
City of Carlton

Mercury TMDL

Total Maximum Daily Load Implementation Plan

September 3, 2022

BACKGROUND

Willamette River Basin Water Quality

The City of Carlton is in the Yamhill Subbasin, one of the subbasins that make up the drainage basin of the Willamette River. Surface waters in this subbasin fail to meet water quality standards for mercury. The broader Willamette River basin also fails to meet water quality standards for mercury.

The water quality standards were established to ensure that beneficial uses of the river and tributaries, such as swimming, fish consumption and fish rearing, are protected. When water quality standards are not met, the federal Clean Water Act requires a total maximum daily load (TMDL) to be established. A TMDL defines how much pollution can be added to the river without exceeding water quality standards.

In April 2017, the U.S. District Court issued a ruling requiring the U.S. Environmental Protection Agency (EPA) to revise the 2006 mercury TMDL by November 2019. EPA, with input from the Oregon Department of Environmental Quality (DEQ), led the technical work associated with modeling the amount of mercury gained and lost by stream systems, as well as the concentration of mercury in the aquatic food web. DEQ led the development of a water quality management plan (WQMP) to describe the overall framework for implementing the TMDL. The WQMP describes activities, programs, legal authorities and other measures for which DEQ and other designated management agencies (DMAs) have regulatory responsibility. A DMA is “a federal, state or local governmental agency that has legal authority of a sector or source contributing pollutants and is identified as such by the DEQ in a TMDL.”

The DEQ has named Carlton as a DMA in the Yamhill Subbasin because the City has legal authority within its city limits, and because the City’s stormwater drains to a tributary of the Yamhill River. The tributary flows into the Yamhill River at river mile 9. Under the TMDL, the City of Carlton must develop a non-point source TMDL implementation plan to address mercury in the drainage basins, including the Yamhill River and Hawn Creek. This memorandum represents the required Yamhill Subbasin TMDL implementation plan for the City of Carlton.

City of Carlton Overview

Area Description

The City of Carlton is the DMA that this implementation plan refers to.

The City of Carlton is in Yamhill County west of Newberg (Section 21, Range 4 West, Township 3 South). Its current population is approximately 2,200. The City is in the northwest quadrant of the Willamette Valley, with elevations from 160 to 210 feet above sea level. The terrain is characterized by slopes of 0 to 20 percent with moderately well-defined drainage patterns. The predominant U.S. Soil Conservation Service soil type is Carlton Silt Loam. The soil is classified as a fine-silty, mixed, mesic Aquultic Haploxerolls, indicating a moderately impervious, moderately well-drained soil.

The area climate is a marine west coast climate. Rainfall events typical of the area are large, intermittent frontal storms that move in from the Pacific Ocean. High intensity, short duration events are uncommon. The mean annual precipitation is 42 inches, approximately 45 percent of which falls in the springtime.

Drainage Infrastructure

The City's stormwater conveyance system consists of roadside ditches, pipes installed by the City over the years, pipe systems constructed with recent developments, and culverts installed with road projects. The pipes range in diameter from 6 inches to 48 inches.

Most of the City's stormwater runoff flows to a partially piped system that includes some ditches and culverts. The system discharges the majority of runoff to Hawn Creek at multiple outfall locations. Some runoff is also discharged to the Yamhill River, and some is discharged cross country (flowing across the ground in general drainage patterns but no defined drainage way). Figure 1 is a map of the City and its drainage system, this is also include in the appendix.

Water Quality Issues – Existing Programs

According to the Willamette Basin TMDL, mercury contributions to the Yamhill River and Hawn Creek are primarily from a combination of local, regional, and global sources. Regional and local contributions include mercury from nearby natural source (air, water, and soil), gold mining activities, and combustion. Global contributions include mercury added to the Earth's atmosphere from natural sources (such as volcanic eruptions and forest fires) and human activities, such as large scale combustion.

City programs to protect surface water and groundwater include infrastructure for drinking water, stormwater conveyance, and an intergovernmental contract with Yamhill County for review of building permits.

The City development code section 17.56 addresses flood plain management and creates an overlay based upon the FIRM maps. In general this addresses erosion control, alterations of the natural floodplain and channel, controlling filling, grading an barriers. Standards are provided for construction, utilities, and anchoring. A permit is required for work in the floodplain and the City Manager is designated as the local administrator.

The City adopted a Parks Development Plan in 2019. The Plan establishes a goal of removing noxious vegetation and improving the riparian area in the Wennerberg park which is adjacent to the Yamhill River. At the Hawn

Creek Park the floodplain shall remain open space to provide a natural storm water and drainage system. This could be enhanced by providing a landscaping guide.

The City does not have a NPDES permit for storm water for a municipal separate storm sewer system.

For the Carlton Crest development in the north east corner of the community, restoration of a significant stretch of Hawn Creek was accomplished. This include removal of invasive plant species, re-grading the stream channel and planting native plants.

The City has a storm water management plan completed in 2002. In the future the storm water management plan will need to be updated. The master plan is a hard copy, and the City does not have an electronic version. Therefore, it is not posted on the City web site.

The City has a sanitary sewer collection and treatment system. All new development is required to connect to the system. On-site septic systems can only be used under very specific circumstances, and they are under the jurisdiction of the County. The City holds a National Pollutant Discharge Elimination System (NPDES) permit for discharge of treated effluent from its wastewater treatment plant to the Yamhill River between October 1 and May 31. When the NPDES permit is up for renewal, DEQ will ensure that all TMDL issues for the treatment plant discharge are addressed in the renewed permit. The City may need to collect data at that time to assess the plant's contribution of mercury to the Yamhill River. Such efforts will be conducted as part of the permit renewal and therefore are not included in this TMDL implementation plan.

The City uses Panther Creek as its drinking water source. Panther Creek is located approximately 8 miles west of town, and it is not affected by the City's storm drainage. The water is treated at the City of Carlton's Water Treatment Plant located on Panther Creek Road. The water is then gravity fed into two elevated water storage tanks. No improvements are required with regard to the mercury TMDL.

The City of Carlton will consider strategies for mercury reduction. The following identifies what the City does now and what could be done to enhance the City program and compares it with Table 13-11 from the DEQ HG TMDL WQMP. Under the six storm water measure listed below which are from Table 13-11, there are sub-paragraphs (a, b, c, etc) which are the specific requirements in Table 13-11.

1. Pollution Prevention and Good Housekeeping for Municipal Operation

- a. Properly operate and maintain its facilities. **The City does this function.** The following are the steps the City takes to meet Table 13-11 requirements.
 - i. Catchbasin cleaning is done on an as-needed basis.
 - ii. The City schedules street sweeping that occurs with seasonal needs.
 - iii. Pipes are cleaned as needed.
 - iv. There are no City owned detention, treatment of UIC's.
 - v. Private facilities are maintained by the facility owners. The City can inspect the facilities.

- b. Ensure that City owned facilities with industrial activity identified in DEQ's 1200-Z industrial stormwater general permit have coverage under this permit. **The city meets this requirement.**
 - i. The City facilities and activities do not fall under the DEQ 1200-Z General Permit for industrial sources, and the wastewater treatment plant is under 1.0 mgd. Therefore, a 1200-Z permit is not required.
- c. Conduct municipal operation and maintenance activities in a manner to reduce discharge of pollutants. **The City meets this requirement.**
 - i. The City conducts operation and maintenance activities to reduce discharge of pollutants.
- d. Maintain records for the activities and provide a descriptive summary in the annual TMDL report. **The City does not maintain formal records of good house-keeping and pollution control activities.**
 - i. The City does not maintain a formal record of the housekeeping steps taken. This will be done for the items listed in Table 2 of this report which describes the steps to be taken in the next five years.

2. Public Education and Outreach

- a. Conduct ongoing education and outreach to the public. **The City has not done this activity in the past.**
 - i. The City does not have an on-going education and outreach program. As part of this program as shown in Table 2 the plan, and annual reports will be posted on the City web site.
 - ii. While the Consumer Confidence Report (yearly posting of the Water Quality Report) which is posted on the City web site notes that pollutants in the drinking water can come from stormwater run-off, it does not address steps that can be taken to protect surface water.
- b. Track and implement public education and outreach. **The City has not done this activity in the past.**
 - i. With the development of this report the City has begun to implement public outreach. The City put the draft implementation plan on the web site, discussed the plan at the City Council meeting, the plan was discussed in the Community newsletter, and a community input survey was sent out using "Next Door".
 - ii. As part of this program as shown in Table 2 the City will continue to implement and track the steps taken per table 13-11, and will be posting the approved implementation plan, annual reports and five year report on the City web site. This will be documented in the annual reports.

3. Public Involvement and Participation

- a. Provide opportunities for public involvement and participation in the development of storm water control measure. **The City began this activity this year through the Comprehensive Plan and Development Ordinance up-date project.**
 - i. The City is in the process of updating the Comprehensive Plan and Development code. This includes storm water issues. Through this process there has already been significant public outreach and meetings. This will continue over the next several years.
 - ii. Through the contract solids waste firm there is an annual public clean-up day. The City will continue this practice.
 - iii. Through the contract solids waste firm property owners can subscribe, if they so choose, to a monthly service for pick up of yard debris. This program starts July, 2022.
- b. Comply with public notice requirements and use at least one publicly accessible website. **The City meets this requirement.**
 - i. The City has posted the draft implementation plan on the web site, and plans to post the implementation plan, annual reports and five year report on the City web site.

4. Illicit Discharge Detection and Elimination

- a. Implement and enforce a program to detect and eliminate illicit discharge. **The City meets this requirement.**
 - i. The Municipal code section 8.12.020 defines the pollution of any body of water, stream or river by sewage, industrial waste or other substances as a nuisance affecting public health. Section 8.12.160 through 8.12.210 define abatement notice, abatement by the owner, abatement by the City, assessment of cost, violation and penalties.
- b. Develop and maintain a current map and inventory of the stormwater system. **The City meets the mapping requirement.**
 - i. The City has development and maintained a map of the public storm system. The map is kept in autoCAD format and is periodically updated as development and City projects occur.
 - ii. The City does not have a current inventory of the storm system. This would be re-evaluated during the five year report.
- c. Maps and inventory must be available to the DEQ upon request. **The City meets this requirement.**
 - i. The map is available to the DEQ or others as requested. The City regularly provides the map to potential developers.

- d. The IDDE plan must be through enforcement of an ordinance or other legal mechanism. This must define what illicit discharges are and what is conditionally allowed. **The City meets this requirement.**
 - i. The Municipal code section 8.12.020 defines the pollution of any body of water, stream or river by sewage, industrial waste or other substances as a nuisance affecting public health. Section 8.12.160 through 8.12.210 define abatement notice, abatement by the owner, abatement by the City, assessment of cost, violation and penalties.
- e. Implement a procedure to track complaints or reports of illicit discharges. **The City meets this requirement.**
 - i. The City has a code enforcement compliance team listed on the City web site with contact information. There is an on-line form for filing complaints, which is followed up by investigation, notification, citation and abatement. The code addresses illicit discharges through code section 8.12.020.
 - ii. Complaints concerning storm water and illegal discharges are made at City Hall, and City staff investigates and coordinates with the citizen. The Public Works Department is responsible for management of the City's water, wastewater, storm water and street systems.
- f. Track the program in the annual reports. **The City does not meet this requirement.**
 - i. Per Table 2 this will be documented in the annual reports.

5. Construction Site Runoff Control

- a. Refer projects to DEQ to obtain 1200-C permits for projects that disturb more than one acre. **The City meets this requirement.**
 - i. The City design standards refer to the 1200-C permit in Appendix B item #14. Section 17.72 of the development code requires all work to minimize erosion and to develop a storm water report and an erosion control plan. The Design Standards in Appendix A has erosion control details, and Appendix B provides general standards for erosion control. During the design phase of developments if the property is over one acre, the City requires the developer obtain a 1200-C permit.
- b. Require erosion and sediment control for construction sites that disturb more than 21,780 square feet (half an acre) of land. **The City meets this requirement.**
 - i. Section 17.72 requires all work regardless of the size to minimize erosion and to develop a storm water report and an erosion control plan. The Design Standards in Appendix A has erosion control details, and Appendix B provides general standards for erosion control.
 - ii. The Design Standards in Appendix B items 24 and 26 address abandonment of septic tanks, and disposal of fuel tanks found on the construction site. Item 28 of appendix B

requires management of mud, dust and debris from the construction site. Item 31 of appendix B requires management and proper disposal organic matter and debris from the construction site. Item G.11a of appendix G of the Design Standards requires that all surplus earth, debris, rubbish or other materials shall be removed from the site.

- c. Require erosion control, sediment control and waste material management from initial clearing through final stabilization. **The City meets this requirement.**
 - i. Section 17.72 does require all work regardless of the size to minimize erosion and to develop an erosion control plan. During pre-construction conferences that are held before any work can commence, it is noted that erosion control must be in place prior to any work, and must be maintained through-out the project. Appendix B of the design standards in the erosion control section item #2 also requires the erosion control facilities to be maintained through-out construction.
 - ii. If the project is large enough to require a 1200-C permit, the City will request a copy.
 - iii. The Design Standards in Appendix B items 24 and 26 address abandonment of septic tanks, and disposal of fuel tanks found on the construction site. Item 28 of appendix B requires management of mud, dust and debris from the construction site. Item 31 of appendix B requires management and proper disposal organic matter and debris from the construction site. Item G.11a of appendix G of the Design Standards requires that all surplus earth, debris, rubbish or other materials shall be removed from the site.
- d. Implement an escalating enforcement procedure. **The City does not meet this requirement.**
 - i. Regardless of whether there is a 1200-C permit or not, the City will inspect the site to determine if the erosion and sediment control is in place. If it is not, then work is stopped until it is put in place.
 - ii. If a 1200-C permit is required, the enforcement is done by the DEQ.
 - iii. If the project is small enough that a 1200-C permit is not required, the City will monitor the erosion and sediment control. The City does not have a formal enforcement procedure.
 - iv. **The written escalating enforcement and response would be re-evaluated during the five year report**
- e. Track implementation and document of construction site runoff control in the annual report. **The City does not meet this requirement.**
 - i. As shown in Table 2 the City will implement documentation, and will include it in the annual reports.

6. Post Construction Site Runoff for New Development and Redevelopment

- a. Develop, implement and enforce a program to reduce discharges of pollutant and control stormwater run-off post construction. **The City does not meet this requirement.**
 - i. In the development code section 17.72 refers to reducing degradation of water quality, treatment of storm water is not required and is not covered in the design standards.
 - ii. The City is proposing to add detention and treatment to the development code and design standards. The updated code and design standards will meet the requirements of the DEQ Table 13-11. This will be included in the initial implementation strategies shown in Table 2 of this document.
 - iii. In the code update the City will consider whether the detention and treatment facilities will be maintained by the public works staff, or by alternate means.
- b. Require storm water controls for projects that create or replace 10,890 square feet (1/4 acre) of new impervious area. **The City does not meet this requirement.**
 - i. The design standards indicate that detention is only required for commercial, industrial, multi-family dwellings, parking lots over 10,000 sf, and where needed due to downstream capacity issues.
 - ii. This does not include standard residential development.
 - iii. The City is proposing to add detention and treatment to the development code and design standards. The updated code and design standards will meet the requirements of the DEQ Table 13-11. This will be included in the initial implementation strategies shown in Table 2 of this document.
 - iv. In the code update the City will consider whether the detention and treatment facilities will be maintained by the public works staff, or by alternate means.
- c. Target natural surface or predevelopment hydrologic functions to retain rainfall on-site and minimize offsite discharge. **The City does not meet this requirement.**
 - i. Low impact development methods are not referred to in code or design standard. The City encourages it, but it is not formally acknowledged.
 - ii. The City is proposing to add low impact development storm water retention and treatments that will meet the requirements of DEQ Table 13-11 to the development code and design standards. The updated code and design standards will meet the requirements of the DEQ Table 13-11. This will be included in the initial implementation strategies shown in Table 2 of this document.

- d. For run-off not retained on-site, the storm water must be treated prior to discharge. **The City does not meet this requirement.**
- i. The City does not require treatment.
 - ii. There are three private systems in the community. One is a winery on Lincoln St., and the other two are low income housing where the requirement was from the funding agency on Roosevelt St. Private systems are operated and maintained either by the owner or a home owners association.
 - iii. The City is proposing to add treatment to the development code and design standards. The updated code and design standards will meet the requirements of the DEQ Table 13-11. This will be included in the initial implementation strategies shown in Table 2 of this document.
 - iv. In the code update the City will consider whether the detention and treatment facilities will be maintained by the public works staff, or by alternate means.
- e. Maintain records of post contraction activities and report them in the annual reports. **The City does not meet this requirement.**
- i. As shown in Table 2 the City will implement documentation, and will include it in the annual reports.

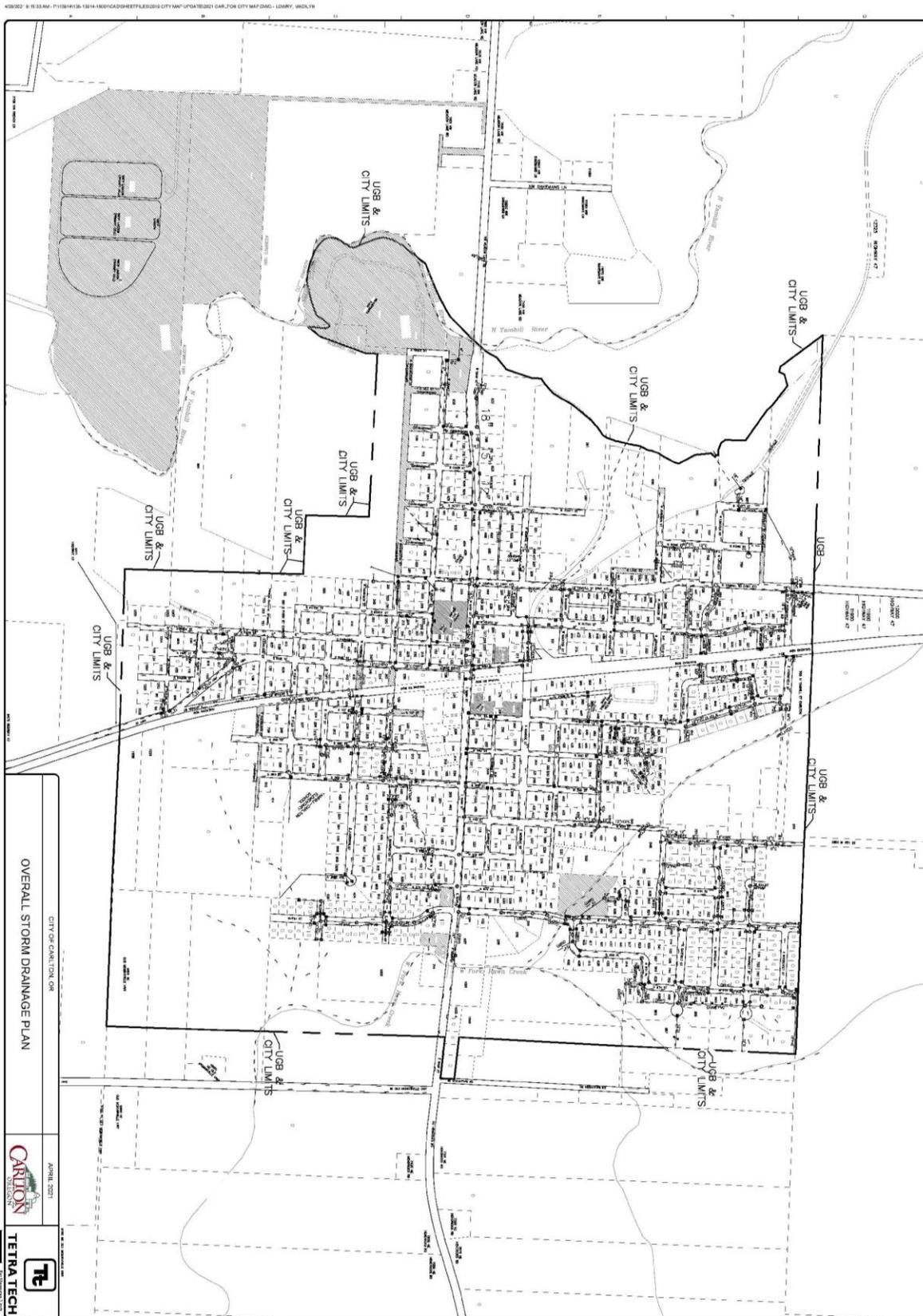
LAND USE COMPLIANCE

The management strategies proposed in this plan will be thoroughly cross-checked with the City's Comprehensive Plan to ensure compliance with land use requirements. Based on the review to date for the proposed management strategies, the TMDL implementation plan is consistent with the City's Comprehensive Plan. The management strategies can be implemented in a manner that complies with the statewide land use goals and be compatible with the provisions of the Comprehensive Plan. The City will evaluate and maintain consistency with local and statewide land use laws in any future actions related to TMDL implementation.

The management strategies are consistent with previous City planning documents and code as follows:

- The natural resources element of the City's Comprehensive Plan has identified the drainage channel through Hawn Creek to be a designated riparian area with natural area buffers on each side.
- The City code includes requirements for stormwater management for new development that are consistent with current best management practices, including stormwater detention, water quality facilities and erosion control.
- The City prepared a Stormwater Master Plan in 2002 that includes recommended design standards for drainage facilities that are consistent with current best management practices.
- The City code requires development to be in accordance with the current stormwater Master plan.
- The City design standards only require detention for limited circumstances and does not require stormwater treatment. This does not meet the requirements of DEQ Table 13-11.

FIGURE 1.



Implementation Plan Overview and Adoption

This Yamhill Subbasin TMDL implementation plan for the City of Carlton includes the following components required under Oregon Administrative Rules (OAR 340-042-0080.3):

- Identify the management strategies the City will use to reduce pollutant loading.
- Provide a timeline for implementing management strategies.
- Provide a plan for periodic review and revision of the implementation plan.
- Provide evidence of compliance with applicable statewide land use requirements.
- Provide any other analyses or information specified in the WQMP. For this implementation plan, these elements include the following from the Yamhill Subbasin WQMP:
 - Public involvement plan for strategy implementation
 - Fiscal analysis for resources needed to develop, implement and maintain plan
 - Steps to reduce mercury entering streams via erosion of sediments.
 - Stormwater control measures—DMAs with populations under 5,000, such as Carlton, are required to consider the following stormwater control measures (taken from Table 13-11 of the DEQ HG TMDL WQMP) to address nonpoint sources of mercury, but are not necessarily required to implement all of them:
 - 1 Pollution prevention in municipal operations
 - 2 Public education and outreach on stormwater impacts
 - 3 Public involvement in plan implementation
 - 4 Detection and elimination of illicit discharges
 - 5 Construction site stormwater runoff control
 - 6 Post-construction stormwater management in new development and redevelopment.

This plan is due to DEQ by September 2, 2022. Following DEQ plan approval, the City Council will formally adopt the plan within 60 days. As noted elsewhere in this document, the accepted plan will be posted on the City web site.

PARAMETER OF CONCERN

Table 1 summarizes general information on mercury, the parameter of concern for this implementation plan. Details of are provided below.

Table 1. General Information on Water Quality Parameters of Concern

Parameter	General Sources	Allocations/Reductions for TMDL	General Strategies
Mercury	In-stream sediment from runoff and stream bank erosion	75% for non-permitted urban stormwater	Reduce sediment delivered to streams by various means including riparian protection, erosion control and stormwater control and treatment, low impact development.

Mercury

The accumulation of mercury in fish is an environmental problem throughout the United States. Mercury is a potent toxin that can cause damage to the brain and nervous system. Small children and developing fetuses are

most sensitive to mercury's toxic effects. The primary way that humans are exposed to mercury is through the consumption of fish or seafood containing elevated levels of mercury.

MANAGEMENT STRATEGIES AND SCHEDULE

The City's proposed management strategies for TMDL implementation are listed in the matrix shown in Table 2. This is for 2022 through 2027. The matrix also identifies the sources of pollutants addressed by each strategy and provides a general timeline for implementation. The City of Carlton's actions in the matrix support TMDL reductions. Most of the strategies are underway and considered ongoing. New strategies will be phased in over time, and ongoing strategies will be assessed for improvements.

MONITORING, REPORTING AND ADAPTIVE MANAGEMENT

Annual Reports: The City will monitor TMDL implementation activities and report to DEQ by April 30 of every year on annual progress and qualitative effectiveness. The first report submitted will be April 30, 2024 and would include first two reports (Sept 2022 to Dec 2022, and Jan 2023 to Dec 2023). After that each report will cover the period of January through December of the calendar year.

The annual reports will monitoring document plan performance and progress and shall include: status of the measures, documentation of what has been accomplished, indicate delays or challenges implementing the plan. When applicable, the effectiveness of each management strategy in reducing pollutant loads will be assessed qualitatively and documented in the report.

Table 2 of this plan indicates the management strategies that will be implemented between 2022 and 2027, and the timeline for implementation of each strategy. Table 3 of this plan indicates the monitoring requirements for the strategies. In addition to narration and illustrations, the matrix provided in Table 3 will be used to describe TMDL implementation activities for this annual report. Table 2 shows the timeline for each activity. Table 13-14 of the DEQ HG TMDL WQMP was as guidance for the timelines.

Five Year Report: Carlton will evaluate this implementation plan for updates every five years following submittal. The evaluation will include a review of existing quantitative data (water quality data and other information) to evaluate the effectiveness of the plan relative to the pollution reduction goals. The five-year report will describe what information was used in the evaluation and the findings of the evaluation. If the evaluation indicates that the plan is not likely to be adequate to meet pollution reduction goals, the report will describe how the City will modify the plan or undertake other efforts to achieve the goals, and the timeline for accomplishing this. The five-year report will address from September 3, 2022 through December 31, 2027, and will be due by April 30, 2028.

In addition to the annual and five-year reports, Carlton will review and revise this implementation plan as needed following any DEQ reevaluation of the TMDL. The implementation plan, annual and 5-year reports will be posted to the City web site.

Table 2. Matrix of Management Strategies for TMDL Implementation 2022-2027

Management Strategy	Goal	Pollutant Source Addressed	Specific Actions	Results Monitoring	Completion Timeline	Funding Source
Require stormwater detention and water quality measures with development based upon modifications to code and design standards.	Reduce flows and contamination to predevelopment levels	Increased impervious surface with development	Require stormwater detention with new development in accordance with updates to the development code and design standards	Code and design standards are updated. Maintain records of detention and water quality facilities	2022-2026 ongoing, fully implemented by 2027	Developer Funded
Solicit public input on TMDL implementation plan.	Facilitate public involvement	N/A	Present TMDL Plan to City council and public	Document public outreach efforts and public input	Begin 2022 and ongoing	General Fund
Require erosion control for construction sites over 1 acre.	Reduce construction site stormwater runoff	Erosion from construction sites	Require DEQ 1200C erosion control permit for more than 1 acre of soil disturbance; City enforced erosion control for smaller projects	Maintain records of 1200C permits submitted to DEQ	In-place and Ongoing	Developer Funded
Actively maintain Hawn Creek Drainageway on Public land.	Reduce erosion along Hawn Creek Drainageway on City property	Bank erosion due to high flows	Maintain vegetation along drainageway, remove debris as needed	Document existing conditions and riparian vegetation retained	2022-2026 ongoing, fully implemented by 2027	Storm water Fund
Require erosion control for construction projects regardless of size.	Reduce sediment laden runoff from City projects	Erosion from City projects	Educate city staff about erosion control	Document erosion control measures taken	In-place and Ongoing	General Fund
Receive and respond to complaints regarding water quality problems (erosion; illicit discharge)	Eliminate illicit discharges	Domestic waste; erosion	Enforce nuisance control ordinance; Coordinate complaint with code enforcement	Maintain records of number of complaints handled	2022-2026 ongoing, fully implemented by 2027	General Fund
Maintain maps of City stormwater and sanitary sewer systems.	Eliminate illicit discharges	Illicit connections to sewers	Update existing maps periodically	Document all updates of system maps	In-place and Ongoing	Sewer Fund
Encourage annual public cleanup day.	Reduce debris in the drainage system	Contamination from trash and debris	Plan and publicize cleanup day	Document participation in Annual Cleanup Day	In-place and Ongoing	Storm water Fund
Establish a riparian corridor for the Hawn Creek Drainageway.	Reduce erosion and regulate the overland flow of water to the creek	Surface runoff and shallow ground water	Designate riparian area and obtain easement	Document existing conditions and riparian vegetation retained	2022-2026 ongoing, fully implemented by 2027	Stormwater fund

Management Strategy	Goal	Pollutant Source Addressed	Specific Actions	Results Monitoring	Completion Timeline	Funding Source
Establish landscaping guidelines for the parks along Hawn Creek and the Yamhill River	Reduce erosion and regulate overland flow to the water ways	Surface runoff and shallow groundwater	Develop landscape guidelines	Document when guidelines are developed	2022-2026 ongoing, fully implemented by 2027	General fund
Require regular street sweeping and cleaning of catch basins	Reduce sediment from entering the drainage ways	Sediment from streets	Street sweeping and catch basin cleaning	Document when this is done	To be fully implemented 2023, and ongoing	Storm water fund
Keep the citizens posted on steps the City is taking.	Public outreach.	NA	Post implementation plan, annual and 5 years reports on the City web site.	Document that the reports are posted.	Begin 2022, post reports annually 2023-2027	General Fund

Table 3. Implementation Plan Monitoring and Updating Matrix 2022 - 2027

Management Strategy	Specific Actions	Results Monitoring	Metrics	Status of Accomplishments, Proposed Changes, Plans for Coming Year
Require stormwater detention and water quality measures with development based upon modifications to code and design standards.	Require stormwater detention with new development in accordance with development code	Maintain records of detention and water quality facilities	Confirm that the code and design standards have been updated. Indicate what facilities have been installed with each development.	
Solicit public input on TMDL implementation plan.	Present TMDL Plan to City council and public every five years	Document public outreach efforts and public input	Indicate what comments have been received.	
Require erosion control for construction sites over 1 acre.	Require DEQ 1200C erosion control permit for more than 1 acre of soil disturbance; City enforced erosion control for smaller projects	Maintain records of 1200C permits submitted to DEQ	Indicate the developments that have occurred and whether 1200-C permits were obtained. Submit 1200-C permits.	
Actively maintain Hawn Creek Drainageway on public land.	Maintain vegetation along drainageway, remove debris as needed on city owned property.	Document existing conditions and riparian vegetation retained	Indicate maintenance measures taken.	
Require erosion control for construction projects regardless of size.	Educate city staff about erosion control	Document staff training about erosion control	Indicate what projects have occurred and what erosion control measures were taken.	
Receive and respond to complaints regarding water quality problems (erosion; illicit discharge)	Enforce nuisance control ordinance; Coordinate complaint with code enforcement	Maintain records of number of complaints handled, number of referrals	Provide record of complaints and actions.	

Management Strategy	Specific Actions	Results Monitoring	Metrics	Status of Accomplishments, Proposed Changes, Plans for Coming Year
Maintain maps of City stormwater and sanitary sewer systems.	Update existing maps periodically	Document all updates of system maps	Indicate if updates have been made. Provide updated map.	
Encourage annual public cleanup day.	Plan and publicize cleanup day	Document participation in Annual Cleanup Day; Document Public Works cleanup activities	Indicate whether the annual clean up occurred.	
Establish a riparian corridor for the Hawn Creek Drainageway	Designate riparian area and obtain easement	Document existing conditions and riparian vegetation retained	Indicate riparian corridor has been developed and provide the map.	
Establish landscaping guidelines for the parks along Hawn Creek	Develop guidelines.		Provide a copy of the guidelines.	
Require regular street sweeping and cleaning of catch basins	Street sweeping.	Document when the activities occur.	Document when the activities occur.	
Post implementation plan, annual reports and 5 year report.	Place on the City web site.	Check that they are posted.	It is on the City web site and provide a link.	

WQMP REQUIREMENTS

Public Involvement

Public involvement will be included in the City Council review and adoption process for this plan and any subsequent updates. Once approved by DEQ, the current plan will be presented to the City Council for adoption within 60 days. Future changes to the plan will be presented to the City Council for review and approval. The City Council will review and approve annual and 5-year reports prior to submitting them to DEQ.

Fiscal Analysis

To the extent possible, the selection of ongoing and new strategies is driven by the greatest opportunities for achieving pollutant reductions. The City has confirmed existing resources for maintaining ongoing activities into the future and determined what additional resources are necessary to develop, implement, and maintain the new management strategies over time. Funding resource limitations require that new strategies in the matrix be prioritized and phased in over time. The funding column in Table 2 identifies the source of funding that will be relied upon to implement each management strategy.

Consideration of Stormwater Control Measures

Table 4 identifies stormwater control measures that relate to individual management strategies. The intent of this Table is only to show that the steps the City is taking covers the six categories of measure. It is not intended to develop detail or timelines.

Table 4. Applicability of Stormwater control Measures to Proposed Management Strategies

Management Strategy	Pollution prevention in municipal operations	Public education and outreach	Public involvement	Illicit Discharge Detection & Elimination	Construction Runoff Control	Post-Construction Stormwater Management
Require stormwater detention and water quality measures with development						X
Solicit public input on TMDL implementation plan			X			
Require erosion control for construction sites over 1 acre					X	
Actively maintain Hawn Creek Drainageway	X					X
Require erosion control for construction projects under 1 acre	X					
Receive and respond to complaints regarding water quality problems (erosion; illicit discharge)				X		
Maintain maps of City stormwater and sanitary sewer systems				X		
Hold annual public cleanup day		X	X			
Establish a riparian corridor for the Hawn Creek Drainageway	X					X
Establish landscaping guidelines for the parks along Hawn Creek	X					X
Require regular street sweeping and cleaning of catch basins	X					
Post reports on City web site.		X				

APPENDIX – STORM COLLECTION SYSTEM MAP



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