



Community Development Department
315 Kennel Avenue, PO Box 248, Molalla, Oregon 97038
Phone: (503) 759-0205

Website Posting

Nov 3, 2023

Based on information at the time of required posting, the City experienced no violations of the NPDES Permit conditions (as modified by the March 2021 MAO) for the month of October 2023.

October DEQ correspondence is Attached to this Posting.

90% plans



T Molatore <tmolatore@dyerpart.com>

To: PINNEY Mike * DEQ

Cc: KRAMER Rebecca * DEQ; R Quigley; Aaron Speakman; Seth Kelly; Mac Corthell

i Follow up. Completed on Friday, October 27, 2023.
You replied to this message on 10/30/2023 10:45 AM.



To: 'Mac Corthell' <mcorthell@cityofmolalla.com>

Cc: T Molatore <tmolatore@dyerpart.com>; KRAMER Rebecca * DEQ <Rebecca.KRAMER@deq.oregon.gov>

Subject: 90% plans

Mac,

Here are the comments I have on the 90% plans I received September 1:

- Design data: The values for Discharge Limits are not set.
 - Nov.1 through Apr.30: monthly and weekly BOD and TSS limits are assumed ;
 - Nov.1 through Apr.30: Monthly Average, Weekly Average, and Maximum load limits are not correctly calculated;
- SBR: Include Batch volume;
 - Decant rate has no units;
- UV: the UV unit must include real-time dose display;
- If stored recycle water does not meet bacteria limits, is there a way to re-disinfect before releasing it?

I cannot approve of the plans until they are stamped and sealed.

Make changes and submit stamped and signed plans ready for approval.

Regards,

Michael Pinney PE

Senior Environmental Engineer

Northwest Region - Source Control

Oregon Department of Environmental Quality

700 NE Multnomah St., Suite 600

Portland OR, 97232

971-227-1765

RE: 90% plans



Thu 10/5/2023 10:29 AM



T Molatore <tmolatore@dyerpart.com>

To: PINNEY Mike * DEQ

Cc: KRAMER Rebecca * DEQ; R Quigley; Aaron Speakman; Seth Kelly; Mac Corthell

 Follow up. Completed on Friday, October 27, 2023.
You replied to this message on 10/30/2023 10:45 AM.



Hello Mike,

Enclosed are responses to your review comments. Per our discussion yesterday, we will add a keynote to the hydraulic profile that indicates that the compliance point for disinfection will be immediately following the UV disinfection system (year-round).

It's our understanding that based on the enclosed responses, that DEQ is ready to issue an approval letter once a final, stamped set of plans and specifications are submitted. Our intent is to circulate a stamped set of final plans and specifications immediately prior to bidding (hopefully soon).

If you should have any additional questions, please give me a call.

Regards,

Tyler J. Molatore, PE

The Dyer Partnership Engineers & Planners, Inc.

[759 W. Central Ave.](#)

[Sutherlin, Oregon 97479](#)

(541) 459-4619

(541) 784-5095 (cell)

www.dyerpart.com

From: PINNEY Mike * DEQ <Mike.PINNEY@deq.oregon.gov>

Sent: Thursday, September 28, 2023 4:01 PM

To: 'Mac Corthell' <mcorthell@cityofmolalla.com>

Cc: T Molatore <tmolatore@dyerpart.com>; KRAMER Rebecca * DEQ <Rebecca.KRAMER@deq.oregon.gov>

Subject: 90% plans

Mac,

From: Mac Corthell
Sent: Monday, October 30, 2023 10:32 AM
To: 'christine.svetkovich@deq.oregon.gov' <christine.svetkovich@deq.oregon.gov>
Cc: 'evan.haas@deq.oregon.gov' <evan.haas@deq.oregon.gov>; Dan Huff <dhuff@cityofmolalla.com>
Subject: Molalla 5-Year TMDL

Good Morning,

Please find attached Molalla's 5-Year TMDL plan update attached. Thank you.

Sincerely,

Macahan "Mac" Corthell, J.D.

Assistant City Manager

City of Molalla

315 Kennel Ave. | PO Box 248 | Molalla, OR 97038

Phone – [503.759.0243](tel:503.759.0243)

Email – mcorthell@cityofmolalla.com

Website – <http://www.cityofmolalla.com>

CONFIDENTIALITY NOTICE: The information contained in this email message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient and have received this communication in error, please contact the sender by reply email and destroy all copies of the original message. Thank you.

From: Mac Corthell <mcorthell@cityofmolalla.com>

Sent: Tuesday, October 31, 2023 9:18 AM

To: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>

Cc: Seth Kelly <skelly@cityofmolalla.com>

Subject: Updated City of Molalla Contacts

Good Morning Tiffany and Jeffrey,

I'd like to introduce you to our new WWTP Manager, Seth Kelly. Seth and I will be the City's points of contact for all wastewater related communications. Thank you for the meeting this morning!

-Mac

Macahan "Mac" Corthell, J.D.

Assistant City Manager

City of Molalla

315 Kennel Ave. | PO Box 248 | Molalla, OR 97038

Phone – [503.759.0243](tel:503.759.0243)

Email – mcorthell@cityofmolalla.com

Website – <http://www.cityofmolalla.com>

CONFIDENTIALITY NOTICE: The information contained in this email message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient and have received this communication in error, please contact the sender by reply email and destroy all copies of the original message. Thank you.

RE: Updated City of Molalla Contacts



Seth Kelly

To: YELTON-BRAM Tiffany * DEQ; Mac Corthell; NAVARRO Jeffrey * DEQ
Cc: HYNSON Mark * DEQ



Tue 10/31/2023 12:31 PM

From: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>

Sent: Tuesday, October 31, 2023 11:55 AM

To: Mac Corthell <mcorthell@cityofmolalla.com>; NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>

Cc: Seth Kelly <skelly@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>

Subject: RE: Updated City of Molalla Contacts

Thank you, Mac. Welcome, Seth. I've cc'd Mark Hynson, the person writing the NPDES permit, as he'll be in communication with you as we move forward.

Tiffany Yelton Bram (Pronouns : she/her/hers)

WQ Source Control Manager

Northwest Regional Office

Oregon Department of Environmental Quality

700 NE Multnomah St., Suite #600

Portland OR 97232

Desk 503 229 5219

Mobile 503 975 0046

From: Mac Corthell <mcorthell@cityofmolalla.com>

RE: Updated City of Molalla Contacts



Seth Kelly

To 'YELTON-BRAM Tiffany * DEQ'; Mac Corthell; NAVARRO Jeffrey * DEQ

Cc HYNSON Mark * DEQ



Tue 10/31/2023 12:31 PM

Hello all,

Thank you for the welcome. I look forward to working with you all to build something great for the City of Molalla and all surrounding areas that will benefit from this Treatment Plant project and the renewal of our NPDES Permit.

Respectfully,

Seth Kelly, Molalla WWTP Manager

12424 S Toliver Rd. | Molalla, OR 97038

Phone – [503.302.3600](tel:503.302.3600)

Email – skelly@cityofmolalla.com

Website – <http://www.cityofmolalla.com>

From: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>

Sent: Tuesday, October 31, 2023 11:55 AM

To: Mac Corthell <mcorthell@cityofmolalla.com>; NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>

Cc: Seth Kelly <skelly@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>

Subject: RE: Updated City of Molalla Contacts



M E M O R A N D U M

DATE October 3, 2023

TO Michael Pinney, PE
Senior Environmental Engineer

FROM Tyler J. Molatore, PE

PROJECT NAME Wastewater Treatment Plant Upgrades – DEQ Review Comments
City of Molalla

PROJECT NO. 198.28

The Oregon Department of Environmental Quality (DEQ) reviewed the final design plans and specifications for the City of Molalla (City) Wastewater Treatment Plant (WWTP) Upgrade project and issued comments on September 28th, 2023. The Dyer Partnership Engineers and Planners, Inc. (The Dyer Partnership) and the City have reviewed the Oregon DEQ's comments. Responses to DEQ's review comments are provided in this Memorandum.

1. Design data: The values for Discharge Limits are not set.

- a. Nov.1 through Apr.30: monthly and weekly BOD and TSS limits are assumed;***
- b. Nov.1 through Apr.30: Monthly Average, Weekly Average, and Maximum load limits are not correctly calculated;***

RESPONSE: The City and The Dyer Partnership understand that the new discharge limits will not be issued until the new WWTP is commissioned. However, it's our understanding that the BOD₅ and TSS limits are not likely to deviate from the specified values, as the Oregon DEQ has reviewed the Predesign Report and subsequent design documents, and concurred that the new plant design allows DEQ to use Willamette Basin Standards (OAR 340-041-0345), as well as the updated design flows when establishing the new discharge limits. The City, Ring Bender, The Dyer Partnership, and DEQ held a meeting on January 1, 2022 to discuss the permitting process for the new WWTP. Notes from the meeting are enclosed for reference, which state that DEQ will calculate mass loads based on the available information and the basin design criteria for the Willamette basin.

The effluent load limits were established based on consistency with existing National Pollutant Discharge Elimination System (NPDES) permits issued in the State of Oregon. The monthly average load limits for Outfall 001 are based on the projected Maximum Month Wet Weather Flow (MMWWF), and the monthly average BOD₅/TSS limits (30/30 mg/L). The weekly average limits for Outfall 001 are based on the projected Maximum Month Wet Weather Flow (MMWWF), and the weekly average BOD₅/TSS limits (45/45 mg/L). The maximum day load limits were calculated as double the monthly average limits.

2. SBR: Include Batch volume;

a. Decant rate has no units;

RESPONSE: The plans have been updated accordingly.

3. UV: the UV unit must include real-time dose display;

RESPONSE: The UV system includes UV transmittance and intensity meters, as specified in the plans and specifications, and the UV dose is calculated and logged in the control panel in accordance with the specifications.

4. If stored recycle water does not meet bacteria limits, is there a way to re-disinfect before releasing it?

RESPONSE: It's our understanding that re-disinfection is not required due to the compliance monitoring points, as previously established by the Oregon DEQ. Reference the enclosed documents for additional information. Tables 1 and 2, below, summarize the effluent compliance points for Outfall 001 and 002, as also specified in the design drawings.

**TABLE 1
EFFLUENT MONITORING REQUIREMENTS (OUTFALL 001)**

Item or Parameter	Effluent Monitoring Location
Flow (MGD)	Total flow conveyed to the Effluent Pump Station
BOD ₅ and TSS (mg/L and lbs/day)	Effluent Pump Station
BOD ₅ and TSS Percent Removal (%)	Effluent Pump Station
NH ₃ -N (mg/L)	Effluent Pump Station
pH (S.U.)	Effluent Pump Station
Temperature (deg C)	Effluent Pump Station
<i>E. coli</i> (# org/100 mL)	Immediately following the UV disinfection system ¹

1. Immediately following the UV system but prior to the effluent storage ponds.

**TABLE 2
EFFLUENT MONITORING REQUIREMENTS (OUTFALL 002)**

Item or Parameter	Effluent Monitoring Location
Flow (MGD) or Quantity Irrigated (inches/acre)	Total flow conveyed to the Effluent Pump Station
Total Coliform (# org/100 mL)	Immediately following the UV disinfection system ¹
Nutrients (TKN, NO ₂ +NO ₃ -N, NH ₃ -N, Total Phosphorus)	Immediately following the UV disinfection system ¹
pH (S.U.)	Immediately following the UV disinfection system ¹

1. Immediately following the UV system but prior to the effluent storage ponds.

As shown in Tables 1 and 2, the compliance monitoring location for disinfection (*E. coli* when discharging to the Molalla River or Total Coliform when land applying recycled water) will be immediately following the UV disinfection system and thus will remain the same point year-round regardless of whether or not final effluent is land applied or discharged to the Molalla River. Also, all effluent monitoring will occur at the WWTP site, since there is no secondary treatment or disinfection processes that occur in the effluent force main to the either outfall.

END OF MEMORANDUM

Notes from meeting

1/21/2022

DEQ and city of Molalla: Discuss Value engineering and permitting process for new plant

Attendees:

City: Andy Peters, Dan Huff (at home/tech difficulties)

Ring Bender: Mark Strandberg, Jeff Ring, David Hori

Dyer Partnership: Steve Majors, Tyler Molatore, Ryan Quigley

DEQ: Tiffany Yelton Bram (notes), Jeff Navarro, Mike Pinney, Tim Ruby

After introductions, discussed purpose of the meeting (above) and then began technical discussion. Andy described the plant design is moving forward based on certain criteria and that want to check that those criteria are still valid.

- 1) Concentration limits will align with the Willamette Basin Standard at OAR 340-041-0345 (instead of Clackamas Basin)
- 2) Discharge could be allowed outside of current permit's calendar dates. This impacts the size of the storage built. All pollutants will need to be evaluated according to state anti-degradation rules and existing TMDLs
- 3) Compliance point can be set to avoid testing of parameters at two separate locations for the same pollutants.

Regarding the first point, DEQ reiterated that the new permit for the new plant allows us to use the Willamette Basin Standards (OAR 340-041-0345) in the development of the permit limits. The Molalla River is part of the Willamette Basin. The previous permits for the plant on Tolliver Road were designed for the discharge to go to Bear Creek, which flows to the Clackamas Basin. The Clackamas Basin standards were retained even after the discharge was moved from Bear Creek to the Molalla River. Upon renewal, DEQ will calculate mass loads based on the available information and the basin design criteria for the Willamette. Additionally, we will use the appropriate flow design values from approved engineering report. Once the appropriate design flow is determined DEQ will need to evaluate dissolved oxygen impacts from the increased loads using statistical analysis (mostly likely Streeter Phelps). This evaluation uses ammonia, flow, and dissolved oxygen data to determine the downstream impacts of the new loads. Please see attached response to Jacob Krall in 2019 regarding review of a DO analysis from Molalla.

The TMDL for temperature in the Molalla River is being re-done, scheduled to be completed in January 2024. And the current TMDL does have some human use allowance that could be provided to the city. If modelling shows that the discharges of certain qualities of effluent at certain river flow rates can be made within the assimilative capacity of the river and with compliance with TMDL language (current and future) discharge in the shoulder months of May, June and October could be included in the permit.

The compliance monitoring location for disinfection (E. coli when discharging to the Molalla River or Total Coliform when land applying recycled water) will be immediately following the UV disinfection system and will remain the same point year-round regardless of whether or not final effluent is land applied or discharged to the Molalla River. When discharging to the Molalla River, the compliance monitoring location for effluent BOD5, TSS, pH, NH3-N, and temperature will be at the Effluent Pump Station. When land applying recycled water the compliance monitoring location for pH, Total Coliform, and nutrients (TKN, NO2+NO3-N, NH3-N, Total Phosphorus) will be immediately following the UV disinfection system, but prior to the effluent storage pond.

The plant will no longer use chlorine for disinfection to avoid chlorine handling concerns, de-chlorination and monitoring of disinfection byproducts.

DEQ was asked when we would start work on the permit. Jeff Navarro said that the permit is on the 2023 permit issuance plan but development work will start this year when permit development resources are available and once we have data from the Copper Biotic Ligand Monitoring (BLM) due to DEQ in February and Toxics data is due in April. DEQ will also need to review and approve the plant's design flows. The city stated that the flows are found in the Facility Plan and the Pre-Design Reports. Mike Pinney acknowledged that he will complete the review of the Pre-Design Report with Tim Ruby's input (Tim oversees compliance with recycled water use rules and plans).

The modelers for the new TMDLS have discharge Monitoring report data from Molalla and they have been reminded that Molalla is looking for flexibility in when they discharge. Molalla was not given a temperature allocation in the previous TMDL. This may have been because of when the last TMDL was modelled (They may have been discharging the Bear Creek then) or an oversight.

DEQ asked the city which design storm did they use in the storage design. They used a 1 in 10 year storm for the design.

The city said that they would be providing DEQ with a Technical memo soon and asked for our time sensitive review. DEQ agreed.

The upper lagoon will become a storage pond. To manage costs, the conversion of the lagoons to ponds will be done in phases. The upper lagoon, including any relining if needed, would not be in the first phase of the project.

Tim Ruby stated that the design shows the lined ponds will have under drains and asked if those were existing drains. Steve Major stated that they are and that the plan is not to add additional underdrains. Tim further stated that the depth to ground water below the ponds would be 2 to 4 feet below the bottom of the liner. Tim asked where the water from the underdrains will go? Stormwater on the plant site and water from the underdrains will be routed to the headworks of the sewage treatment plant where it will go through the plant for treatment.

Mike asked which of the Value Engineering options were chosen.

Mike clarified that his comments to the city on the Pre-Design and the Value Engineering will be separate documents.

Meeting adjourned



M E M O R A N D U M

DATE January 27, 2022

TO Andy Peters, City of Molalla

FROM Tyler J. Molatore, PE

PROJECT NAME Wastewater Treatment Plant Upgrades – Effluent Monitoring Requirements
City of Molalla

PROJECT NO. 198.28

This Memorandum summarizes the anticipated effluent compliance monitoring requirements when discharging to the Molalla River (Outfall 001) or land applying recycled water (Outfall 002) for the City of Molalla’s Wastewater Treatment Plant after the upgrades are completed.

Outfall 001 (Molalla River)

When discharging to the Molalla River the compliance monitoring location for *E. coli* bacteria will be immediately following the UV disinfection system. The compliance monitoring location for effluent BOD₅, TSS, pH, NH₃-N, and temperature will be at the Effluent Pump Station. Effluent flow will be measured using a flow meter that measures the flow conveyed to the Effluent Pump Station (and therefore the total flow discharged to the Molalla River).

Outfall 002 (Recycled Water)

When land applying recycled water the compliance monitoring location for pH, Total Coliform, and nutrients (TKN, NO₂+NO₃-N, NH₃-N, Total Phosphorus) will be immediately following the UV disinfection system, but prior to the effluent storage pond. Flow, or quantity of recycled water irrigated, will be measured using a flow meter that measures flow conveyed to the Effluent Pump Station (and therefore total quantity of recycled water irrigated).

Summary

Tables 1 and 2, below, summarize the effluent monitoring requirements for Outfall 001 and 002.

**TABLE 1
EFFLUENT MONITORING REQUIREMENTS (OUTFALL 001)**

Item or Parameter	Effluent Monitoring Location
Flow (MGD)	Total flow conveyed to the Effluent Pump Station
BOD ₅ and TSS (mg/L and lbs/day)	Effluent Pump Station
BOD ₅ and TSS Percent Removal (%)	Effluent Pump Station
NH ₃ -N (mg/L)	Effluent Pump Station
pH (S.U.)	Effluent Pump Station
Temperature (deg C)	Effluent Pump Station
<i>E. coli</i> (# org/100 mL)	Immediately following the UV disinfection system ¹

1. Immediately following the UV system but prior to the effluent storage ponds.

**TABLE 2
EFFLUENT MONITORING REQUIREMENTS (OUTFALL 002)**

Item or Parameter	Effluent Monitoring Location
Flow (MGD) or Quantity Irrigated (inches/acre)	Total flow conveyed to the Effluent Pump Station
Total Coliform (# org/100 mL)	Immediately following the UV disinfection system ¹
Nutrients (TKN, NO ₂ +NO ₃ -N, NH ₃ -N, Total Phosphorus)	Immediately following the UV disinfection system ¹
pH (S.U.)	Immediately following the UV disinfection system ¹

1. Immediately following the UV system but prior to the effluent storage ponds.

As shown in Tables 1 and 2, the compliance monitoring location for disinfection (*E. coli* when discharging to the Molalla River or Total Coliform when land applying recycled water) will be immediately following the UV disinfection system and thus will remain the same point year-round regardless of whether or not final effluent is land applied or discharged to the Molalla River. Also, all effluent monitoring will occur at the Wastewater Treatment Plant site, since there is no secondary treatment or disinfection processes that occur in the effluent force main to either outfall.

END OF MEMORANDUM



Public Works Department
315 Kennel Ave
PO Box 248
Molalla, Oregon 97038
Phone: (503) 829-6855
Fax: (503) 829-3676

October 11, 2023

Christine Svetkovich, MES, Northwest Region Administrator
Oregon DEQ
700 NE Multnomah St #600,
Portland, OR 97232
Phone: 503-229-6721

RE: City of Molalla - 2023 TMDL Implementation Plan (Five-Year Review)

Dear Christine Svetkovich,

Attached is the City of Molalla 2023 TMDL Implementation Plan Five-Year Review. The attached 2023 TMDL Implementation Plan has been updated to reflect the City of Molalla's pollutant reduction strategies and goals for the next 5 years.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Huff", is written over a light blue circular stamp.

Dan Huff, City Manager

Cc: Evan Haas, DEQ
Mac Corthell, City of Molalla
Adam Shultz, City of Molalla
Ryan Quigley, The Dyer Partnership Engineers & Planners, Inc.

City of Molalla
Clackamas County, Oregon



TMDL IMPLEMENTATION PLAN

2024-2029 (Updated - November 2023)



The Dyer Partnership
Engineers & Planners, Inc.

1330 Teakwood Avenue
Coos Bay, Oregon 97420
(541) 269-0732
www.dyerpart.com

759 West Central Avenue
Sutherlin, Oregon 97479
(541) 459-4619

Project No. 23-11 (City)
Project No. 198.50 (Dyer)

481 S. Main St
Lebanon, Oregon 97355
(541) 405-4520

City of Molalla
Clackamas County, Oregon

TMDL Implementation Plan

Submitted to:
Oregon Department of Environmental Quality
Northwest Region
700 NE Multnomah St., Suite 600
Portland, OR 97232

Prepared by:
The Dyer Partnership Engineers & Planners, Inc.
481 S. Main St.
Lebanon, OR 97355

Submitted by:
City of Molalla
P.O. Box 248
Molalla, OR 97038



Dan Huff, City Manager

10-27-23

Date

Table of Contents

Section 1: Introduction & Background	1
1.1 Introduction	1
1.2 Background	1
Section 2: TMDL Requirements & Parameters	3
2.1 TMDL Requirements	3
2.2 TMDL Parameters	4
2.3 Temperature	4
2.4 Bacteria	5
2.5 Mercury	6
2.6 Pesticides	7
2.7 Metals	8
Section 3: Water Quality Efforts	9
3.1 Molalla Municipal Code – Public Services	9
3.2 Molalla Municipal Code - Development	9
3.3 Molalla Municipal Code – Additional Regulations	10
3.4 2017 Molalla Standard Specifications for Public Works Construction	10
3.5 Parks Plan	12
3.6 Street Sweeping Program	12
3.7 Stormwater System Maintenance	13
3.8 Pet Waste	13
3.9 Water Conservation Outreach	13
Section 4: Implementation Strategies	14
4.1 Stormwater System Planning	14
4.2 Wastewater System Planning	14
4.3 Riparian Protection and Restoration	14
4.4 Public Education and Outreach	15
4.5 Public Involvement and Participation	15
4.6 Illicit Discharge Detection and Elimination (IDDE)	15
4.7 Construction Site Runoff and Erosion Control	16
4.8 Post-Construction Site Runoff for New Development and Redevelopment	16
4.9 Animal Waste Management	17
4.10 Mercury and Pollutants	17
Section 5: Monitoring, Reporting, Compliance & Funding	18
5.1 Public Involvement	18
5.2 Land Use Compliance	18
5.3 Funding	18
Section 6: TMDL Implementation Matrix	19
City of Molalla TMDL Implementation Matrix – Year 5 Review: October, 2023	20

Section 1: Introduction & Background

1.1 Introduction

This document is the Total Maximum Daily Load (TMDL) Implementation Plan for the City of Molalla. This plan is intended to comply with the 2019 Final Revised Willamette Basin Mercury TMDL and WQMP order and to meet pollutant load allocations for the Molalla-Pudding Subbasin, as approved by the US Environmental Protection Agency (EPA) in December 2008. The goal of this implementation plan is to minimize and reduce temperature, bacteria, and mercury contributions to surface waters within the jurisdictional control of the City of Molalla.

Through a multi-faceted approach of monitoring, land use and development standards, public operations, partnerships, and education, this plan targets sources of contamination within the City's authority.

1.2 Background

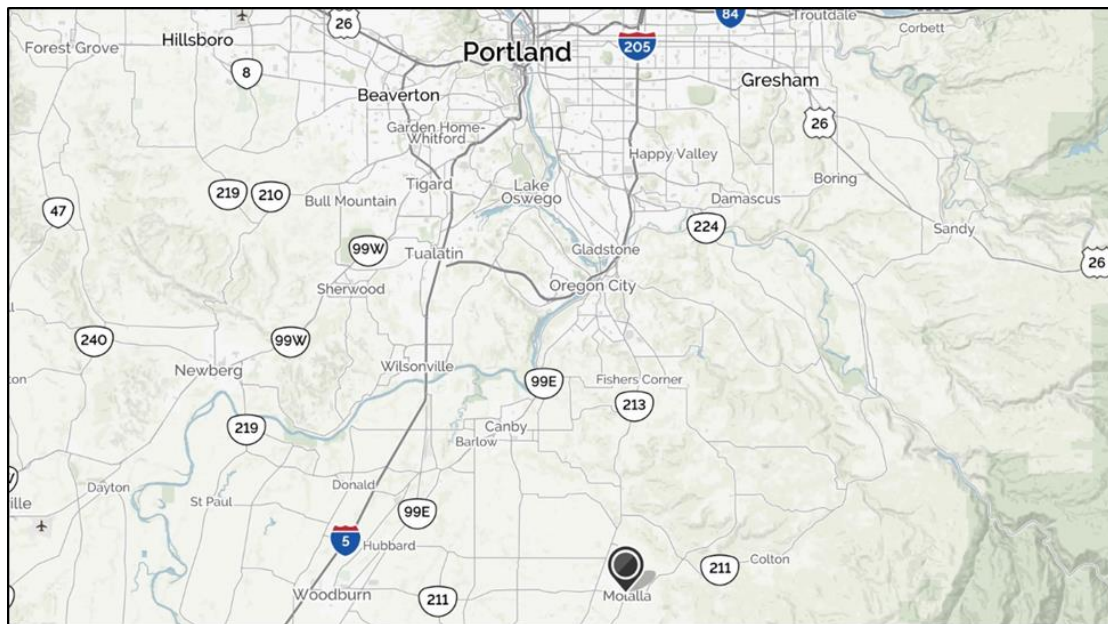
The Molalla-Pudding Subbasin (approximately 878 square miles in area) is located in the north-eastern portion of the middle Willamette Basin. The Molalla River flows into the Willamette River between river miles 35 and 36 and the Pudding River is a tributary to the Molalla River less than a mile upstream of the Molalla River mouth. The subbasin is located within Clackamas and Marion Counties and includes the communities of Woodburn, Mt. Angel, Silverton, Canby, Molalla, Hubbard, Gervais, Aurora, Brooks, Barlow, Colton and Scotts Mills and portions of Salem, Keizer, Donald, and Wilsonville.

The City of Molalla is a fast growing rural community located in the southwest section of Clackamas County with a recent certified population of 9,885 (according to Portland State University Population Center, July 1, 2018, certified dataset).

The City is approximately 14 miles south of Oregon City via State Highway 213, approximately 25 miles northeast of Salem, and approximately 27 miles southeast of Portland. The surrounding area around the City of Molalla is generally used for agricultural purposes. Highway 213 runs north-south through the western end of the City, and Highway 211 runs east-west through the midsection of the City. Figure 1.2.1 illustrates the location of the City.

The City is located at approximately river mile 20 of the Molalla River, which is located about a mile east of the City's current urban growth boundary (UGB). Two branches of Creamery Creek flow through the north end of the City and run generally from the southeast to the northwest. These branches meet east of Highway 213, and Creamery Creek flows into the Molalla River several miles outside the UGB. Bear Creek, which runs generally parallel to and south of Creamery Creek, flows through the south end of the UGB before turning northwest through the City. Bear Creek exits through the west end of the City before eventually flowing into the Pudding River.

**FIGURE 1.2.1
CITY LOCATION**



In 2001, the City completed a Local Wetland Inventory (LWI) and riparian assessment that describes and maps potentially jurisdictional wetlands and streams within the City’s UGB. The LWI was approved by the Oregon Department of State Lands (DSL) in March of 2004 and notes the three drainage basins within the City of Molalla Urban Growth Boundary (UGB) as follows:

- The northeastern portion of the UGB is within the Molalla River basin; drainage from this basin flows northeastward via a natural drainage way to the Molalla River.
- The central portion of the UGB is within the Creamery Creek basin; Creamery Creek flows diagonally from the southeast to the northwest before reaching the Molalla River north of the UGB.
- The southern portion of the UGB is within the Bear Creek basin. Bear Creek joins Kaiser Creek (located south of the UGB) to flow to the Pudding River many miles to the west.

The City operates and discharges treated wastewater under Waste Discharge Permit No. 101514 from the National Pollutant Discharge Elimination System (NPDES). From May 1st to October 31st, discharge to waters of the state is prohibited, and recycled water is land applied onto DEQ approved sites. The recycled water used for irrigation is treated to the same standards as effluent discharged to the Molalla River, except that effluent discharged to the river is dechlorinated using ascorbic acid (Vitamin C). From November 1st to April 30th, effluent is discharged to the Molalla River in accordance with the NPDES Permit.

Section 2: TMDL Requirements & Parameters

2.1 TMDL Requirements

The Oregon Department of Environmental Quality (DEQ) established a Total Maximum Daily Load (TMDL) for the Willamette Basin in an order signed on September 21, 2006 which was later revised to incorporate mercury requirements and established in another order signed on February 4, 2021. The TMDL requires designated agencies and municipalities to implement actions to improve water quality. The pollutants addressed in the 2006 Willamette Basin TMDL and the 2019 Final Revised Willamette Basin Mercury TMDL that specifically affect Molalla are bacteria, temperature, and mercury.

The Clean Water Act of 1977 authorizes the U.S. Environmental Protection Agency (EPA) to “restore and maintain the physical, chemical, and biological integrity of all waters of the nation”. In response to the Clean Water Act, the EPA designated state agencies to develop water quality standards, perform water quality monitoring to understand current conditions, determine sources of pollution, and develop TMDLs as a tool to improve water quality. As a component of the overall effort to protect and restore the beneficial uses of Oregon’s water bodies, the DEQ issued TMDLs for the entire Willamette Basin.

The TMDL process begins when a stream, lake, or river does not meet water quality standards and is classified as water quality-limited on the state’s 303(d) list. TMDLs identify the maximum amount of a specific pollutant that can be present in a water body without violating water quality standards. This is known as the loading capacity.

After extensive water quality monitoring and modeling efforts, TMDLs establish the difference between the loading capacity and the current pollutant load. TMDLs are expressed as numeric standards or percent pollutant reductions that need to be met to bring water bodies into compliance with water quality standards. The difference between the current load and the loading capacity is known as excess load.

The excess load is split up between the different sources of pollution according to their contribution to the overall pollution load. Any difference between the waterway’s loading capacity and the current pollutant load must be mitigated by pollution reduction activities. The DEQ develops waste load allocations for point sources such as wastewater treatment plants and industrial discharges. They develop load allocations for non-point pollution from agricultural, urban, and forestry lands such as erosion, animal wastes, and stormwater.

The Oregon Administrative Rules in Chapter 340 Division 42 address the requirements for local governments and other agencies to develop TMDL Implementation Plans. Responsible parties that are able to implement pollution reduction strategies are classified as Designated Management Agencies (DMAs). In the Willamette Basin, DMAs include federal agencies such as the Bureau of Land Management, state agencies such as the Department of Forestry and the Department of Agriculture, counties, cities, and others.

The Oregon Department of Agriculture (ODA) is working with farmers to address contributions from farmland, the Oregon Department of Forestry is addressing contributions from forestland, and federal land management agencies are implementing TMDLs according to their internal procedures. Point sources, such as wastewater treatment facilities will be addressed through their individual permitting processes. Cities and counties must address contributions through the development of Implementation Plans.

According to OAR 340-042-0080, TMDL Implementation Plans must include the following elements:

1. Identify the management strategies the DMA or other responsible person will use to achieve load allocations and reduce pollutant loading;
2. Provide a timeline for implementing management strategies and a schedule for completing measurable milestones;
3. Provide for performance monitoring with a plan for periodic review and revision of the implementation plan;
4. To the extent required by ORS 197.180 and OAR chapter 340, division 18, provide evidence of compliance with applicable statewide land use requirements; and
5. Provide any other analyses or information specified in the WQMP.

2.2 TMDL Parameters

Temperature, bacteria, and mercury are the three parameters that have been included in all of the Willamette Basin TMDLs. Although other parameters are included in sub basin TMDLs, these three pollutants are the major concerns throughout the entire Willamette Basin.

The following subchapters contain brief summaries of TMDL parameters, but more in-depth information on these parameters and the processes used to develop the TMDLs can be found in Chapters 2, 3, and 4 of the *Willamette Basin TMDL* (DEQ, 2006), the *Final Revised Willamette Basin Mercury Total Maximum Daily Load* (DEQ, 2019), and the *Molalla-Pudding Subbasin TMDL and WQMP* (DEQ, 2008). The summaries below include basic information about the characteristics of the parameter, the potential sources of each pollutant, waterways in the region not meeting water quality standards, and a brief list of potential strategies to address each parameter.

2.3 Temperature

The temperature problem in the Willamette Basin is the water is too warm at certain times of the year which poses a threat to cold water fish species such as salmon. This is known as thermal pollution. Removal or disturbance of streamside vegetation is the primary activity that negatively impacts stream temperature due to the loss of shade cover, but water temperature is also affected by erosion, loss of channel complexity, low stream flows, dams, and heated discharges from industrial or municipal operations.

The major sources of thermal pollution that the DEQ evaluated for the Willamette Basin temperature TMDLs are wastewater treatment facilities, dam and reservoir operations, and the loss of streamside vegetation. Point sources will continue to be regulated through the existing National Pollution Discharge Elimination System (NPDES) permit methods. Sewage treatment plants, as well as large industrial permitted discharges, will be allocated heat loads during the next renewal of their NPDES permits.

The focus of the non-point source temperature TMDL is to mitigate the removal or disturbance of streamside vegetation. The most effective way to minimize thermal pollution is by reducing the amount of solar radiation that reaches the water. This is accomplished by protecting and reestablishing vegetation along waterways to provide shade cover. Temperature benefits can also be realized through stream restoration projects including stream bank stabilization, increasing stream flows, decreasing channel width, and restoring channel complexity. Attainment and preservation of effective shade levels on smaller tributaries associated with system potential vegetation will eliminate most anthropogenic nonpoint source heat loads. Per the Molalla-Pudding Subbasin TMDL, surrogate measure is percent effective shade targets and a heat load equivalent of 0.05°C of the Human Use Allowance (DEQ, 2008).

Temperature TMDLs have been developed for the Willamette sub basins and mainstream Willamette River. The DEQ used two different approaches in developing the temperature TMDLs. One TMDL focuses on the mainstream Willamette River and its major tributaries up to the first dam. Using the other approach, the DEQ developed TMDLs on a more localized scale for stream segments upriver from dams.

The maximum temperature increase in the waters of the state from all human activities can be no more than 0.3° C. This was designated by the State of Oregon in Oregon Administrative Rule 340-041-0028. In the TMDLs, this allowance is known as the Human Use Allowance and is split up between various sources of human-caused thermal pollution. Models indicate that restoring shade cover to natural levels could reduce temperatures in the mainstream Willamette River by 0.5° Celsius (DEQ, 2006).

The amount allocated to each source of thermal pollution varies by location. Generally, non-point sources are allowed to contribute no more than 0.05° C, and point sources can contribute up to .25° C. The TMDL allocates 0.05° C to the U.S. Army Corps of Engineers Willamette Project reservoirs. The DEQ factors in 0.05° as a reserve capacity that will be set aside now to accommodate future growth by meeting the increased demand for industrial and municipal wastewater discharges.

On average, waterways in the Willamette Basin need to receive 23 percent less thermal input than is currently being received (DEQ, 2006). The major consequence of the temperature TMDLs is the need to protect and restore streamside vegetation. Thermal pollution can be addressed by a variety of measures, including:

- Develop materials for landowners explaining the benefits of preserving natural streamside vegetation.
- Implement demonstration projects on public land to illustrate potential riparian management techniques.
- Actively restore riparian areas on public land and help private property owners restore riparian areas on private land.
- Institute a riparian ordinance that prohibits the removal of native streamside vegetation.
- Acquire critical streamside property.
- Become involved in a water quality trading program.

2.4 Bacteria

The Molalla-Pudding subbasin TMDL addresses seven bacteria-impaired stream reaches from both the 2004-06 and 2002 303(d) lists. The 2002 bacteria listings for the Molalla River from river mile 0 to 25 and the summer (June 1 – September 30) listing for the Pudding River from river mile 0 to 35.4 had been removed from the 2004-06 303(d) list, but a review of data indicated that the bacteria criteria could be exceeded at the highest stream flows on the Molalla River and during the summer on the Pudding River. For those reasons, a bacteria TMDL was completed for the Molalla River and the summer season for the Pudding River. Analysis of bacteria data, stream flows, and precipitation indicates that the main sources of bacterial contamination in the Molalla and Pudding Rivers and their tributaries are nonpoint sources. Non-point sources include agricultural runoff and urban stormwater, though runoff from forestry land use does not appear to cause the bacteria criteria to be exceeded. Load allocations are expressed in terms of a surrogate measure – percent reduction in bacteria concentrations. Load allocations apply generally by land use, basin-wide, and year-round. Stream and season-specific load allocations were calculated for streams where sufficient stream flow data were available to calculate a loading capacity and excess load. Load allocations, as percent reductions, were reduced until no one

sample (based on available data) exceeded the single sample criterion of 406 *E.coli* organisms per 100 milliliters.

The Molalla-Pudding Subbasin load reduction for the listed waterbodies range from 75-87% during the summer months (June 1-September 30) and 70-92% in fall-winter-spring months (October 1 – May 31). The Willamette Basin Bacteria TMDL states that urban areas must reduce their bacteria contributions by 80-94% to meet water quality standards. According to the Willamette Basin TMDL, point sources in the upper reaches of the Willamette Basin cause less than a one percent increase in the bacteria concentrations over natural conditions (DEQ, 2006). Accordingly, the focus of the TMDL implementation efforts should be on non-point sources.

Bacteria violations of water quality standards are most common in creeks and streams that drain urban and agricultural land. The mainstream Willamette River is water quality limited for bacteria during the high flows of the fall-winter-spring months, but is in compliance during summer low flows when there is the least amount of runoff.

Above Willamette Falls, violations in the bacteria standards are usually single sample events that are related to high levels of precipitation and the resulting runoff. The major sources of bacteria in the urban and rural residential areas are stormwater runoff, erosion, domestic and wild animal waste, failing septic systems, and municipal sewer overflows. Other sources of bacteria include livestock, irrigation runoff, and stream bank erosion.

Local jurisdictions can focus on urban issues to ensure that the quality of water does not degrade due to current land use, population growth, and land use changes. Strategy options to address bacteria in the urban area include:

- Preventing erosion and controlling sediment from new construction.
- Detaining and treating stormwater prior to discharge into waterways.
- Keeping stormwater conveyance channels clear of organic matter.
- Controlling animal waste.
- Maintaining and restoring riparian buffers.
- Encouraging better site design to decrease runoff.
- Preventing non-stormwater and illegal discharges.
- Developing stewardship and educational programs to prevent pollution.
- Street sweeping.

2.5 Mercury

Mercury is a very complex pollutant. The way it acts in nature and the different forms it takes make it difficult to understand and accurately monitor. With no regard to local, state, or even international boundaries, mercury can be transported in the air after soil disturbance, automobile emissions, and industrial emissions across many miles and deposited by rainfall.

Air deposition from emissions is one of many ways that mercury moves through the environment. Some point sources, including timber processing plants and mills, discharge low levels of mercury in their wastewater effluent. Stormwater runoff suspends mercury molecules and carries them to waterways.

Mercury is naturally occurring at low levels, but when native soil erodes at an accelerated rate those molecules are released in abnormal amounts. Mercury is also set in motion when sediment that has been deposited long ago is re-suspended due to high water flows or a significant disturbance.

High mercury levels in the Willamette Basin have resulted in fish consumption advisories. To protect public health, especially that of pregnant women and young children, the Department of Human Services (DHS) has issued advisories recommending that people limit the amount of fish they consume from certain waterways. For example, the DHS specifically advises against consuming large amounts of fish from the Willamette River due to the high levels of mercury.

Despite the uncertainty and complex nature of mercury, there are steps that can be taken to minimize the amount of mercury that is deposited in waterways and accumulated in the tissues of fish, wildlife, and humans. One of the primary goals of the Final Revised Willamette Basin Mercury TMDL is to reduce mercury levels in the basin to a point where fish are no longer unsafe to eat.

To begin addressing the mercury problem in the Willamette Basin, DEQ developed wasteload allocations for point sources and load allocations for non-point sources (DEQ, 2019). The DEQ developed allocations for the Final Revised Willamette Basin Mercury TMDL and were calculated as percent reductions and compared to the load capacity for non-point sources and point sources (DEQ, 2019).

The DEQ expects all non-point sources to begin implementing mercury reduction management strategies and policies based on the load allocations defined in the Final Revised Willamette Basin Mercury TMDL (DEQ, 2019).

Implementation plans must include a mercury reduction strategy that incorporates the six stormwater control measures as defined in the 2019 Final Revised Willamette Basin Mercury TMDL. The minimum stormwater control measures required by the DEQ include:

1. Pollution Prevention and Good Housekeeping for Municipal Operations.
2. Public Education and Outreach.
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.

DMAs have an array of options to reduce mercury pollution. Many of the management strategies that address mercury pollution also address bacteria and temperature. Potential management strategies include:

- Working with dentist offices to properly dispose of mercury wastes.
- Establishing a stormwater plan.
- Stormwater detention and treatment prior to discharge into waterways.
- Establishing an erosion prevention and sediment control program.
- Regular street sweeping and stormwater system maintenance.
- Limiting land disturbance whenever possible.

2.6 Pesticides

The primary pesticides of concern in the Pudding River Watershed are the listed pesticides: chlordane, dieldrin, and DDT (dichlorodiphenyltrichloroethane), including the DDT metabolites DDE and DDD. Chlordane, dieldrin, and DDT are toxic organochlorine pesticides. Historically, DDT, dieldrin, and chlordane were used extensively as agricultural insecticides and to control insect disease vectors such as mosquitoes. Load allocations for DDT and dieldrin are expressed as percent reductions necessary to achieve the human health criteria based on water and fish ingestion. The Molalla-Pudding Subbasin

TMDL requires a 30% reduction in DDT and a 90% reduction in dieldrin on the Pudding River and its tributaries. The TMDL also uses a surrogate measure of total suspended solids (TSS), which correlates strongly with DDT, to set targets that will achieve partial load allocations for non-point sources in all sectors. A 96 -hour average TSS target of 15 mg/L for the Pudding River will partially achieve the load allocations.

2.7 Metals

DEQ and other entities have identified exceedances of iron, manganese and arsenic water quality criteria in the Molalla-Pudding Subbasin. Iron, manganese and arsenic are naturally occurring substances and particularly prevalent in soils deriving from eroded volcanic rocks. DEQ's data review and analysis of metals correlation with stream flow and precipitation supports the conclusion that manganese and arsenic are present in the Pudding River at natural concentrations and are not concentrated by human activities. Iron concentrations correlate with stream flow and precipitation and DEQ's conclusion is that human caused activities that lead to eroding stream banks and runoff may concentrate iron in surface water at higher than natural concentrations. The Molalla-Pudding Subbasin TMDL sets a target of 6 mg/L total suspended solids (TSS) to meet 7-79% iron reduction based on Pudding River flow.

Section 3: Water Quality Efforts

The City of Molalla currently has several efforts underway that address water quality issues. Molalla's Municipal Code and 2017 Molalla Standard Specifications for Public Works Construction include erosion control requirements, riparian area and tree protection, vegetation and tree planting, stormwater quality design standards, protection of the storm drainage system, and encouragement of low impact development.

Additionally, the City maintains street sweeping and animal waste pick up programs, has adopted a Parks Master Plan that promotes the protection and enhancement of vegetation and riparian areas, and continues efforts to educate the public about water conservation.

3.1 Molalla Municipal Code – Public Services

The City of Molalla Municipal Code, Title 13-Public Services provides requirements for the protection of the City's storm drainage system by reducing illegal discharge and cross-connections. Code sections in place to protect the storm drainage system are summarized below.

13-08.300 Abandonment of Private Sewer Systems

When public sewer becomes available to a property served by a private sewage disposal system, and upon notification to the property owner from the City, a direct connection shall be made to the public sewer, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be decommissioned, abandoned and filled with suitable material.

13-08.840 Discharge to Storm Drains

No person shall discharge or cause to be discharged into any storm drain any matter other than unpolluted runoff or storm drainage.

3.2 Molalla Municipal Code - Development

The City of Molalla completed and adopted revisions to the City of Molalla Development Code on October 11, 2017. Code sections in place to uphold water quality efforts are summarized below.

17-2.4.030 Water Resources (WR) Overlay

The WR Overlay District has been established and is intended to protect and enhance significant wetlands, stream corridors and floodplains identified in the Molalla Natural Features Inventory by conserving significant riparian corridors, undeveloped floodplains, and locally significant wetlands in keeping with the requirements of State Planning Goal 5 (Natural Resources) and applicable state statutes, administrative rules, and the Molalla Comprehensive Plan.

The WR Overlay District includes the riparian corridor extending upland 50 feet from the tops-of-bank of Bear Creek, Creamery Creek, and the Molalla River. Where a significant wetland is located fully or partially within the riparian corridor, the riparian corridor shall extend 50 feet upland from the edge of the wetland and the riparian area for isolated wetlands shall extend 25 feet from the edge of the wetland. The district also includes the 100-year flood plain on properties identified as vacant or partially vacant on the 2007 Molalla Buildable Lands Inventory.

Native vegetation removal and building, paving, grading, and filling are restricted within the WR Overlay riparian corridors.

17-3.2 – Building Orientation and Design/Non-Residential Buildings

Site design standards for non-residential buildings may be waived if a significant tree or other environmental feature precludes strict adherence to the standard and will be retained and incorporated into the design.

17-3.4.030 – Landscaping and Screening

All portions of lots not otherwise developed with buildings, accessory structures, vehicle maneuvering areas, or parking lots shall be landscaped. All lots shall conform to the minimum landscape areas standards for the applicable zoning district, as outlined in the Code. A combination of deciduous and deciduous and evergreen trees, shrubs, and ground covers shall be used for all planted areas. Existing mature trees that can thrive in a developed area and that do not conflict with other provisions of the Code shall be retained where specimens are in good health, have desirable aesthetic characteristics, and do not present a hazard.

3.3 Molalla Municipal Code – Additional Regulations

The City of Molalla Municipal Code, Title 21-Additional Regulations includes provisions for excavation, fills, grading and erosion control. The Title 21 Code section in place to minimize erosion is summarized below.

21-70 Excavation, Fills, Grading and Erosion Control

Applications, provided by the Planning Director, shall be completed for grading, excavation, fill and erosion control. Excavation or fill shall not create a slope that causes surface drainage to flow over adjacent public or private property in a volume or location materially different from that which existed before the excavation or fill. Surface and subsurface drainage caused or affected by changing of grade or uncovering subsurface sources such as springs shall be collected by an approved means and carried to an approved discharge point.

The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control shall consist of effective planting or such other measures as the Public Works Director may determine. The protection for the slopes shall be installed as soon as practicable and prior to final approval.

3.4 2017 Molalla Standard Specifications for Public Works Construction

The City of Molalla adopted the current 2017 Molalla Standard Specifications for Public Works Construction (PW Standards) on September 6, 2017. Sections found in the PW Standards related to water quality efforts are summarized below.

1.17.16 Preservation, Restoration, and Cleanup

Street Cleanup – On all construction projects, the contractor shall clean spilled soil, mud, rock, gravel, or other foreign material caused by construction operations from sidewalks, gutters, streets, and roads at the conclusion of each day's operation.

1.18.4 Erosion Prevention and Sediment Control

It is the goal of the City to eliminate or minimize to the extent feasible all sediment and other pollutants reaching the public storm and surface water system resulting from development, construction, grading, excavating, clearing and any other activity that accelerates erosion. It is the policy of the City to require temporary and permanent measures for all construction projects to lessen the adverse effects of construction on the environment. All projects shall have a current DEQ 1200-C permit, as required by

the State of Oregon, and include properly installed, operated, and maintained temporary and permanent erosion-control measures as provided in the PW Standards or in an approved erosion control plan.

Existing vegetation shall be protected and left in place whenever practicable. Where existing vegetation has been removed, or the original land contours have been disturbed, the site shall be revegetated, and the vegetation established, as soon as practicable.

3.1.2 General Design Requirements (Stormwater)

In developing drainage plans for stormwater management, the design engineer is encouraged to provide, to the extent feasible, on-site stormwater management through the use of Low Impact Development (LID) principles. The primary Stormwater management objective for LID is to match pre-development (bare site) hydrologic condition over the full range of rainfall intensities and durations as detailed in Section 3.3 of the PW Standards. LID principals include, but are not limited to:

- Integration of stormwater management into site planning activities.
- Use of natural hydrologic functions as the integrating framework.
- Minimize site disturbance.
- Focus on prevention rather than mitigation.
- Emphasize simple, nonstructural, low-tech, and low cost methods.
- Manage stormwater as close to the source as possible.
- Distribute small-scale LID techniques throughout the landscape.
- Create a multifunctional landscape.

3.3.9 Detention/Retention Facility Protection (Stormwater)

Stormwater quantity detention/retention facilities and stormwater quality facilities shall be designed to prevent scouring at the inflow structure(s) by use of an engineered energy-dissipating device such as a Swale Inflow Spreader or other method approved by the Public Works Department authorized representative.

3.3.10 Drainage Report (Stormwater)

A drainage report, prepared by a professional engineer registered in the State of Oregon, shall be submitted for proposed developments. The detailed report shall include a description of the land cover resulting from the proposed project, a description of the potential stormwater quantity and quality impacts of the project, a description of the proposed methods for collection and conveyance of runoff from the project site, and proposed methods for control of any increase in stormwater quantity and for maintenance of stormwater quality.

3.5.1 Water Quality Facility Design Standards (Stormwater)

New development and other activities that create new impervious surfaces or increase in the amount of stormwater runoff or pollution leaving the site are require to construct or fund permanent water quality facilities to reduce contaminants entering the stormwater and surface water system. Stormwater quality facilities shall be designed to capture and treat 80% of the average annual runoff volume, to the maximum extent possible, with the goal of 70% total suspended solids (TSS) removal.

3.10 Stormwater Quality Facility Design

The purpose of Section 10 is to outline the design and construction guidelines for water quality facilities in the City of Molalla. The guidelines set forth in Section 10 may be used to comply with the water quality facility design standards in Subsection 3.5. It is the responsibility of the design engineer to determine the appropriate design criteria that ensures compliance with the PW Standards, in combination with federal, state and local laws and ordinances. Facility design criteria are presented for the following facility types:

- Biofiltration Swales
- Sand Filters
- Wet Ponds
- Extended Wet Ponds
- Extended Dry Ponds
- Wetlands
- Infiltration Trenches
- Infiltration Basins

3.5 Parks Plan

In 2014 the City of Molalla adopted a Parks Master Plan that promotes the protection and enhancement of vegetation and riparian areas.

The City currently has a significant amount of passive open space and exceeds recommended standards for natural areas based on the current supply. Community members have expressed support for preserving these spaces and acquiring additional open space throughout the City as new development occurs. The plan recommends that the City incorporate the following types of areas in establishing and maintaining the city-wide open space system:

- Continue to require dedication of a specific percentage of open space as part of the subdivision and residential development review processes.
- Combine designation of open space with protection of environmentally sensitive or natural areas.
- In targeting specific areas for open space acquisition, dedication or protection, prioritize natural area and open space protection and management to maximize natural resource values.
- Identify, acquire and conserve key open space areas adjacent to proposed trail corridors or linear parks, including the Bear Creek corridor. Use these to enhance the trail system and provide for well-connected pockets of open space throughout the community.

3.6 Street Sweeping Program

The City of Molalla maintains a street sweeping program that utilizes a City owned street sweeper. The City has adopted a public works policy that requires department personnel to track street sweeping activities using a street sweeping zone map and summary log. The summary log provides personnel a method to track the zones and/or streets that were cleaned and the opportunity to report any noticeable sources of pollution.

3.7 Stormwater System Maintenance

In order to continue to provide a viable stormwater collection system, the City maintains a budget within the Public Works Department for stormwater maintenance. A full time City crew is available for the upkeep of catch basins, manholes, and pipelines.

3.8 Pet Waste

Dog waste stations have been installed in Sheets Field, Pocket, Basketball, Clark, Fox, Ivor Davies, and Long city parks. The City supplies dog waste bags in City Parks and maintains a stock of replacement waste bags. The City replenishes the waste station bags on a regular basis.

3.9 Water Conservation Outreach

The City of Molalla plans to provide informative water conservation flyers annually to residential and commercial water consumers. The City plans to continue providing information annually to consumers in their water bills or at events such as National Night Out, to promote water conservation. Additionally, the City's website includes a tip sheet for indoor and outdoor water conservation.

Section 4: Implementation Strategies

The City of Molalla will continue with the water quality efforts outlined in Section 3 and work to continue implementing the strategies and activities provided in this section. The City's goal is to adopt this Plan and utilize the implementation strategies to reduce contributions of increased temperatures, bacteria, mercury and pollutants to surface waters within the City's jurisdiction.

4.1 Stormwater System Planning

Stormwater planning and management is the City's primary focus for addressing the reduction of TMDL pollutants. Coordinated efforts by all City departments within the City are needed to manage stormwater and reduce pollutants covered in the Willamette Basin and Molalla-Pudding Subbasin TMDL.

The City will continue to follow the recommendations of the 2003 Stormwater Master Plan to implement upgrades and improvements, in order to maintain a well working stormwater conveyance system. The master plan will continue to be available on the City's website to help educate developers and the public about the stormwater issues and hydrology of the City.

The City is currently in the process of updating its Stormwater Master Plan which has reach the end of its 20-year design life. Once completed, the updated plan will be used to identify gaps in the existing pollution control strategies in order to help the City identify ways to address these gaps. The updated plan will also include water quality protection mechanisms to ensure that future stormwater system expansions and upgrades are designed and constructed with the consideration of water quality.

Revisions to the Molalla Development Code and PW Standards have incorporated requirements to uphold stormwater water quality efforts and erosion control for new development and construction. The City will work to educate the public and developers on the implementation of these codes and standards to ensure the water quality standards set forth are met.

4.2 Wastewater System Planning

In 2017, the City began work on updating their 2000 Wastewater Facilities Master Plan. This work included an extensive evaluation of the Wastewater Treatment Plant (WWTP) and collection system. The new *Wastewater Facility and Collection System Master Plan* was completed and adopted by City Council on December 12, 2018.

The WWTP evaluation provided recommendations for plant upgrades and modifications to address discharge loading. The update was completed and the recommended improvements that were provided in the update were made with respect to mass load limits and temperature compliance with their NPDES discharge permit.

The collection system evaluation focused on Inflow and Infiltration (I/I) issues and provided recommendations to address areas of concern. With the adoption of the new facilities plan, the City has established an I/I reduction program that focuses on the decrease of system I/I and the elimination of cross connections between the storm and sanitary sewer systems.

4.3 Riparian Protection and Restoration

The City of Molalla has been proactive in their efforts to protect riparian areas within the City. The City's development code has established a Water Resources Overlay District, which protects the riparian corridors of Bear Creek, Creamery Creek and the Molalla River. The City will continue to adhere to the

development code and work to educate developers and public about the importance of the code and the protection of the riparian areas.

The City has adopted a Parks Plan that recommends the protection of environmentally sensitive or natural areas. The Parks Plan provides recommended trail projects that provide the opportunity to improve riparian and stream areas. The following trail projects were identified as Tier 1 (5-15 year implementation) projects by the Project Advisory Committee and will be considered by the City when budget allows and/or development occurs in the proposed trial area:

- Molalla Rail Trail
- Bear Creek Greenway
- Land Lab Trail
- Cole Avenue Trail
- Rail High School Connector

4.4 Public Education and Outreach

The City will continue to use existing methods to inform and distribute information to residents and developers about the importance of water quality and conservation and protection and enhancement of existing vegetation in riparian areas. These methods include the City's website, City Hall, monthly billing statements, and City Staff meetings.

Building relationships with local watershed groups will also be considered as budget and staff availability allows. Fostering these relationships will provide the City the opportunity to educate the public on restoration and enhancement opportunities promoted by these groups.

The City will record and evaluate all information encompassed within the education and outreach programs.

4.5 Public Involvement and Participation

The City has created a program for public engagement and participation to involve the public in shaping stormwater control measures. To enhance this involvement, they have introduced a web-based community engagement platform called "The Current" (<https://current.cityofmolalla.com/>), which offers contact details and educational materials to encourage public participation.

4.6 Illicit Discharge Detection and Elimination (IDDE)

To detect and eliminate illicit discharges into the stormwater conveyance system the City will begin to develop an illicit discharge detection and elimination plan. The City is currently working to update its Stormwater Master Plan, which may result in gap analysis between stormwater mapping and the requirements of the *Final Revised Willamette Basin Mercury TMDL (DEQ, 2019)*; however, the City is scheduled to complete its new Stormwater Master Plan in 2025.

The City enforces Illicit discharges prohibitions through a Code Enforcement Office. The City has an established Municipal Code related to Surface Water Management (Chapter 13.13), including clauses related to illicit discharges, and stormwater parameters (Temp, pH, etc.).

To track implementation of the IDDE program requirements, the City will assess progress towards implementation of the program. The TMDL Annual Reports will include the number of code enforcement cases related to IDDE.

The City will continue to provide preventative measures to address illegal discharge of waste. The City will continue to promote the annual Spring Cleanup provided by Molalla Sanitary Services. While many items that can contribute to illegal discharge are accepted at this event (motor oil and household appliances), hazardous wastes are not. For hazardous waste disposal, the City will continue to provide information to the public regarding the availability of hazardous waste drop off at Oregon Metro, located in Oregon City.

The City provides a pharmaceutical disposal facility in the Police Department located at City Hall. The City will maintain this facility and continue to provide information about proper disposal and use of this facility on their website. The website and brochure can be viewed from the following webpage link:

- <https://www.clackamasproviders.org/drug-take-back-boxes/>

The City has budgeted to provide portable toilets for public use in parks and areas, with no public facilities, during City funded events.

4.7 Construction Site Runoff and Erosion Control

As discussed in Section 3, the goal of the City's current Public Works Design Standards is to eliminate or minimize, to the extent feasible, all sediment and other pollutants reaching the public storm and surface water system resulting from development, construction, grading, excavating, clearing and any other activity that accelerates erosion.

The City requires temporary and permanent measures for all construction projects to lessen the adverse effects of construction on the environment. The City has established Municipal Code Section 13.13.600 for construction activities which require erosion prevention and sediment control and established Municipal Code sections 13.13.700-13.13.720 which address violations progressively.

Projects involving ground disturbance are required to have a current DEQ 1200-C permit, as required by the State of Oregon, and include properly installed, operated, and maintained temporary and permanent erosion-control measures as provided in the Standards or in an approved erosion control plan. The City has established Public Works Design Standards that include reference to DEQ in Section 1.18.4 for all projects that meet 1200-C criteria.

The City has established requirements for each Civil Design Plan to include Erosion Control Plans and will continue efforts to ensure that all new development plans incorporate the required erosion control. The City will also continue project inspection efforts to make certain that the requirements of the design standards are adhered to.

The City will continue efforts to manage the Water Resources Overlay District, which was established to protect and enhance wetlands, stream corridors, and floodplains and lessen the amount of land vulnerable to excessive erosion and reduce activities that create unnecessary erosion and sediment runoff in these areas. The Annual Reports will include number of Projects that required Site Runoff Program implementation.

4.8 Post-Construction Site Runoff for New Development and Redevelopment

The City's Water Resources Overlay District will continue to develop, implement, and enforce programs to reduce discharges of pollutants and control post-construction stormwater runoff from new development and redevelopment project sites. The City established Development Code for the Water Resources Overlay District for monitoring development projects and post-construction site runoff.

The City has established stormwater design and construction standards that require the implementation of strategies for post-construction site runoff from project sites discharging stormwater to the storm water conveyance system that create or replace 5,000 square feet or more of new impervious surface area. Impervious surfaces may include pavement, gravel roads, buildings, public and private roadways, and all other surfaces with similar runoff characteristics. Information regarding the City's requirements for stormwater design and construction standards can be found in Section 3 of the *2020 Molalla Standard Specifications for Public Works Construction* (Molalla Standard Specifications) located on the City's website or from the following webpage link:

- <https://www.cityofmolalla.com/publicworks/page/design-standards>

The Molalla Standard Specifications specifies the requirements for site-specific stormwater management strategies that target natural surface or predevelopment hydrological function through the installation and long-term operation and maintenance of stormwater controls. The Molalla Standard Specifications also provides requirements for private storm facilities to enter into System Maintenance Agreements with the City prior to Certificates of Occupancy being issued.

The City plans to target natural surface or predevelopment hydrologic function for new development or redevelopment projects that meet the criteria specified in The Molalla Standard Specifications. The City plans to accomplish this through on-site retention of rainfall to minimize the offsite discharge of stormwater by utilization of stormwater controls that infiltrate and evapotranspire stormwater. Stormwater quality facilities shall be designed to capture and treat 80% of the average annual runoff volume, to the maximum extent possible, with the goal of 70% total suspended solids (TSS) removal.

The removal efficiency standard for TSS specifies only the design requirements and is not intended as a basis for performance evaluation or compliance determination of a stormwater quality control facility installed or constructed pursuant to this section. If an on-site water quality facility cannot be constructed to treat the runoff from the development's impervious surface, then with the approval of the Public Works Department's authorized representative, an on- or off-site water quality facility may be designed to treat runoff from an equivalent area of adjacent untreated impervious surface. The water quality facility shall meet all applicable requirements of these standards.

The City shall maintain records of post-construction site runoff programs and installations and shall document post-construction activities in its Project Management Systems and report as needed in TMDL Annual Reports.

4.9 Animal Waste Management

The City will continue to maintain and stock the dog waste stations have been installed in City parks as detailed in Section 3.

4.10 Mercury and Pollutants

Because mercury and pollutant reduction encompass many of the implementation activities and water quality efforts outlined in Sections 3 and 4 of this plan, the City's overall goal to reduce these contaminants is to adhere to the implementation strategies. These strategies include stormwater system planning, erosion control standards, limiting land disturbance, reducing hazardous waste discharge, and street sweeping.

Section 5: Monitoring, Reporting, Compliance & Funding

The City of Molalla understands the importance of monitoring the implementation strategies addressed in this TMDL Implementation Plan. The City will actively track the implementation progress of the strategies as outlined in this Plan and TMDL Implementation Matrix (Section 6). The City will also monitor the effectiveness of each strategy with respect to how well each is removing pollutants, either qualitatively or quantitatively.

The City will provide DEQ with an annual review of the Plan and Matrix and provide a progress and effectiveness updates for each strategy. Through an adaptive management approach, the review will also highlight any updates or revisions to the Plan or Matrix that may be required. The City will also review, evaluate and revise the TMDL Implementation Plan in its entirety every five years. Revisions, additions, or restructuring required to create a new, modified plan will be coordinated with DEQ. Both the annual and five year reviews will be presented to City Council for review.

5.1 Public Involvement

A key aspect to monitoring progress of the implantation strategies is public input. The City Council will be presented with the final TMDL Implementation Plan and encouraged to adopt the strategies set forth and educate the residents of Molalla of its importance.

A Code enforcement reporting form has been made available on the City's website. Through this reporting, the City will utilize the public's input to address any code issues witnessed that may affect the goals of this Plan.

5.2 Land Use Compliance

All strategies and activities listed in this Plan and Implementation Matrix are consistent with the City of Molalla 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 the City staff. The City will also consider the Plan when developing or revising City ordinances that involve land use.

5.3 Funding

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 Molalla. 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 for TMDL implementation.

The City has established a Surface Water Utility User Charge that is 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 stormwater collection system.

Section 6: TMDL Implementation Matrix

The following matrix details the strategies that will be implemented over the next five years. Some of these strategies will be implemented only as funding allows. The matrix shows the pollutant being addressed, the strategy to address it, the time table for implementation, and how progress and success will be monitored. This matrix will serve as the tracking tool for annual reporting to DEQ.

City of Molalla TMDL Implementation Matrix – Year 5 Review: October, 2023

Receiving Bodies of Water: Bear Creek, Creamery Creek.

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Temperature				Applicable Time Frame: July 1, 2022 – June 30, 2023	
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Lack of shading in riparian areas	1. Riparian Vegetation Protection: Protect and enhance existing vegetation in riparian areas.	Enforce existing Municipal Code 17-2.4.030 for new development: 50 ft. riparian and wetland setback and protection of native vegetation. Report changes to applicable code or application of code. Partner with watershed groups and Clackamas County SWCD to establish working relationships, partner on riparian restoration projects, and public outreach opportunities.	Track enforcement actions and violations as well as development plan review. Report areas protected in annual TMDL review report. Report on riparian area restoration projects. Track number of meetings attended and projects collaborated on.	Ongoing; Annual Review	
Reduced stream flow in Molalla River and its tributaries	2. Public Education and Outreach: Reduce municipal water diversion.	Provide water conservation information to residents via City webpage: https://www.cityofmolalla.com/publicworks/page/water-conservation-tip-sheet https://www.cityofmolalla.com/sites/default/files/fileattachments/utility_billing/page/1468/water_leak_flyer.pdf	Track number of residents that were notified of high water use.	Ongoing; Annual Review	
Lack of shading in riparian areas	3. Public Involvement and Participation: Inform residents of the significance of riparian areas and measures they can take to improve water quality.	Provide information via weblinks to Molalla River Alliance and Molalla River Watch. Make material available to residents via City website (<i>Mega Our Community</i> webpage). Update and add more informative links to City webpage as necessary.	Track resident requests for volunteering opportunities and requests for additional riparian area information.	Ongoing; Annual Review	
Lack of shading in riparian areas	4. Predevelopment and Construction: Inform developers of the significance of riparian areas and measures they can take to improve water quality.	Provide relevant information to developers during pre-application meetings.	Track number of pre-application meetings.	Ongoing; Annual Review	
Wastewater treatment plant discharge	5. Wastewater Treatment Plant Monitoring: Maintain low effluent temperatures.	Maintain requirements of NPDES permit. Continuous temperature measurement and monthly permit reporting.	Discharge occurs under permit conditions only. Track and report any discharges that do not meet NPDES Permit requirements.	Ongoing; Annual Review	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Temperature					Applicable Time Frame: July 1, 2022 – June 30, 2023
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Reduced stream flow in Molalla River and its tributaries	6. Water Conservation Efforts: Reduce municipal water diversion.	Monitor total water use vs total water production.	Track difference in water use vs water production. Track number of water line repair projects from the City’s Water Management, Conservation and Water System Master Plan.	Ongoing; Annual Review	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Bacteria, Mercury, and Legacy Pesticides					Applicable Time Frame: July 1, 2022 – June 30, 2023
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Stormwater, erosion, and sedimentation	1.a. Pollution Prevention and Good Housekeeping for Municipal Operations: Street sweeping.	Public Works Operations: Reduce runoff and sediment load from impervious areas: roads, vacant lots. Maintain weekly street sweeping schedule.	Using street sweeping log, track frequency of areas cleaned.	Ongoing; Annual Review	
Stormwater, erosion, and sedimentation	1.b. Pollution Prevention and Good Housekeeping for Municipal Operations: Maintenance Program for stormwater collection system.	Public Works Operations: Maintain storm system components including; catch basins, manholes, pipes, and ditches.	Track maintenance projects that improve the City’s stormwater system. Indicate number and type of maintenance projects in annual TMDL review report.	Ongoing; Annual Review	
Stormwater, erosion, and sedimentation	1.c. Pollution Prevention and Good Housekeeping for Municipal Operations: Ensure effluent quality meets the requirements contained in the NPDES Permit.	Wastewater Treatment Plant Discharge: Monitor and report effluent discharges to the river as required by the DEQ NPDES permit.	Continuous discharge monitoring. Track number of discharge related violations and report on corrective actions as necessary.	Ongoing; Annual Review	
Stormwater, erosion, and sedimentation	1.d. Pollution Prevention and Good Housekeeping for Municipal Operations: Reduce runoff and erosion directly to waterbodies by monitoring vegetation (condition, health, growth of invasive or problematic species) in City owned riparian areas.	Reduce runoff and erosion directly to waterbodies: City Parks and Recreation Division monitors and maintains riparian vegetation in City owned parks and develops riparian restoration projects as needed. Promote public involvement, participation, and volunteering opportunities for riparian restoration projects via City website.	Track quantity and stages of riparian restoration projects as they become available. Track number of cases involving riparian zone invasive plant species reported by the public.	Ongoing; Annual Review of riparian restoration projects or funding needed to complete projects.	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Bacteria, Mercury, and Legacy Pesticides				Applicable Time Frame: July 1, 2022 – June 30, 2023	
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Stormwater, erosion, and sedimentation	2.a. Public Education and Outreach: Educate developers and the public about stormwater and hydrology in the City of Molalla.	Stormwater BMP's: Make Stormwater Master Plan and Public Works Design Standards available to public via City website. Install tributary markers or other similar informative "drains to stream" markers for new projects.	Track number of private developments that meet stormwater standards. Track number of informative markers installed.	Ongoing; Annual Review.	
Stormwater, erosion, and sedimentation	2.b. Public Education and Outreach: Provide Information to residents to prevent illegal dumping and illicit discharge	Stormwater BMP's: Provide information to residents regarding ways to report illegal dumping and illicit discharge through City's Code Compliance Division. Install "drains to stream" or other similar informative markers at catch basins to prevent illegal dumping into waterways.	Track number of reports of illegal dumping. Track number of informative markers installed.	Ongoing; Annual Review.	
Stormwater, erosion, and sedimentation	2.c. Public Education and Outreach: Reduce Pet and Animal Waste in Stormwater runoff:	Stormwater BMP's: Inform residents about potential bacterial and mercury water contamination from animal waste. Install waste bags in parks and common dog-walking locations. Maintain pet waste stations and signs in public parks to promote public involvement in pet waste cleanup.	Track waste bag usage within the City. Track number of new dog waste bag stations installed.	Ongoing; Annual Review	
Stormwater, erosion, and sedimentation	3.a. Public Involvement and Participation: Provide residents access to TMDL information, implementation progress, and the ability to provide comments regarding the TMDL during a City Council Meeting.	Stormwater BMP's: Provide opportunity for TMDL related public comment and written communications during a City Council Meeting.	Track number of TMDL related City Council meetings annually.	Ongoing; Annual Review.	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Bacteria, Mercury, and Legacy Pesticides				Applicable Time Frame: July 1, 2022 – June 30, 2023	
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Stormwater, erosion, and sedimentation	3.b. Public Involvement and Participation: Encourage public involvement by providing TMDL related information and volunteering opportunities.	Post information regarding removal and picking up pet and animal waste in parks. Post information and links to riparian restoration projects on City website. Provide links to Code Enforcement with information on how to report suspected illegal dumping or discharge.	Track number of pet waste bags purchased annually. Perform qualitative analysis regarding volunteering information and opportunities provided on City website. Track number of illegal dumping or illicit discharges reported to City.	Ongoing; Annual review	
Illegal Dumping and Illicit Discharge	4.a. Illegal Dumping and Illicit Discharge, Detection and Elimination: Public Education. Provide Code Enforcement	Inform public of rules regarding disposal by including information on City website. Provide dates for upcoming City, county and other locally sponsored household waste collection events on City website. Clearly identify on City’s website how community members should contact city with reports of illegal dumping and illicit discharges.	Qualitative annual review of Spring Clean-Up Event effectiveness. Code enforcement form has been made available on the City of Molalla website. Report number of complaints received, and corrective actions taken in annual TMDL review report.	Ongoing Code Enforcement; Annual Spring Cleaning Event	
Illegal Dumping and Illicit Discharge	4.b. Illegal Dumping and Illicit Discharge, Detection and Elimination: Identify stormwater catch basins and label to educate public.	Label and stencil storm drain catch basins to identify them as stormwater system and inform public that they drain to streams. Update and maintain a current map of the City’s stormwater conveyance system with digital inventory of outfalls and stormwater controls.	Track number of informative signs, stencils, or other materials installed.	Ongoing; Annual Review	
Illegal Dumping and Illicit Discharge	4.c. Illegal Dumping and Illicit Discharge, Detection and Elimination: Municipal Code Update	Update Municipal Code 13.13.520 to incorporate conditionally allowed discharges to the stormwater system such as groundwater, hydrant flushing, and lawn watering discharges.	Track hydrant and water system flushing dates.	Update Municipal Code by Year 2028	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Bacteria, Mercury, and Legacy Pesticides					Applicable Time Frame: July 1, 2022 – June 30, 2023
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Stormwater, erosion, and sedimentation	<p>5.a. Construction Site Runoff Control:</p> <p>Maintain current development code requiring developers to adhere to ODEQ NPDES Permit requirements for erosion control for areas >1 acre.</p> <p>Erosion control on new development > 1 acre.</p> <p>Assist developers of individual lots in larger developments to minimize erosion and runoff.</p> <p>Provide information to builders about the 1200-C Program.</p>	<p>Erosion & Sedimentation Control:</p> <p>Continue to enforce Public Works Standards and Municipal Code requirements.</p> <p>City Engineer and staff meet and review applications prior to permitting.</p> <p>Cooperate with DEQ to enforce erosion control through 1200C permits as required by Municipal Code - Chapter 17 and Public Works Design Standards 1.18.4.</p>	<p>Verification of 1200C coverage for all developments greater than one acre; track developments greater than one acre.</p>	Ongoing; Annual review	
Stormwater, erosion, and sedimentation	<p>5.b. Construction Site Runoff Control</p> <p>Reduce runoff and erosion directly to waterbodies by continuing to enforce the Drainageway Dedication Policy for new development and redevelopment projects per the City Standards for Public Improvements Section III (J)(2).</p>	<p>Reduce runoff and erosion directly to waterbodies:</p> <p>Continue to enforce Public Works Standards and Municipal Code requirements.</p> <p>City Engineer and staff meet and review applications/plans prior to permitting.</p>	<p>Track number of developments and redevelopments that require drainageway dedication area to protect riparian habitat.</p>	Ongoing; Annual Review	
Stormwater, erosion, and sedimentation	<p>5.c. Construction Site Runoff Control:</p> <p>Decrease soil disturbance in areas sensitive to erosion and Conduct grading inspections per Municipal Code 21.70 to ensure protection against erosion.</p>	<p>Erosion & Sedimentation Control:</p> <p>Continue to administer Municipal Code 21.70, Municipal Code 13.13, and Developmental Code 17-2.4.030 to protect waterways and regulate construction related erosion controls and methods.</p>	<p>Track and document engineering studies completed.</p> <p>Report permitted excavation projects that complied with Municipal Code 21.70 in annual TMDL review report.</p> <p>Report projects that complied with 1200C permits in annual TMDL review report.</p>	Ongoing; Annual review	
Stormwater, erosion, and sedimentation	<p>5.d. Construction Site Runoff Control:</p> <p>Escalating enforcement and response procedure for qualifying construction sites.</p>	<p>Erosion & Sedimentation Control:</p> <p>Continue to administer Municipal Code 13.13.700 through 13.13.720 to protect against erosion from construction site runoff.</p>	<p>Track surface water management violations are report outcomes on an annual basis as necessary.</p>	Ongoing; Annual review	

City of Molalla 2023 TMDL Implementation Matrix					
POLLUTANT: Bacteria, Mercury, and Legacy Pesticides				Applicable Time Frame: July 1, 2022 – June 30, 2023	
SOURCE	STRATEGY What we are doing and will do to reduce pollution from this source	ACTIONS Specific ways to implement strategies	MEASURE How we will track successful implementation or completion	TIMELINE	STATUS
Stormwater, erosion, and sedimentation	6.a. Post-Construction Site Runoff for New Development and Redevelopment: Require stormwater best management practices for water quality for new development and redevelopment projects that create or replace a minimum of ¼ acre (10,890 square feet) of impervious surface area.	Stormwater BMP's: Continue to enforce Public Works Standards and Municipal Code requirements. City Engineer and staff meet and review application prior to permitting. Require extensive review by City Staff including the City Engineer, Planning, and Public Works.	Track and document that best management practices are implemented on all city permitted sites. Track and document the number of sites that were developed or redeveloped with a minimum of ¼ acre of impervious surface including details regarding the water quality system that was installed. Include this information in the annual report.	Ongoing; Annual review	
Stormwater, erosion, and sedimentation	6.b. Post-Construction Site Runoff for New Development and Redevelopment: Promote Low Impact Development and on-site stormwater treatment.	Stormwater BMP's: Encourage green street standards – at least half street improvements with new development. Meet pre-development hydrology requirements per Municipal Code 17-3.6 and Public Works Design Standards Section 3.2.	Percent of green street standards for each project. For each project, stormwater quantity calculations to meet pre-development hydrology and water quality requirements per PW Standards. Report applicable improvements in annual TMDL review report.	Ongoing; Annual review	
Stormwater, erosion, and sedimentation	6.c. Post-Construction Site Runoff for New Development and Redevelopment: Promote Low Impact Development and on-site stormwater treatment.	Stormwater BMP's: Incorporate stormwater treatment with transportation projects	Track number of projects that include stormwater pre-treatment features.	Ongoing; Annual review	
Stormwater, erosion, and sedimentation	6.d. Post-Construction Site Runoff for New Development and Redevelopment: Promote Low Impact Development and on-site stormwater treatment.	Stormwater BMP's: Encourage use of drainage swales that settle, infiltrate, and treat turbid runoff. Current Public Works Design Standards Section 3.5 provides design specifications for drainage swales.	Track number of projects that incorporate drainage swales.	Ongoing; Annual review	