Sept 30, 2022

To:
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RE: Willamette Basin Mercury Total Maximum Daily Load, City of Silverton

City Silverton staff has reviewed the highlights of the:

- DEQ 2019 *Final Revised Willamette Basin Mercury Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP).*

- The U.S. Environmental Protection Agency Feb 4, 2021, *Total Maximum Daily Load for Mercury in the Willamette Basin*, *Oregon*

- The TMDL issuance date was March 3, 2021, which makes the 18-month implementation deadline September 3, 2022.

- The City of Silverton is submitting an updated plan within 18 months for mercury and sediment reduction strategies and milestones identified Section 13.3.1 - *DEQ Revised Mercury TMDL Section 13 WQMP* Section 13.1.1 - 13.3.1, pages 68-221 – 124-221.

- The Sept 3, 2022 plan update mercury requirements were compared against the 2010 plan and existing 2021-2026 TMDL matrix.

The items outlined in this letter and the enclosed updated matrix list the components that supplement the reference to and actions for the 2006 TMDL adopted and approved by the Oregon Department of Environmental Quality as part of the City's 2010 Molalla-Pudding TMDL Implementation Plan (enclosed) that was required to incorporate the 2006 Mercury TMDL.

2022 Mercury Plan Updates

The items outlined below are the components that supplement and supersede the 2010 Plan for meeting the DEQ Revised Mercury TMDL Section 13 WQMP and EPA load allocations.

Introduction

On Nov. 22, 2019, DEQ issued the *Final Revised Willamette Basin Mercury Total Maximum Daily Load* that was submitted to the U.S. Environmental Protection Agency for action. EPA disapproved DEQ's TMDL on Dec. 30, 2019, and issued their final TMDL on Feb. 4, 2021, following a public comment period. EPA notified DEQ that, "EPA has established this TMDL and is hereby providing it to the State for implementation." EPA's TMDL states that reasonable assurance for their TMDL relies on DEQ's Water Quality Management Plan (WQMP). The WQMP was issued on Nov. 22, 2019, as part of the EPA TMDL. EPA and DEQ expect that with implementation of the WQMP, mercury water quality standards will be met.

The WQMP describes a multi-faceted approach that requires implementation of management practices through development of nonpoint source TMDL implementation plans (clean water plans) by Designated Management Agencies (DMAs) and Responsible Persons (RPs) across the entire Willamette Basin to reduce human-caused sources of mercury. The City of Silverton, along with approximately 189 other DMAs/RPs, was identified in the Mercury TMDL WQMP by DEQ and issued notification of the requirements in March 2021 (Appendix 1 copy of letter).

Summary of plan development and implementation requirements

The City of Silverton is required to develop and implement a nonpoint source TMDL implementation plan that includes mercury and sediment reduction strategies (Appendix 2 DEQ Nov 2019 Mercury Water Quality Management Plan Summary) that must be met by September 3, 2022. The plan must be approved by DEQ.

Overview of Mercury TMDL

Mercury overview below was extracted from the 2019 WQMP Mercury TMDL:
https://www.oregon.gov/deq/wq/Documents/willHgtmdlwqmpF.pdf

> **The Willamette River and many of its tributaries do not currently meet water quality standards for mercury and are included on Oregon's list of impaired waters under Clean Water Act §303(d). Mercury fish consumption advisories are in place throughout the Willamette Basin.**
>
> **Water quality standards are in place to protect people from high levels of mercury exposure when eating fish and shellfish. The fish tissue criterion allows Oregonians to safely consume higher amounts of fish (approximately 23 8-oz fish meals a month) caught in Oregon waterways. Among those who rely on Willamette Basin fish and shellfish as a food source are tribal, immigrant and low-income communities and other historically marginalized communities.**
>
> **A TMDL is a planning tool designed to restore and maintain the quality of waters that have been identified as not meeting applicable water quality standards (USEPA, 1991). A TMDL is typically expressed as:**

TMDL = Σ WLAs + Σ LAs + MOS ≤ LC where:

WLA = Wasteload Allocation – the portion of the loading to the water body assigned to each permitted point source of the pollutant.

LA = Load Allocation – the portion of the pollutant loading assigned to nonpoint sources of the pollutant.

Σ = Summation across multiple items

The TMDL identified sources of mercury and how much mercury needs to be reduced to meet water quality standards. The TMDL used linked models and significantly more data than the 2006 TMDL. The greatest source of mercury in the basin is from atmospheric deposition, which is mercury in the air falling onto the land or into the water. The mercury in air originates mainly from national and global sources rather than from sources in Oregon.

Once mercury is deposited on the landscape, the major pathways to streams are erosion of sediment-bound mercury and surface runoff. Of the many different types of land use that exist within the Willamette Basin, forestry, agriculture, and urban uses comprise most of the area within the basin. Management actions on these land uses influence the amount of mercury from these sources that reach streams and rivers in the basin. Point source discharges, such as sewage treatment plants or industries, contribute significantly less mercury to streams than nonpoint sources, such as runoff from logging roads and agricultural fields.

General approach for mercury reductions

This plan update is focused on the TMDL for mercury and sediment reduction to improve water quality. Stormwater management is the key activity for reducing nonpoint source inputs of mercury. The City's matrix outlines the stormwater best management practice activity that aligns with the stormwater program in the DEQ 2019 WQMP(attached)

Voluntary actions and existing programs

Focus of this plan is on mercury and sediment reduction, however, strategies being implemented under the 2010 Molalla-Pudding TMDL also benefit surface water quality overall for other parameter limitations, such as, bacteria, pesticides, temperature, and iron.

Mercury reductions

The EPA Willamette Basin TMDL has reduction targets for mercury at the Molalla-Pudding Subbasin level. Reductions of 75% from nonpoint source urban stormwater are needed to eliminate fish consumption advisories. These percent reductions apply to all waters of the Molalla-Pudding Subbasin.

The information below was derived from Appendix C from EPA TMDL:
U.S. EPA Total Maximum Daily Load (TMDL) for Mercury in the Willamette Basin, Oregon
https://www.epa.gov/sites/production/files/2021-02/documents/tmdl-willamette-mercury-final-02-04-2021.pdf

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 1004, the Environmental Protection Agency is hereby establishing a TMDL to address discharges of mercury to the waters of the Willamette Basin, Oregon. Allocations are the same as in ODEQ's 2019 TMDL except for atmospheric deposition which is increased for all subbasins to 35% based on re-assessment of predicted reductions in atmospheric deposition.

Table 3 from EPA TMDL - Load and wasteload allocations for Molalla-Pudding Subbasin

Category for EPA Allocated Reduction	Reduction
General NPS - Agriculture, forest, shrub, developed, other (runoff and sediment)	88%
Groundwater (agriculture, forest, shrub, developed, other)	88%
Atmospheric deposition direct to water	35%
NPDES Permitted Stormwater Point Source Discharges	75%
Non-Permitted Urban Stormwater	**75%**
Legacy Metals Mines	95%
NPDES Permitted Wastewater Discharges	10%
NPDES Permitted Industrial Discharges	10%

Plan monitoring and reporting requirements

The DEQ 2019 TMDL Mercury WQMP describes DEQ's plan for implementing actions to reduce mercury in fish tissue. Effectiveness of these measures will be tracked, evaluated, and improved, as warranted, to meet the standards.

Monitoring will be documented in reports that Silverton is already required to submit under the 2010 plan and 2021-2026 matrix. The City of Silverton will continue to annually report on progress in implementing nonpoint source strategies identified in the TMDL implementation plan, including any delays or challenges DMAs had in implementing strategies (DEQ mercury WQMP page 125-221).

Silvertons current reporting schedule is Annual progress reports due 9/30 of each years and cover previous 12 months of plan implementation for July 1 thorugh June 30.

Land Use Compliance and Legal authority

All Strategies and activities listed in this plan and implemented Matrix are consistent with the City of Silverton land use plans. The plan has been reviewed by City staff for consistency with local and state planning goals. All revisions to the TMDL implementation Plan will include a review for land use compatibility with City staff. The City will also consider the plan when developing or revising City ordinances that involve land use.

The current version of the Silverton Public Works Design Standards was adopted through Resolution 20-11 by City Council on May 4, 2020. The Public Works Designs Standards identify construction requirements for stormwater runoff collection systems and detention facilities.

Chapter 3.4.400, Storm drainage and erosion control, of Title 18 of the Silverton Municipal Code was adopted under Ordinance 08-06 in 2008. This Chapter identifies what standards new developments need to meet for storm water

runoff and erosion control, including detention requirements and required erosion control measures.

Title 13 of the Silverton Municipal Code provides the enforcement mechanism for the City to fine illicit discharge into the stormwater system and enforce stormwater regulations. Chapter 13.06, Utility Enforcement, Inspections and Penalties was approved in 2015 under Ordinance 15-05.

***Cost and funding - DEQ WQMP* Cost analysis and estimation as well**

Oregon Administrative Rule 340-042-0040(4)(I)(N) establishes requirements for costs and funding for implementing management strategies in the nonpoint source TMDL implementation plan needed over a five-year timeframe. Identifying estimated costs and demonstrating there is sufficient funding available to begin and sustain reasonable implementation of the plan is essential for developing and sustaining the clean water plan overtime.

As a DMA, the City of Silverton provides a fiscal analysis of the resources needed to develop, execute, and maintain the programs described in their Implementation plan (refer to 2021-2026 matrix for funding and stormwater program measure best management activities for budget strategies) overtime. Staff salaries, supplies, volunteer coordination, regulatory fees, installation, operation, and maintenance of management measures will be considered.

Like most small city systems, the biggest challenges are budget, and lack of employees to do everything on our own. The City of Silverton's key actions toward meeting these reductions focus on Stormwater management.

Annual costs and funding are established to determine approximate extent of BMP activity for sustaining the stormwater program measures.

Implementation of the TMDL strategies covered in this Plan is essential to the success of the overall Plan and the work to reduce pollutants from the City of Silverton The City has identified a number of strategies to accomplish this reduction. Some of these strategies are small in nature and easy to implement and will be intergraded into workloads of existing staff and use general funds that are already allocated or will be allocated in coming years. Larger strategies will require further planning as budget becomes available and may also require the City to seek outside funding in the way of loans or grants. The City will review the strategies and funding status on an annual basis and look for possible funding sources in order to begin the implementation.

The City has established a storm water utility fee, based on the amount of impervious area on a property. The fees collected from residential, commercial, and industrial sites will be allocated to the maintenance and improvement of the existing storm water collection system.

Public Involvement and Participation

Silverton will implement a public involvement and participation program that provides opportunities for the public to effectively participate in the development of stormwater control measures (matrix). Silverton will 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.

TMDL plan and progress reports will be posted on a publicly accessible website. The Public education and outreach and public involvement and participation program measures are outlined in the City's matrix.

DEQ 2019 WQMP - Evaluate existing programs

Evaluate existing programs (or evaluates existing plan) and identifies gaps in existing pollution control programs and strategies to address these gaps

Table 13-14 (WQMP 92-221-93-221; 101-221) - Based on permit status and population, evaluated, and appropriately incorporated implementation schedule measurable objectives, milestones

Like most small city systems, the biggest challenges are budget, and lack of employees to do everything on our own. The City of Silverton's key actions toward meeting these reductions focus on Stormwater management. The TMDL Implementation Plan may also be called a Stormwater Management Plan. Stormwater discharges can be a source of mercury and sediment in surface waters. The DEQ Nov 2019 Mercury Water Quality Management Plan Summary, measures and timelines were used for the assessment and consideration of stormwater management strategies that will be implemented under this plan.

Annual costs and funding are established to determine approximate extent of BMP activity. The matrix or plan does not outline specific numbers.

The City of Silverton now has approximately 10,426 people and therefore falls into the category of more than 10,000 population implementation timelines listed in Table 13-14 summary below. Staff compared the current TMDL Implementation Plan and Matrix 2021-2026 to the tables. Based on the evaluation of the existing TMDL Implementation Plan and Matrix (see attached), the mercury matrix has been updated to include all Table 13-11 six stormwater control measures, and are proposed for implementation based on table 14 timelines.

DEQ 2019 WQMP Table 13-14 Summary

Stormwater Measure	Requirements	< 5K population
1 Pollution Prevention Municipal Operations	**DMAs must properly operate and maintain its facilities, using prudent pollutionprevention and good housekeeping to reduce the discharge of mercury-**related pollutants, such as sediment, through the stormwater conveyance system to waters of the state. **DMAs 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 protectwater quality. **DMAs 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 theTMDL Annual Report.	18 months Sept 3, 2022
2. Public Education and	**DMAs must conduct an ongoing education and outreach program to inform the publicabout the impacts of stormwater discharges** on waterbodies and the steps that they can take to	18 months Sept 3, 2022

Outreach	reduce mercury-related pollutants in stormwater runoff. The education and outreach program must address stormwater issues of significance within the DMA's community. **DMAs 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.	
3. Public Involvement and Participation	DMAs must implement a public involvement and participation program that providesopportunities 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.	18 months Sept 3, 2022
4. Illicit Discharge Detection and Elimination	DMAs 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 andstormwater 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. 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 dischargesthat 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 conveyancesystem. **Title 13 of the Silverton Municipal Code provides a mechanism for the City to inspect illegal connections to utilities and fine any person who is violating Title 13.** The DMA must track implementation of the IDDE program requirements. In each TMDL Annual Report, the DMA must assess	3 years Mar 3, 2024

	their progress towards implementationof the program. **City has a digital map of the stormwater system and ordinance for enforcement of IDDE. Any violators are tracked through iWorq, the City maintenance database.**	
5. Constructio n SiteRunoff Control	**DMAs 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). In addition, **DMAs must require construction site operators to complete and implement an Erosion and Sediment Control Plan for construction project sites in itsjurisdictional 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. Through ordinance or other regulatory mechanism, to the extent allowable understate 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. The DMA must develop, implement and maintain a written escalating enforcementand response procedure for all qualifying construction sites. The procedure must address repeat violations through progressively stricter response, as needed, to achieve compliance. **The DMA must track implementation of its construction site runoff program required activities. In each TMDL annual report**, the DMA must assess their progress towardimplementing its construction site runoff program's control measures. **City requires erosion and sediment control measures for all developments regardless of size through Chapter 3.4.400 of Title 18 of Silverton Municipal Code. All developments disturbing more than an acre are required to have a 1200-C Permit. City monitors erosion control measures during construction for all developments.**	4.5 Years Sept 3 2025
6. Post-Constructio n SiteRunoff for New Developmen	DMAs must develop, implement, and enforce a program to reduce discharges of pollutants and control post-construction stormwater runoff from new development andredevelopment project sites in its jurisdictional area.	4.5 Years Sept 3 2025

t and Redevelopment	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 ofnew impervious surface area: **(A)The use of stormwater controls at all qualifying sites.** **City requires stormwater detention for all sites that increase impervious area.** (B) A site-specific stormwater management approach that targets natural surface orpredevelopment hydrological function through the installation and long-termoperation and maintenance of stormwater controls. **City has completed a 2022 Stormwater Master Plan that recommended the implementation of Low Impact Development (LID) requirements in the Silverton Municipal Code.** **(C) Long-term operationand maintenance of stormwater controls at project sites that are under the ownership of a private entity.** The DMA must target natural surface or predevelopment hydrologic function to retainrainfall on-site and minimize the offsite discharge of precipitation utilizing stormwatercontrols that infiltrate and evapotranspirate 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. **The 2022 Stormwater Master Plan recommended instituting water quality requirements for future developments. City has goal to implement new code for LID and water quality requirements by 2025.**	