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• MEMORANDUM •

TO City of Lyons 449 5 th Street Lyons, Oregon 97358	DATE 01/25/2023	JOB NO NA
	ATTN Micki Valentine; City Manager	
	RE 2022 Mercury Total Maximum Daily Load (TMDL) Implementation Plan Update	

Edits from Original 2022 Submittal:

This document and the associated TMDL Implementation Plan Matrix were revised in January 2023 per consultation with the Oregon Department of Environmental Quality. The following revisions were made:

1. Addition of a “Land Use Compliance and Legal Authority” statement.
2. Revision of the mercury reduction requirement for the North Santiam Subbasin from 88% to 75%.
3. Revision of the TMDL Implementation Plan Matrix header dates from 2019-2024 to 2018-2023.
4. Estimated timelines for implementation of municipal code and design standards updates, listed in the TMDL Implementation Plan Matrix.
5. Addition of a qualitative evaluation action for the implementation of the City’s Education and Outreach Program in Action 1 of the TMDL Implementation Plan Matrix.

Introduction

This memorandum provides updates to the City of Lyons (City) Total Maximum Daily Load (TMDL) Implementation Plan. These updates have been made in response to the issuance of the Final Revised Willamette Basin Mercury TMDL and Water Quality Management Plan (Mercury TMDL) in 2019. Additional updates to the TMDL Implementation Plan to address other pollutants or the need for adaptive management have not been included here. Those updates should be considered during the City’s next 5-year TMDL Implementation Plan review.

Background

The Willamette Basin contains approximately 70 percent of Oregon’s population, a majority of Oregon’s agricultural land, and is a significant fish habitat in the Pacific Northwest. Currently, the Willamette River and many of its tributaries are listed as “impaired waters” under Clean Water Act §303(d), and fish consumption advisories are in place throughout the basin due to exceeded water quality standards for mercury. The Oregon Department of Environmental Quality (DEQ) published a final Mercury TMDL and Water Quality Management Plan (WQMP) in November 2019 to develop strategies for Designated Management Agencies (DMAs) to reduce mercury pollution from stormwater runoff and erosion in the Willamette Basin. The United States Environmental Protection Agency (USEPA) disapproved of Oregon

DEQ's TMDL in 2019 and issued its own Willamette Basin Mercury TMDL in 2021. The USEPA Willamette Basin Mercury TMDL defers to DEQ's Water Quality Management Plan for managing the implementation of mercury reduction requirements.

The Water Quality Management Plan "provides the framework for describing management efforts that will be put into action to attain the Willamette Basin Mercury Total Maximum Daily Load based on a more stringent fish tissue criterion that was adopted in 2011." The City of Lyons is a Designated Management Agency responsible for contributing to reductions in mercury. The City is classified within the DMA category of "*Cities with populations less than 5,000 people*" as defined by Section 13.3.1.11 of the Mercury TMDL WQMP. Under this category, the City is required to evaluate six listed Stormwater Control Measures and update their existing TMDL Implementation Plan by identifying feasible actions within the scope of these measures. These six stormwater control measures are listed below.

Stormwater Control Measures (From Table 13-11 of the Mercury TMDL)

1. Pollution prevention and Good Housekeeping for Municipal Operations
2. Public Outreach and Education
3. Public Involvement and Participation
4. Illicit Discharge Detection and Elimination
5. Construction Site Runoff Control
6. Post-Construction Site Runoff for New Development and Redevelopment

The City of Lyons currently maintains a TMDL Implementation Plan that was developed in 2008 to reduce mercury, temperature, and bacterial pollutant loads into the North Santiam River. This TMDL Implementation Plan includes a "Best Management Practices" Matrix (BMP Matrix) that details the specific actions that the City takes to reduce inputs of these pollutants into the North Santiam. Each year, the City provides a status update on the progress made towards implementing each action described in the BMP matrix. The development of the City's existing TMDL Implementation Plan and BMP Matrix predates the development of the Mercury TMDL. The City is located in the North Santiam Subbasin (HUC8: 17090005) which has a subbasin-wide mercury reduction requirement of 75% according to USEPA's Mercury TMDL.

The current storm drainage system in the City was described in the City's 2011 Storm Drainage Plan as a collection of "natural channels, ditches, pipe systems and infiltration facilities. Recent development in the study area has included stormwater detention facilities." The City has limited staffing for public works, and maintenance of the drainage system is handled primarily by contractors. New development projects within the City are subject to construction design standards that cover drainage infrastructure.

Updating the City's TMDL Implementation Plan to comply with the Mercury TMDL includes multiple components described in this Memorandum. A feasibility analysis was conducted to evaluate whether the City could fully or partially comply with the six Stormwater Control Measures listed in the TMDL WQMP (Table 13-11). This feasibility analysis includes a review of the City's existing TMDL Implementation Plan BMP Matrix to identify what actions the City may already be taking which fulfill the intent of the Stormwater Control Measures. Stormwater Control Measures that could feasibly be implemented by the City, but that were not adequately addressed by the existing TMDL Implementation Plan BMP Matrix, are identified and feasible actions that the City could take to implement those control measures were proposed. A revised TMDL Implementation Plan BMP Matrix was prepared and has been appended to this memorandum.

Feasibility Analysis of Stormwater Control Measures for The City of Lyons

Each of the six Stormwater Control Measures and their specific requirements listed in the Mercury TMDL were evaluated for their feasibility for implementation based on current actions that the City is already taking and the resources available to the City. This feasibility analysis is presented in Table 1.

Table 1 Feasibility Analysis

Stormwater Measure	Willamette Hg TMDL Requirements	Feasibility Assessment for Lyons
<p>1. Pollution Prevention and Good Housekeeping for Municipal Operations</p>	<p>DMA's must properly operate and maintain its facilities, using prudent pollution prevention and good housekeeping to reduce the discharge of mercury-related pollutants, such as sediment, through the stormwater conveyance system to waters of the state.</p> <p>DMA's must ensure that DMA-owned or operated facilities with industrial activity identified in DEQ's 1200-Z Industrial Stormwater General Permit have coverage under this permit. The DMA must also conduct its municipal operation and maintenance activities in a manner that reduces the discharge of pollutants to protect water quality.</p> <p>DMA's must maintain records for activities to meet the requirements of the Pollution Prevention and Good Housekeeping for Municipal Operations program requirements and include a descriptive summary of their activities in the TMDL Annual Report.</p>	<p>Implementing this measure is feasible for the City. The City can reasonably keep track of their regular public works activities which limit the discharge of mercury-related pollutants (such as sediment) through the stormwater system. For example, the City already conducts catch basins inspections and cleanings. Additional tracking of these tasks may be required. The City does not own or operate any facilities which have coverage under DEQ's 1200-Z Industrial Stormwater General Permit. If the City discovers it owns or operates a facility that is subject to permit coverage it will apply for coverage.</p>
<p>2. Public Education and Outreach</p>	<p>DMA's must conduct an ongoing education and outreach program to inform the public about the impacts of stormwater discharges on waterbodies and the steps that they can take to reduce mercury-related pollutants in stormwater runoff. The education and outreach program must address stormwater issues of significance within the DMA's community. DMA's must track implementation of the public education and outreach requirements. In each corresponding TMDL Annual Report, the DMA must assess their progress toward implementation of the program, including a qualitative evaluation of at least one education and outreach activity corresponding to the reporting timeframe for the associated TMDL Annual Report. The evaluation should be used to inform future stormwater education and outreach efforts to most effectively convey the educational material to the target audiences.</p>	<p>Implementing this measure is feasible for the City and can leverage existing education and outreach methods the City currently uses. The current TMDL Implementation Plan uses reader boards at City Hall and the Post Office, the electronic reader board, and the City website to periodically educate community members on stormwater issues.</p>
<p>3. Public Involvement and Participation</p>	<p>DMA's must implement a public involvement and participation program that provides opportunities for the public to effectively participate in the development of stormwater control measures. The DMA must comply with their public notice requirements when implementing a public involvement participation process, including maintaining and promoting at least one publicly accessible website with information on the city's stormwater control implementation, contact information and educational materials.</p>	<p>Implementing this measure is feasible for the City. Potential changes to the municipal code or Public Works Design Standards would require a public process via discussion and vote at a City Council meeting. City Council meetings would offer the public the opportunity to provide input on proposed changes. Stormwater information can be stored on the City's existing "Water Quality Program" webpage.</p>
<p>4. Illicit Discharge Detection and Elimination</p>	<p>DMA's must implement and enforce a program to detect and eliminate illicit discharges into the stormwater conveyance system. An illicit discharge is any discharge to a stormwater conveyance system that is not composed entirely of stormwater. The DMA must develop and maintain a current map of their stormwater conveyance system. The stormwater conveyance system map and digital inventory must include the location of outfalls and an outfall inventory, conveyance system and stormwater control locations. The DMA must make maps and inventories available to DEQ upon request. When in digital format, the DMA must fully describe mapping standards in the TMDL implementation plan or other city planning document.</p> <p>The IDDE program must prohibit non-stormwater discharges into the stormwater conveyance system through enforcement of an ordinance or other legal mechanism, including appropriate enforcement procedures and actions to ensure compliance. The ordinance or other regulatory mechanism must also define the range of illicit discharges it covers, including those discharges that are conditionally allowed, such as groundwater and lawn watering discharges. The IDDE program must also maintain a procedure or system to document all complaints or reports of illicit discharges into and from the stormwater conveyance system.</p> <p>The DMA must track implementation of the IDDE program requirements. In each TMDL Annual Report, the DMA must assess their progress towards implementation of the program.</p>	<p>Implementing this measure is partially feasible for the City. The City has an existing map of the stormwater drainage system and list of outfalls. This information is in the City's 2011 Storm Drainage Plan. The City could feasibly update the map to reflect known improvements.</p> <p>The City could feasibly update its existing Municipal Code to address discharges to the drainage system and establish an enforcement mechanism. Initial expectation is that Chapter 8.10 of the Municipal Code could be revised to accomplish this.</p>

Stormwater Measure	Willamette Hg TMDL Requirements	Feasibility Assessment for Lyons
<p>5. Construction Site Runoff Control</p>	<p>DMA's must refer project sites to DEQ, or the appropriate DEQ agent, to obtain NPDES 1200-C Construction Stormwater Permit coverage for construction projects that disturb one or more acres (or that disturb less than one acre, if it is part of a "common plan of development or sale" disturbing one or more acres).</p> <p>In addition, DMA's must require construction site operators to complete and implement an Erosion and Sediment Control Plan for construction project sites in its jurisdictional area that result in a minimum land disturbance of 21,780 square feet (one half of an acre) or more, and are not already covered by a 1200-C permit.</p> <p>Through ordinance or other regulatory mechanism, to the extent allowable under state law, the DMA must require erosion controls, sediment controls, and waste materials management controls to be used and maintained at all qualifying construction projects (as described above) from initial clearing through final stabilization to reduce pollutants in stormwater discharges to the stormwater conveyance system from construction sites.</p> <p>The DMA must develop, implement and maintain a written escalating enforcement and response procedure for all qualifying construction sites. The procedure must address repeat violations through progressively stricter response, as needed, to achieve compliance.</p> <p>The DMA must track implementation of its construction site runoff program required activities. In each TMDL annual report, the DMA must assess their progress toward implementing its construction site runoff program's control measures.</p>	<p>Implementing this measure is partially feasible for the City. Current City design standards only require the preparation of an Erosion Control Plan for development sites 5 acres or larger unless required by the State. More stringent requirements of the 1200-C would govern instead. Implementing a requirement for the development of an Erosion and Sediment Control Plan for smaller land disturbance projects than those already required to secure a 1200-C permit through the State is not feasible for the City. If the City were to institute a requirement for ESCPs on smaller projects, the City would have to have staff review those plans, monitor compliance, and provide enforcement. That is not feasible given the City's current staffing. Instead, the City could feasibly update its design standards to require ESCPs for projects 1 acre or larger to align with existing requirements for developments of this size to secure 1200-C NPDES permit coverage.</p>
<p>6. Post-Construction Site Runoff for New Development and Redevelopment</p>	<p>DMA's must develop, implement, and enforce a program to reduce discharges of pollutants and control post-construction stormwater runoff from new development and redevelopment project sites in its jurisdictional area. Example of such programs and program elements are provided in Appendix D.</p> <p>Through ordinance or other regulatory mechanism, the DMA must require the following for project sites discharging stormwater to the storm water conveyance system that create or replace 10,890 square feet (one quarter of an acre) or more of new impervious surface area: (A) The use of stormwater controls at all qualifying sites. (B) A site-specific stormwater management approach that targets natural surface or predevelopment hydrological function through the installation and long-term operation and maintenance of stormwater controls. C) Long-term operation and maintenance of stormwater controls at project sites that are under the ownership of a private entity.</p> <p>The DMA must target natural surface or predevelopment hydrologic function to retain rainfall on-site and minimize the offsite discharge of precipitation utilizing stormwater controls that infiltrate and evapotranspire stormwater. For projects that are unable to fully retain rainfall/runoff from impervious surfaces on-site, the remainder of the rainfall/runoff from impervious surfaces must be treated prior to discharge with structural stormwater controls. These stormwater structural controls should be designed to remove, at a minimum, 80 percent of the total suspended solids.</p> <p>The DMA must maintain records for activities to meet the requirements of the post-construction site runoff program requirements and include a descriptive summary of their activities in the TMDL Annual Report.</p>	<p>Implementing this measure could be partially feasible but may take time to implement. Changing requirements for new development or redevelopment would likely require an update to the City's Municipal Code or Public Works Design Standards (or both). This process should include an opportunity for public involvement which could further increase the timeframe for enacting changes.</p>

Updates to The City of Lyons TMDL Implementation Plan

Based on the results of the feasibility analysis, the BMP Matrix was updated to clarify the City’s existing actions that address the Stormwater Control Strategies and add several new actions that the City could reasonably undertake. Actions determined to be relevant to the Mercury TMDL in the existing BMP Matrix are presented in Table 2. New actions added to the BMP Matrix to address strategies specific to the Mercury TMDL are presented in Table 3.

Table 2 Existing Actions in Lyons’ BMP Matrix Relevant to the Mercury TMDL

#	Action	Deliverables	Relevance to Mercury TMDL
1	Education and outreach for protection of surface and drinking water.	1. Placement date of most current TMDL Plan matrix on City webpage. 2. Number of times electronic reader board updated 3. Number of flyers distributed	Addresses Strategy 2 (Public Education and Outreach).
2	Coordinate permit acquisition with Linn County and developers for >=1 acre	Number of 1200-C permits issued for >=1acre	Addresses Strategy 5 (Construction Site Runoff Control)
3	Install detention ponds and catch basins in new developments to control excess flow from run-off (ongoing)	Confirm new development and redevelopment does not cause flooding or excess flow with post construction measures	Addresses Strategy 6 (Post-Construction Site Runoff for New Development and Redevelopment)
4	Schedule and monitor sediment catch basin cleaning and performance and debris blockage in culverts	1. Report amount and date of debris and sediment removal and catch basin inspections as performed 2. Document number of notifications sent out and date of improved drainage flow	Addresses Strategy 1 (Pollution Prevention and Good Housekeeping for Municipal Operations)
10	Document complaints/concerns received (regarding illicit discharges). Follow ordinance violation procedure up to and including court action.	Number of complaints and number of resolutions. Provide information on website for the public on how to report illegal discharge.	Can be used to partially implement Strategy 4 (Illicit Discharge Detection and Elimination)

Table 3 New Actions Added to Lyon’s BMP Matrix to Address Stormwater Control Strategies

#	Action	Deliverables	Relevance to Mercury TMDL
1	Education and outreach for protection of surface and drinking water.	4. Qualitative survey to assess public education program.	Addresses Strategy 2 (Public Education and Outreach)
15	Update map of existing drainage infrastructure and outfalls	Updated map showing inventory of publicly owned catch basins, dry-wells, channels, and piped systems	Addresses Strategy 4 (Illicit Discharge Detection and Elimination)
16	Update municipal code to establish enforcement mechanism against illicit discharges	Revision to Municipal Code (perhaps existing nuisance code)	Addresses Strategy 4 (Illicit Discharge Detection and Elimination)
17	Update the City's Public Works Design Standards	Revision to the City's Public Works Design Standards indicating design criteria	Addresses Strategy 6 (Post-Construction Site Runoff for New Development and Redevelopment)
18	Provide an opportunity for public comments on amendments to municipal code and/or Public Works Design Standards	Minutes from public comment periods at Planning Commission or City Council Meetings where code or design standards are discussed.	Addresses Strategy 3 (Public Involvement and Participation)

Land Use Compliance and Legal Authority

The City of Lyons has adequate legal authority to implement the provisions of this plan. This plan is consistent with local comprehensive plans and zoning ordinances.

Funding for the provisions as listed in the plan include:

- Basic Operational Costs as Allocated by the Annual Budget
- Street Maintenance Funds as Allocated by the Annual Budget
- Grants and the City’s General Fund

Enforcement mechanisms for compliance with the provisions of this plan include:

- Titles 15 & 17 of the City of Lyons Municipal Code – Land use, construction standards and specifications, and erosion control requirements:
<https://www.codepublishing.com/OR/Lyons/#!/Lyons15/Lyons15.html>
<https://www.codepublishing.com/OR/Lyons/#!/Lyons17/Lyons17.html>
- Title 18 of the City of Lyons Municipal Code – Zoning criteria:
<https://www.codepublishing.com/OR/Lyons/#!/Lyons18/Lyons18.html>
- Title 19 of the City of Lyons Municipal Code – Comprehensive Plan:
<https://www.codepublishing.com/OR/Lyons/#!/Lyons19/Lyons19.html>
- City of Lyons Street and Storm Drain Design Standards, available on the City’s Development Permits website:
<https://www.cityoflyons.org/codes-permits/development-permits/>
- Environmental Health Complaint Form for Illicit Discharge Reporting, available on the City’s Water Quality Program website:
<https://www.cityoflyons.org/resources/water-quality-program/>

References

DEQ: Final Revised Willamette Basin Mercury Total Maximum Daily Load. Nov 22, 2019.

City of Lyons: TMDL Implementation Plan. Jan 25, 2008.

City of Lyons: Storm Drainage Plan. May, 2011.