBIGUITIES Ambiguities in this agreement, if any, shall not be resolved against the drafter.

20. COMPLETE INTEGRATION This Agreement is a complete integration of all of the parties' understandings and expectations of the other with regard to the subject of this Agreement. Prior discussions or representations which are not included in this Agreement are of no effect.

21. NOTICES Any notice required or permitted under this Agreement shall be given when actually delivered within three (3) business days following deposit in the United States Mail, certified mail, and addressed as follows:

A. To the Owner: _____

B. To the City: City of Millersburg
Attn: City Engineer
4222 NE Old Salem Road
Albany, OR 97321

IN WITNESS WHEREOF, Owner has signed this

Agreement. OWNER

Signature: _____

Name: _____

Title: _____

Address: _____

NOTARIZE DOCUMENT BELOW

[Use this notary block if Owner is an individual.]

STATE OF _____

County of _____

This instrument was acknowledged before me this

_____ day of _____, 20____,

By

Notary Public

(Use this notary block if Owner is an

entity.) STATE OF _____

County of _____

This instrument was acknowledged before me on

_____ (date)

by _____ (name of

person) as _____ (title)

of _____ (name of entity).

Notary Public

CITY OF MILLERSBURG

City Engineer, or designee

Date

Planter/Swale – Operation & Maintenance Checklist

These vegetated post-construction stormwater quality facilities are designed to accept stormwater runoff from adjacent impervious surfaces. They remove pollutants by filtering runoff through vegetation and soil media. Water should drain through the facility within 24 hours after a storm event. This checklist describes required and recommended inspection and maintenance activities to provide for proper facility function.

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
Required: Annually <i>Recommended: Monthly from November through April</i>	General	Sediment Accumulation in Treatment Area	Sediment depth exceeds 2 inches	Remove sediment from vegetated treatment area. Rake to ensure facility is level across bottom and water drains freely through soil media. Replace soil media or vegetation as needed
Required: Annually <i>Recommended: Monthly from November through April</i>	General	Erosion Scouring	Eroded or scoured facility bottom due to flow channelization, or higher flows	Repair ruts or bare areas by filling with facility soil media; repair or add splash blocks or rock energy dissipaters at curb and pipe inlets; regrade and replant large bare areas; use erosion control measures as needed
Required: Annually <i>Recommended: Monthly from November through April and after any large storm (1-inch in 24 hours)</i>	General	Standing Water	Standing water in the facility between storms that does not drain freely; no standing water should exist within 24 hours after any large storm (1-inch in 24 hours or larger)	Remove sediment or trash blockages and rake soil to clear of debris; remove sediment from clean-outs and clear perforated underdrains as needed
Required: Annually <i>Recommended: Monthly</i>	General	Rodents	Evidence of rodents or water piping through facility via rodent holes	Repair facility, fill rodent holes, and remove rodents
Required: Annually <i>Recommended: Monthly during growing season</i>	General	Insects	Insects such as wasps and hornets interfere with maintenance activities	Remove harmful insects and insect nests as needed
Required: Annually <i>Recommended: Monthly and after any large storm (1-inch in 24 hours)</i>	General	Trash and Debris	Visual evidence of trash, debris or dumping	Remove trash and debris from facility

Planter/Swale – Operation & Maintenance Checklist (continued)

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
<p>Required: Annually</p> <p><i>Recommended: Monthly from November through April</i></p>	General	Contamination and Pollution	Any evidence of spills or excess oil, gasoline, contaminants, or other pollutants;	Remove/cleanup contaminants. Coordinate removal/cleanup with City of Millersburg
<p>Required: Annually</p> <p><i>Recommended: Annually and after any large storm (1-inch in 24 hours)</i></p>	General	Facility malfunction; lack of drainage even after maintenance for sediment or standing water	Facility is not receiving flow and/or draining properly; structural malfunction or broken, misaligned or missing parts have created a safety, drainage, and/or other design problem	Repair or replace entire facility or broken/non-functioning elements to meet design standards and plans
<p>Required: Annually</p> <p><i>Recommended: Monthly and after any large storm (1-inch in 24 hours)</i></p>	Inlets/Outlets	Obstructed or non-working Inlet/Outlet	Inlet/outlet areas clogged with sediment, vegetation or debris; sediment trap, if present, is ½ or more full; overflow or clean-out pipes are damaged or parts are missing	Remove material to clear inlet and outlet areas, inflow pipes or downspouts, and sediment traps. Clear perforated drain pipe as needed. Repair or replace drain pipe, cap, grate structure or other elements as needed
<p>Required: Annually</p> <p><i>Recommended: Monthly from November through June</i></p>	Inlets/Outlets	Vegetation blockages	Vegetation blocking more than 10% of the inlet or outlet opening	Trim or remove excess vegetation and soil. No vegetation should block flow at inlets/outlets or overflows. If removing excess vegetation, protect area from erosion.
<p>Required: Annually</p> <p><i>Recommended: Monthly and after any large storm (1-inch in 24 hours)</i></p>	Check Dams	Erosion, Scouring, Flow Undermining	Scoured flow paths around sides or from underneath check dams; wood rot or holes; check dam is properly attached, aligned and secure; ballast rock on downstream side is in place	Repair ruts and scour areas with compost or facility soil media; Replace ballast rock; Repair or replace check dam as needed
<p>Required: Annually</p> <p><i>Recommended: Monthly</i></p>	Vegetation	Dead or Stressed Vegetation and/or Poor Vegetation Coverage	Vegetation is dead, stressed, sparse, bare or soil eroded in more than 10% of the facility	Determine cause of poor growth and correct the condition; replant with containerized plants as needed to meet design density standards
<p>Required: Annually</p> <p><i>Recommended: Monthly during growing season</i></p>	Vegetation	Invasive Vegetation and weeds	Nuisance weeds present. Invasive vegetation is present, including but not limited to the following: Himalayan Blackberry; Reed Canary Grass; Teasel English Ivy; Nightshade; Clematis; Cattail Thistle; Scotch Broom	Remove excessive weeds and invasive vegetation

Planter/Swale – Operation & Maintenance Checklist (continued)

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
Required: Annually <i>Recommended: Monthly during growing season</i>	Vegetation	Excessive Shading	Vegetation growth is poor because sunlight does not reach facility	Remove brushy vegetation as needed; re-plant with shade tolerant plants from City facility plant lists as needed
Required: Annually <i>Recommended: Monthly from November through April</i>	Liner (If Applicable)	Exposed or Damaged Liner, Leaks from Lined Facility	Liner is visible; more than three 1/4-inch holes in liner	Repair or replace liner and restore cover material
Required: Annually <i>Recommended: Annually</i>	Signage	No Parking signs or paint striping is not present or visually clear (only where required on project plans)	Signs are missing, bent or vandalized. Paint striping on street-side curb is faded or missing	Repair/replace signs and re-paint striping as needed

****No chemical control measures such as herbicides, insecticides, pesticides, fertilizers and rodenticides shall be used in post- construction stormwater quality facilities without prior approval from the City.**

Pervious Pavement – Operation & Maintenance Checklist

These facilities are impervious area reduction measures designed with a porous surface and an underlying stone layer that temporarily stores rainwater that percolates through the surface before infiltrating into the subsoil or being collected in underlying drain pipes and being discharged to the stormwater system. This checklist describes required and recommended inspection and maintenance activities to provide for proper facility function. For manufactured paver systems, the manufacturer's maintenance recommendations shall also be followed.

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
Required: Bi-annually <i>Recommended: Twice per year and after large storms (1- inch in 24 hours)</i>	Pavement Surface	Sediment and debris deposits, potentially reducing infiltration capacity	Sediment and debris deposits across surface	Sweep with regenerative air sweeper at least twice per year as a preventive measure against clogging
Required: Annually <i>Recommended: Monthly for areas near landscaping, adjacent to impervious areas, or in pathways of dirty vehicles</i>	Pavement Surface	Sediment and debris deposits, water infiltrates unevenly across surface or ponds in low areas	Clogged surface, water ponding, and/or water infiltrating unevenly across surface	Concrete or asphalt pervious pavement: Power wash; paver systems: unplug with vacuum sweeper truck or method per manufacturer's recommendations do not use surfactants; use inlet protection measures to collect debris and filter power wash runoff
Required: Annually <i>Recommended: Annually</i>	Structural components	Cracked or moving edge constraints; cracked or settled pavement	Cracked or moving edge constraints, or cracked or settled pavement that affects overall performance	Repair all cracks, settlement or other defects that affect performance of facility per design professional's or manufacturers' specifications
Required: Annually during fall <i>Recommended: Monthly during the Fall</i>	General	Leaf litter deposition on surface	Leaf litter that could affect stormwater infiltration through pavement	Sweep leaf litter and sediment to prevent surface clogging and ponding
Required: Annually <i>Recommended: Monthly during growing season</i>	Vegetation	Weeds	Weeds that cover 10% of the surface area	Remove weeds by hand, power washing, or other approved method; use inlet protection measures if power washing.
Required: Annually <i>Recommended: Annually and after power washing, vacuum sweeping, and weeding)</i>	Filter medium between pavers	Aggregate loss in pavers	Settling of pavers or lack of aggregate around pavers	Reset pavers and replace pore space with aggregate from original design

****No chemical control measures such as herbicides, insecticides, pesticides, fertilizers and rodenticides shall be used in post- construction stormwater quality facilities without prior approval from the City.**

Pervious Pavement Checklist

Green Roof Operation & Maintenance Checklist

These facilities are impervious area reduction measures and are lined and vegetated rooftop systems designed to intercept rainfall and reduce runoff - with excess flows directed to downspout drains. This checklist describes required and recommended inspection and maintenance activities to provide for proper facility function. System suppliers and manufacturer's recommendations shall also be followed for proper maintenance.

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
Required: Two times per year <i>Recommended: Monthly Nov - April and after large storms (1-inch in 24 hours).</i>	Green Roof structural components	Standing water, super saturated soil	Clogged drain or compacted soil	Clear drains; remove organics and other debris from drain; loosen compacted soil and amend
Required: Annually <i>Recommended: Annually and after large storms (1-inch in 24 hours).</i>	Structural components	Leaks in roof	Tears or perforation of membrane	Repair immediately. Contact manufacturer for repair or replacement
Required: Annually <i>Recommended: During Fall and Spring.</i>	Vegetation	Dead or stressed vegetation	Healthy vegetation should cover 90% of facility	Replant per original planting plan; irrigate as needed
Required: Annually <i>Recommended: During Fall and Spring.</i>	Vegetation	Dry grass or plants that may present a fire hazard	Overgrown areas, dry grasses, dead branches and leaves	Prune grass and plantings; remove clippings & debris
Required: Quarterly <i>Recommended: Monthly during growing season</i>	Vegetation	Weeds	Weeds on more than 20% of the site	Remove weeds manually
Required: Annually <i>Recommended: Monthly</i>	Growing medium	Exposed soil	Vegetation should cover 90% of facility	Cover exposed soil with plants and mulch consistent with original design
Required: Annually <i>Recommended: Monthly from Nov - April and after large storms (1-inch in 24 hours).</i>	Growing medium	Erosion	Rill or gully formation	Fill eroded areas with approved soil and lightly compact and replant consistent with original design

****No chemical control measures such as herbicides, insecticides, pesticides, fertilizers and rodenticides shall be used in post- construction stormwater quality facilities without prior approval from the City.**

Water Quality Manhole – Operation & Maintenance Checklist

These facilities provide pre-treatment by settling sediment and large debris. This checklist describes required and recommended inspection and maintenance activities to provide for proper facility function.

Inspection Timing	Facility Feature	Problem	Conditions to Check For	Maintenance Practices
Required: Annually <i>Recommended: Monthly from November through April</i>	General	Trash, Debris and Sediment	Material exceeds 50% of sump depth or one foot below the Tee or Snout	Remove trash, debris, and sediment
Required: Annually <i>Recommended: Annually</i>	General	Structural Damage	Tee or Snout is not securely attached to manhole wall	Securely attach snout or tee to wall and outlet pipe
Required: Annually <i>Recommended: Annually</i>	General	Structural Damage	Structure is not upright (allow up to 10% from plumb)	Ensure structure is in correct position
Required: Annually <i>Recommended: Annually</i>	General	Structural Damage	Connections to outlet pipe are not watertight	Repair or replace structure to work as designed.
Required: Annually <i>Recommended: Annually</i>	General	Structural Damage	Any holes in the structure (other than designed)	Repair/replace structure as needed so no holes exist, except as designed
Required: Annually <i>Recommended: Annually</i>	Manhole	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools; bolts into frame have less than 1/2 inch of thread (may not apply to self-locking lids)	Replace/repair as necessary to ensure mechanism opens appropriately
Required: Annually <i>Recommended: Annually</i>	Manhole	Cover Not in Place	Cover is missing or only partially in place	Replace cover and/or secure cover in place
Required: Annually <i>Recommended: Annually</i>	Manhole	Cover Difficult to Remove	One maintenance person cannot remove lid using normal lifting pressure; cover makes access for maintenance difficult	Ensure cover can be removed by one maintenance person
Required: Annually <i>Recommended: Annually</i>	Manhole	Ladder Rungs Unsafe	Ladder is unsafe (missing rungs, loose rungs, misalignment, rust, cracks)	Repair or secure ladder immediately. Ladder must meet design standards and allow safe access for maintenance

****WATER QUALITY MANHOLES ARE CONSIDERED CONFINED SPACES AND ARE NOT DESIGNED FOR PROLONGED OCCUPANCY. FOLLOW INDUSTRY SAFETY STANDARDS WHEN MAINTAINING FACILITIES.**