

# CITY OF FALLS CITY

## TMDL IMPLEMENTATION PLAN

August 2022



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### Certification

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*



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AJ Foscoli  
City Manager  
Falls City, Oregon

## ACRONYMS

BMPs	Best Management Practices
City	City of Falls City
CESCL	Certified Erosion and Sediment Control Lead
CS	Construction Site Runoff
CWA	Clean Water Act
DEQ	(Oregon) Department of Environmental Quality
DMA	Designated Management Agency
ESCP	Erosion and Sediment Control Plan
EPA	United States Environmental Protection Agency
GH	Good Housekeeping in Municipal Operations
IDDE	Illicit Discharge Detection and Elimination
LID	Low Impact Development
LUCS	Land Use Compatibility Statement
LWI	Local Wetland Inventory
MCM	Minimum Control Measure (aka Stormwater Controls)
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Sources (not under an NPDES permit)
NWI	National Wetland Inventory
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
PC	Post-Construction Runoff Control in New and Re-development
PE	Public Education
PI	Public Involvement
SWPPP	Stormwater Pollution Prevention Plan
SWMP	Stormwater Management Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
UIC	Underground Injection Control Device
USGS	United States Geological Survey
WQMP	Water Quality Management Plan

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This TMDL Implementation Plan represents a response to the *2019 Final Revised Willamette Basin Mercury TMDL and WQMP*. The City of Falls City submitted its first Willamette Basin TMDL Implementation Plan in 2008. This document (2022) is a revision of the revised plan which was submitted in June 2018. This plan meets current TMDL requirements.

In regard to mercury reductions, the load allocation for the Willamette Basin is 75%. The City anticipates that full implementation of the management strategies listed in this plan will meet the requirements set forth by DEQ.

## Section 1.0 - Introduction

### Section 1.1 Background

A Willamette Basin Mercury TMDL was first issued in 2006. Falls City was included as a Designated Management Agency (DMA) and submitted a TMDL Implementation Plan to DEQ in 2008. The latest revision of the plan occurred in 2018.

*On November 22, 2019 DEQ issued the Final Revised Willamette Basin Mercury Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) According to DEQ, DEQ and the EPA worked together to revise the 2006 Willamette Basin Mercury TMDL to meet the fish tissue methylmercury criterion adopted in 2011. This criterion allows Oregonians to safely consume higher amounts of fish (approximately 23 8-oz fish meals a month) caught in Oregon waterways. Among those who rely on Willamette Basin fish and shellfish as a food source are tribal, immigrant and low-income communities and other historically marginalized communities. This revised TMDL identifies sources of mercury and how much mercury needs to be reduced to meet water quality standards.*

On March 3, 2021 the City of Falls City was notified that DEQ had included Dallas as a designated management (DMA) agency in the Willamette Basin Mercury TMDL and WQMP. According to Oregon Administrative Rules (OAR 340-042-0030(2) DMA means a federal, state or local governmental agency that has legal authority over a sector or source contributing pollutants, and is identified as such by the Department of Environmental Quality in a TMDL. DMAs are responsible for implementing strategies and DMA specific TMDL Implementation Plan.

Falls City is submitting this plan as a revision of the original implementation plan submitted in 2008 with the intent of meeting the new regulations listed in the Final Revised Willamette Basin Mercury TMDL and WQMP. The intent is to elevate activities and operations that will address water quality.

### Section 1.2 Summary of TMDL Plan Development

The original TMDL Implementation Plan, submitted in 2008 provided a broad range of activities that the City had or was planning to implement. The City has attempted to stay current with proposed BMPs and activities and while there have been some successes, and there are a number of failures as well.

## TMDL Implementation Plan - 2022

Moving forward, this TMDL Implementation plan is intended to address programmatic deficiencies, provide staff a defined path forward, and meet current regulations.

Appendix A of this document provides a list of the proposed Best Management Practices (BMPs), and Appendix B is the Matrix which includes management strategies, timelines, and a status column to be used for reporting.

The format of the matrix was changed from previous years and includes the following:

- a) All BMPs for the control measures are listed under the appropriate parameter. There may be some redundancy given certain BMPs are associated with more than 1 pollutant.
- b) In order to clearly recognize that this plan is the most current version and the plan from which future activities originate, all annual reporting in subsequent years will include progress updates provided from the attached matrix. Furthermore, it is this document that will be evaluated during the 5<sup>th</sup> year review and to which any adaptive management is applied.
- c) Control measures are numbered based on the MS4 Phase II permits, with control measures starting with Public Education #1 through Good Housekeeping as #6. This was done because many of the proposed programs and BMPs refer to the Phase II permit.

PE	Public Education
PI	Public Involvement and Participation
ID	Illicit Discharge Detection and Elimination
CS	Construction Site Runoff
PC	Post Construction Runoff in New and Redevelopment
GH	Good Housekeeping in Municipal Operations

- d) Justification for removing BMPs or editing those BMPs listed in the 2020 plan through adaptive management, are provided in Table 1.2.1.
- e) Identification for specific BMPs have been changed from a 'Task #' as shown in previous TMDL documents to a specific identifier for the BMP based on the control measure. For example, PE-1 would refer to Public Education, BMP #1; ID-2 would refer to Illicit Discharge Detection and Elimination BMP #2 and so on.
- f) Public Education BMPs listed in the matrix applies to the 3 pollutants of concern and are not necessarily carried throughout the matrix. For example, PE-2 in mercury calls for the development of educational materials, but the source does not apply to temperature or bacteria. See the BMP List in Appendix A.

There are 21 original BMPs, and the revised program includes 32 BMPs which does not include annual and programmatic requirements included in the Matrix. The increase is due to a refinement of existing BMPs and the addition of measures required in the Willamette Basin Mercury TMDL.

## TMDL Implementation Plan - 2022

Table 1.2.1 includes a list of the original BMPs and revisions covered in the new implementation plan.

Table 1.2.1 Original BMPs and Status/Revisions

Task #	Description	Revision / Status
#1 T	Protect and enhance riparian corridors on private land through development code to protect existing vegetation	Reworded – Develop a setback for development in CS-2, ordinance development
#2 T	SOLV community river clean-up	Retained BMP PE-2
#3 T	Protect and enhance riparian corridors on public land	See Task #5
#4 T	Tree City USA	Retained
#5 T	Identify areas and partner with LWC and Falls City High School on riparian restoration	Reworded – Combine Task #3, #5, and #6 Covered in PE-5
#6 T	Public education and outreach regarding importance of riparian zone conservation/restoration.	See Task #5
#7 TB	Maintain Low Effluent Temperatures.	Removed – the City is regulated under its NPDES permit
#8 B	Implement Improvements identified in the Wastewater Facility Plan	Removed – the City is regulated under its NPDES permit
#9 B	Reduce illicit municipal waste discharge	Removed – replaced by ID BMPs
#10 B	Implements Low impact development methods to slow, treat, and infiltrate storm water runoff	Addressed under PC BMPs
#11 B	Stormwater Master Plan	Retained BMP ID-7
#12 B	Require new development to manage, treat and reduce stormwater runoff.	Addressed under PC-1 BMPs
#13 B	Stormwater and illicit discharge education and outreach	Removed – covered under PE BMPs for all parameters
#14 B	Public education and outreach regarding proper septic maintenance and how to detect failing septic systems.	Reworded – covered under PE-8 for bacteria
#15 B	Reduce the amount of pet and other domestic animal waste that is not being disposed of properly	Reworded – covered under PE-7 for bacteria
#16 B	Install park improvements such as signage, kiosks and trash receptacles.	Removed – covered under task #15. See BMP
#17 B	Reduce litter and solid waste	Removed – covered under BMPs for all parameters
#18 B	Install park improvements, portable or permanent restrooms	Completed – remove this task
#19 M	Street sweeping and public outreach to reduce littering. Placement of trash receptacles.	Rewritten under GH-3 in matrix
#20 M	Limit erosion and sedimentation	Rewritten to require erosion control throughout the City. BMPs under CS BMPs in matrix
#21 M	Confirm receipt of 1200-C	No Changes. Included in CS-1

T= Temperature, M=Mercury, B=Bacteria

### **Section 1.3 The City of Falls City**

According to the 2020 census, Falls City's population is 1087. The City incorporated on 1893. Falls City is located approximately 10 miles southwest of the City of Dallas. Administration includes a Mayor, City Council members, and a City Manager. The City sits along Falls City Road, off Oregon State Highway 223.

The City includes a main street with local businesses and services. The remainder of the City is primarily residential with very little industry. At one time timber processing was prominent in the community, but no mills remain within the community. Based on the Falls City Comprehensive Plan, the City is primarily zoned for residential use (63%), forestry use (12%), with industrial, commercial, and public making up the remaining percentages.

The City hosts and promotes a number of community activities and events during the year which often revolve around holidays or seasons. These events are well attended and supported. The City hosts an annual clean-up day.

Falls City is an isolated community and residents often commute to Dallas for work and other services.

## **Section 2.0 - Hydrological Conditions / Existing Conditions**

### **Section 2.1 Mid-Willamette Subbasin / Little Luckiamute River / Local Waterways**

The Middle Willamette Subbasin, Hydrologic Unit Code (HUC) 17090007, includes the Willamette River from Willamette Falls at river mile (RM) 26.6 to RM 108, near the Santiam River, with four 5th-field HUC watersheds that drain to the Willamette River. It is located in the northwest portion of the Willamette Basin and drains parts of the Cascade foothills from the east and the Coast Range from the west. The Willamette River longitudinally divides the subbasin with several medium to large tributaries and many smaller tributaries throughout its length.

Falls City is located entirely within the Little Luckiamute River sub-watershed of the Luckiamute River Watershed. The Little Luckiamute River, a perennial stream, flows through the middle of Falls City from northwest to southeast. The Little Luckiamute River is fed by a number of stream tributaries that flow through the city that include Dutch creek, Berry Creek, Everz Creek and three unnamed tributaries. Baughey Creek drains the southwest corner of the City and is a tributary of Teal Creek, which joins the Little Luckiamute River several miles downstream from Falls City.

### **Section 2.2 City Services**

Stormwater - The stormwater system in Falls City is composed of a minor piped system, underground injection control devices, and unmaintained ditches. Runoff appears to be the primary conveyance system. With only 2 Public Works employees it is doubtful that any type of comprehensive maintenance is occurring.

Wastewater – Wastewater services are provided in Falls City and a Wastewater Facilities Plan was completed in 2013. The City operates 2 types of sewer systems; a small diameter gravity, and a septic tank effluent pump. The City operates under NPDES permit #101808.

Water – The drinking water source for Falls City is Teal Creek and the Glaze Creek drainage.

Streets – The City of Dallas provides street sweeping services for Falls City. Fall Creek Road, the main street in town, is maintained by Polk County. Many side streets and neighborhood streets are unpaved.

### **Section 2.3 Existing Conditions and Pollutant Sources**

The pollutants of concern addressed in this implementation plan are mercury, bacteria, and temperature.

1. Mercury – Mercury is a toxic heavy metal. Bioaccumulation of mercury in fish tissue can lead to fish consumption limits due to health hazards associated with consuming mercury. Waterways can become contaminated when soils that naturally contain mercury are eroded.
2. Bacteria – Elevated levels of bacteria can make recreational activities such as swimming unsafe. Bacteria contamination may be linked to animal waste from farming activities, unnatural concentrations of water fowl and other wildlife, and domestic pets.
3. Temperature - Temperature drastically impacts the feeding, reproduction, and survival of aquatic wildlife. Water warmer than 64°F will not support salmon species. Turbidity and too much direct sunlight contribute to high water temperature.

Pollutant sources coming from Falls City are similar to those in other rural northwestern Oregon municipalities. The City has a downtown core, residential areas, regional and neighborhood parks, but no large industry. Should that type of development occur, the City of Falls City review existing permits and management plans.

With minimal erosion control or vegetation management requirements in place, mercury and TSS are contributors to impacted water quality. Falls City has no erosion control program as of the date of this document.. Because of the role sediment plays in mercury reduction, it is essential that the City moves forward rapidly with development of erosion control measures that can be enforced.

## **Section 3.0 Mercury Reductions / Pollutant Discussion**

### **Section 3.1 General Approach for Mercury Reduction**

In general, the City will focus on setting the foundation for the revised program in Years 1 and 2. The organization needs to focus its efforts in several areas that are covered below.

System Asset and Facility Inventory - For the most part, the City relies on historical knowledge and out-dated maps in regard to the limited storm system and drainage patterns. In order to manage, maintain, and improve the system the City must first field verify assets and develop a recordkeeping process to capture this information. The City does have some municipal separate stormwater sewer system (MS4), but it appears to be centrally located around businesses and the bridge on Falls City Rd. UICs (drywells) are likely used in the City as well. An important component of this program will be to field verify assets and create an inventory and map of the conveyance system. The master plan listed in the matrix needs to be completed in order to provide a legal and water quality minded operations and maintenance program. With current staffing levels this will obviously take time.

Additional measures to reduce mercury and TSS will be the development of comprehensive illicit discharge and construction site runoff control programs. Those stormwater control measures, along with the others, are discussed below.

Public Education – The City has been implementing some educational outreach, but there hasn't been a focused effort. In order to remedy the situation, staff has developed the following list of target audiences. These target audiences will have messages and activities designed that pertain specifically to that group through key messages. While certain audiences like the general public can receive a wide variety of messages through various means (brochures, articles, social media, etc.), if the target audience is school children for example, messages should be designed in a way that is useful for that group. Field trips or field presentations covering the impacts of mercury might be much more interesting for students.

Target Audiences for Falls City

*General Public*

*Students / School Children*

*Businesses*

*Landscapers*

*Developers/Builders/Engineers*

*Elected Officials / City Staff*

The City will be developing messages in 2022/2023 that can be used for each of the target audiences, for each of the pollutants of concern, over the 5 year term and beyond. Records will be maintained in order to make certain all audiences are being reached and what factors indicate success or poor performance to fine-tune efforts over the permit term.

Public Involvement – Falls City has had its original TMDL Implementation Plan posted on the website, but will post the most current version along with any other regulatory documents for review by the public in subsequent years.

### Illicit Discharge Detection and Elimination

Developing a comprehensive illicit discharge detection and elimination (IDDE) program is very important to this community. Falls City does not have an illicit discharge program, and information about the stormwater system is not consistent. The management strategies for this control measure, listed in Appendix B were developed to develop an assest inventory, and develop an IDDE program that outlines a process for addressing these issues within the City. Staff training will occur annually and a review of City activities will be conducted to identify potential pollutant contributors in City operations. The City needs to develop an ordinance and an enforcement response plan which are planned for the future. (See Appendix B)



Construction Site Runoff Control – Falls City does not have an erosion control program. Construction sites larger than 1 acre are currently required to obtain coverage under the State’s 1200-C program. The City does confirm receipt of the 1200-C permit from DEQ, but no formal recordkeeping is being done to manage building in the City. Polk County does inspection work within Falls City and issues building permits.

Construction site runoff and erosion control management is minimal in Falls City. The BMPs in the matrix for this control measure were developed according to the WQMP Table 13.11.

According to that document *DMA*s must refer project sites to DEQ, or the appropriate DEQ agent, to obtain NPDES 1200-C Construction Stormwater Permit coverage for construction projects that disturb one or more acres (or that disturb less than one acre, if it is part of a “common plan of development or sale” disturbing one or more acres).

In addition, *DMA*s must require construction site operators to complete and implement an Erosion and Sediment Control Plan for construction project sites in its jurisdictional area that result in a minimum land disturbance of 21,780 square feet (one half of an acre) or more, and are not already covered by a 1200-C permit.

Through ordinance or other regulatory mechanism, to the extent allowable under state law, the *DMA* must require erosion controls, sediment controls, and waste materials management controls to be used and maintained at all qualifying construction projects (as described above) from initial clearing through final stabilization to reduce pollutants in stormwater discharges to the stormwater conveyance system from construction sites.

The *DMA* must develop, implement and maintain a written escalating enforcement and response procedure for all qualifying construction sites. The procedure must address repeat violations through progressively stricter response, as needed, to achieve compliance.

The *DMA* must track implementation of its construction site runoff program required activities. In each TMDL annual report, the *DMA* must assess their progress toward implementing its construction site runoff program’s control measures.

The City will obtain annual training for this control measure in order to provide guidance to local builders and developers. The City will also develop educational materials for the development community with BMPs to effectively control erosion of soil and contaminants.

Good Housekeeping – The City contracts street sweeping from the City of Dallas. The public works staff maintains infrastructure primarily on a reactive basis. City staff will clean catchbasins that drain to outfalls on the Little Luckiamute annually starting in 2022. A catchbasin cleaning program will be developed and is outlined in the matrix.

### **Section 3.2 Assessment of Stormwater Measures (Table 13.11)**

According to the WQMP, DEQ expects these *DMA*s [cities with less than 5,000 people] to evaluate the six minimum stormwater control measures and identify the strategies and actions in TMDL implementation plans that they can implement to reduce mercury and sediment. Cities with less than 5,000 people must also provide information to DEQ about specific limitations to implementing strategies that the city does not include in its implementation plan.

An assessment for the stormwater measures follows:

The City does not have a stormwater utility and does not have a stormwater fee in place. Only 2 Public Works employees, including the Public Works Supervisor are responsible for operating

and maintaining stormwater, wastewater, drinking water, and parks. There is an obvious lack of staffing to fully implement, and especially enforce, the BMPs listed for several of the control measures. Currently all Public Works employees respond to infrastructure needs regardless of funding allocations. .

The lack of funding for the program will need to be evaluated and amended in subsequent years.

Public Education – This control measure will be fully implemented according to the BMPs listed in the matrix, Appendix A, and as discussed in Section 3.1

Public Participation and Involvement – This control measure will be fully implemented. The BMPs are listed in Appendix A.

Illicit Discharge Detection and Elimination – Illicit discharge requires a full identification and response program, and the legal means to enforce on violators. Limited staffing prohibits the rapid response that full implementation requires as well. As was established earlier in the document, Falls City does not have the funding or background records to accurately start the process for developing a GIS map. Staff will field verify the City's storm system and develop an inventory and current map. Falls City will also develop and publicize a way for citizens to report discharges. Staff will respond and provide clean-up or abatement when possible. This control measure will be partially implemented within the 5 years

Construction Site Runoff Control - This control measure will be partially implemented within the 5 years. Limited staffing prohibits the full implementation of this control measure. Until the program is fully developed, staff will focus on educational efforts directed at builders and developers. Staff will also familiarize themselves with the conditions of the 1200-C program in order to communicate accurate information and communicate efficiently with DEQ for state held permits. Educational material will be developed for builders/developers

Post-Construction Runoff Control - This control measure will be partially implemented within the 5 years. Annual training will be conducted for this control measure. The City will identify a suitable site for a public LID facility and construct it within the first 5 years of program implementation.

Good Housekeeping – This control measure will be fully implemented within the first 5 years of program implementation

### **Section 3.3 Public Involvement**

The City has not done adequate work in regard to public involvement. Falls City will plan a Work Session with City Council to educate them on this program

### **Section 3.4 Land Use Compliance**

The original 2018 TMDL Implementation Plan stated that the plan met local land use plans and the Oregon Statewide Planning Goals.

### **Section 3.5 Fiscal Analysis**

The City of Falls City does not have a fully funded stormwater utility and Public Works is understaffed. City budgets can be accessed on the City's website.

In order to maintain a sustainable TMDL program, the City will need to secure funding for the program. Falls City will look toward low interest loans or a stormwater fee to reconcile this situation. Non-point source runoff is not being properly managed in this community. The City is aware that it is responsible for securing the funding to meet the conditions of the TMDL program.

## **Section 4.0 - Implementation Plan Management**

### **Section 4.1 Recordkeeping**

It is important for Falls City to maintain comprehensive and accurate records. The City has been successful in implementing some successful BMPs since the original program started, but recordkeeping has not been completed according to program requirements. Falls City will develop a records management program to address this issue in order to provide for accurate and efficient access to the most current and past data.

### **Section 4.2 Annual Reporting**

The City of Falls City will include progress on the attached matrix for each annual report. A concise summary of annual progress shall be submitted as well which will include any activities that are applicable, but are not listed on the matrix.

Falls City will have an annual report year that starts on November 1<sup>st</sup> of each year and ends on October 31<sup>st</sup>. Annual reports will be submitted on December 1<sup>st</sup>. Report Year 1 will include activities for June 2022 through September 2022.

During the 5<sup>th</sup> year of the implementation period, Falls City will submit a program evaluation and assessment according to guidance provided by DEQ. The five-year evaluation shall be submitted every 5<sup>th</sup> year according to the provided DEQ timeline.

### **Section 4.3 Plan Review / Performance Monitoring**

In an effort to make certain that the program remains on track, applicable Falls City personnel will need to carefully review annual progress reports and tasks for upcoming years. Corrections and adjustments will be made at annual report time.

For each monitoring year, staff will look at developing trends to determine if BMPs need to be adaptively managed. Personnel will look for avenues to improve function, funding, efficiency, and pollutant reduction. These outcomes will be the markers for considering and applying Adaptive Management. According to the Mercury TMDL WQMP *Adaptive Management is a process that acknowledges and incorporates improved technologies and practices over time in order to refine implementation*. Adaptive Management is intended to improve the effectiveness of the chosen BMP. Progress of each BMP will be included in the status column of the matrix and submitted with the annual report. Program analysis and adaptive management proposals will be included in the narrative of the annual report.

**BMP LIST**

<b>BMP</b>	<b>Description</b>
PE-1	Post relevant stormwater public education materials to the City's website and other distribution methods
PE-2	SOLV annual clean-up
PE-3	Participate in local annual event
PE-4	Tree City USA
PE-5	Partner with local watershed council, SWCD, university, etc
PE-6	Develop outreach material for building community
PE-7	Maintain pet waste stations
PE-8	Send mailers to hobby farms and septic system homeowners
PI-1	Maintain a website to post the most current environmental educational information
PI-2	Annual presentation to City Council
ID-1	Update the City's GIS system to include new stormwater data
ID-2	Develop an inventory of stormwater assets and facilities
ID-3	Develop an ordinance that prohibits non-stormwater discharges into the stormwater system
ID-4	Develop and enforce an escalating and response procedure to include construction sites, illegal dumping and illegal connections.
ID-5	Annual staff training
ID-6	Recordkeeping including response to complaint accounting
ID-7	Complete Stormwater Master Plan
CS-1	Coordinate with the development community regarding the need for a 1200-C permit and provide educational material
CS-2	Develop an Erosion Control Ordinance which includes DEQ requirements and riparian setback
CS-3	Develop and enforce an escalating and response procedure to include qualifying construction sites
CS-4	Develop a tracking system
CS-5	Annual training for PW person
PC-1	Develop an ordinance or other regulatory mechanism such as design standards to meet the post-construction requirements
PC-2	Develop inspection and maintenance requirements for publically owned property
PC-3	Identify a location suitable for an LID project for stormwater from ROW
PC-4	Staff training
GH-1	Develop a Good Housekeeping Manual
GH-2	Monthly Inspections at Shop Facility
GH-3	Street Sweeping
GH-4	Catchbasin Cleaning
GH-5	Annual training
	Develop a sustainable stormwater fee or funding mechanism
	Complete annual reports
	Evaluate public education activities according to WQMP

	Annually evaluate implementation efforts and program progress (monitoring)
	Complete 5 <sup>th</sup> Year Assessment and Evaluation

APPENDIX A – 2022 TMDL Matrix

City of Falls City TMDL IMPLEMENTATION PLAN MATRIX 2022 – 2027 Year 1 Sept 2, 2022 – Oct. 31, 2023 (Report Due Dec. 1, 2023)								
BMP#	Source <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	Strategy <i>What will be done to control or reduce pollutant from source?</i>	How <i>Specifically, how will this be done?</i>	Fiscal Considerations <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	Measure <i>How will successful implementation or completion be measured?</i>	Timing <i>When will the strategy be completed?</i>	Milestone <i>What intermediate goals will be achieved and by when. Measure success</i>	Status
<b>POLLUTANT: Mercury</b>								
<b>MCM #1 Public Outreach</b>								
PE-1	Runoff from soil disturbance and direct discharge to waterway from riparian area	Post relevant PE materials to the City's website and other distribution methods	Utilize material from portfolio to make FAQ sheets, brochures, etc	Staff and consultant	Document materials and topics covered annually and discuss in annual report	Ongoing annually	Completion of multiple documents on the website for the public to access. Update routinely	
PE-2	Runoff from soil disturbance and direct discharge to waterway from riparian area	SOLV Community River Clean up	City Staff and volunteers partner with SOLV	Staff time	Document event, date, number of participants and discuss in annual report	Ongoing annually	Advertise for event and record events	Scheduled for September 2022
PE-3	Runoff from soil disturbance and direct discharge to waterway from riparian area	Participate in local annual event	Host a booth or event and document materials	Set aside small fund for promotional items	Document date of events and participation	Ongoing annually	Report number of materials handed out, date, and participation	
PE-4	Runoff from soil disturbance and direct discharge to waterway from riparian area	Tree City USA	Re-establish this activity. Arbor Day Celebration, outreach material.	Staff time and budgeting	Discuss event and educational material in annual report	Ongoing annually	Advertize the event, develop education material	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
PE-5	Runoff from soil disturbance and direct discharge to waterway from riparian area	Partner with local watershed council, SWCD, university, etc	Attend meetings, network, partner	Staff time and consultant	Report annual progress in yearly report	Ongoing annually	Document progress annually	
PE-6	Runoff from soil disturbance and direct discharge to waterway from riparian area	Coordinate with the development community and provide educational material	Provide materials on the website and conduct site visits	Staff time and consultant	Report progress in yearly report	Ongoing to commence in 2023/2024	Develop a flyer for builders/developers. Use in field and post on website	
<b>MCM #2 Public Involvement</b>								
PI-1	Runoff from soil disturbance and direct discharge to waterway from riparian area	Maintain a website to post the most current environmental educational information	Post the TMDL Plan on the City website with educational material	Staff time	Post the plan in 2022 and post plan reports submitted to DEQ annually	To occur <b>each year</b> starting in 2022	Post new and updated material annually and report	
PI-2	Runoff from soil disturbance and direct discharge to waterway from riparian area	Annual presentation to City Council	Work Session presentation	Consultant and staff	Report progress in yearly report	To occur each year starting in 2022/2023	Content and date to be included in annual report	Council meeting work session being scheduled for fall 2022
<b>MCM #3 Illicit Discharge Detection and Elimination</b>								
ID-1	Runoff from soil disturbance and impervious area	Update the City's GIS system to include new stormwater data	Review WQMP to meet DEQ requirements	Staff time	Document annual updates	2032/2033	Track annual assets (ie. outfalls, catchbasins, etc) Work with Polk County if possible	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
ID-2	Runoff from soil disturbance and impervious area	Develop an inventory of stormwater assets and facilities	Field verify stormwater system to collect and locate assets and facilities	Staff time	Report progress in annual report	Ongoing annually	Collect information annually and keep records of locations, type, function, condition	
ID-3	Runoff from soil disturbance and impervious area	Develop an ordinance that prohibits non-stormwater discharges into the stormwater system	Utilize ordinances and programs from other agencies	Staff time involving legal	Provide DEQ annual progress on this BMP in the annual report	Complete by 2030/2031	Document annual activities	
ID-4	Runoff from soil disturbance and impervious area	Develop and enforce an escalating and response procedure to include construction sites, illegal dumping and illegal connections.	The plan will include escalating steps of enforcement	Staff time	Report progress and final to DEQ	Complete by 2030/2031	Document annual activities	
ID-5	Runoff from soil disturbance and impervious area	Annual staff training	Annual training by existing staff. Take advantage of inexpensive regional training	Consultant year 1	Report training date, # of employees in attendance	To occur <b>each year</b> starting in 2022/2023	Conduct annual training – develop a schedule. Yr 1 training by consultant	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
ID-6	Runoff from soil disturbance and impervious area	Recordkeeping including response to complaint accounting	Utilize GIS or another database to document response to calls and complaints	Staff time	Report # of complaints and outcome annually	To occur <b>each year</b> 2023/2024	Develop a response process and tracking system	
ID-7	Runoff from soil disturbance and impervious area	Complete Stormwater Master Plan	Develop a plan to complete this effort	Staff time	Report annual progress	2026/2027	Develop and follow a plan for progress	
<b>MCM #4 Construction Site Runoff</b>								
CS-1	Runoff from soil disturbance and impervious area	Coordinate with the development community regarding the need for a 1200-C permit provide educational material	Provide materials on the website and conduct site visits	Staff time and consultant	Report progress in yearly report	Ongoing to commence in 2023/2024	Develop a flyer for builders/developers. Use in field and post on website	
CS-2	Runoff from soil disturbance and impervious area	Develop an Erosion Control Ordinance which includes DEQ requirements and riparian setbacks	Ordinance requires consistency w/ 1200-C.permit. Establish riparian setbacks	Staff time	Document annual progress	2029/2030	Report progress in each annual report	
CS-3	Runoff from soil disturbance and impervious area	Develop and enforce an escalating and response procedure to include qualifying construction sites	The response procedure will be linked to a process that applies to the ID, PC portions of the plan	Staff time	Report progress in annual report	2029/2030	Education will be emphasized prior to ordinance development. Develop draft	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
CS-4	Runoff from soil disturbance and impervious area	Develop a tracking system	Will seek to eventually tie this process to GIS	Staff time	Report progress in annual report	2023/2024	Maintain annual tracking data	
CS-5	Runoff from soil disturbance and impervious area	Annual training for PW person	Develop resource guide	Consultant	Report training and dates	Ongoing annually	Hold training and complete resource manual	
<b>MCM #5 Post-Construction Runoff Control for New and Redevelopment</b>								
PC-1	Runoff from soil disturbance and impervious area	Develop an ordinance or other regulatory mechanism such as design standards to meet the post-construction requirements	Utilize DEQ resources and mirror what other municipalities have done.	Staff time – potential for engineering costs	Document progress annually	Complete by 2031/2032	Describe progress in the annual report	
PC-2	Runoff from soil disturbance and impervious area	Develop inspection and maintenance requirements for publically owned property	The plan should include a checklist for inspections	Staff time	Report annual progress	2032/2033	Add maintenance plan and protocol to GH manual	
PC-3	Runoff from soil disturbance and impervious area	Identify a location suitable for an LID project for stormwater from ROW	Field survey potential sites and install a PC feature	Small budge	Report annual progress	2026/2027	Locate site and design to take runoff from impervious surface. Use proper soil medium and plants	
PC-4	Runoff from soil disturbance and impervious area	Staff training	Annual staff training for involved personnel	Consultant Year 1	Report annual training activities	Ongoing starting in 2022/2023	Consultant to facilitate Year 1 training	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
<b>MCM #6 Good Housekeeping in Municipal Operations</b>								
GH-1	Pollution from municipal operations	Develop a Good Housekeeping Manual	The manual is a reference guide for operations personnel	Staff time w/ Consultant	Describe progress in the annual report	Complete by 2025/2026	Complete manual	
GH-2	Pollution from municipal operations	Monthly Inspections at Shop Facility	Inspections will occur according to Good Housekeeping Manual in Yr 2	Staff time	Provide completion date and documentation for inspections to DEQ	Conduct inspections starting in 2023/2024	Conduct inspections according to the manual	
GH-3	Pollution from municipal operations	Street Sweeping	Continue street sweeping activities	Staff time	Provide annual activities in annual report	To occur <b>each year</b> starting in 2023	Evaluate practices to improve effort. Record quarterly removal totals	
GH-4	Pollution from municipal operations	Catchbasin Cleaning	Develop a catchbasin cleaning program	Staff time	Evaluate practices to improve effort	To occur <b>each year</b> starting in 2023	Provide annual activities in annual report	
GH-5	Pollution from municipal operations	Annual training	Use resource materials or attend another event	Consultant	Record date, content, and employees	To occur <b>each year</b> starting in 2023	Describe progress in the annual report	

APPENDIX A – 2022 TMDL Matrix

<b>BMP#</b>	<b>Source</b> <i>What source is being addressed? (ex. runoff from construction sites, riparian condition)</i>	<b>Strategy</b> <i>What will be done to control or reduce pollutant from source?</i>	<b>How</b> <i>Specifically, how will this be done?</i>	<b>Fiscal Considerations</b> <i>How is the BMP funded? (ex. In the 2023 budget, grant, etc.)</i>	<b>Measure</b> <i>How will successful implementation or completion be measured?</i>	<b>Timing</b> <i>When will the strategy be completed?</i>	<b>Milestone</b> <i>What intermediate goals will be achieved and by when. Measure success</i>	<b>Status</b>
<b>POLLUTANT: Temperature</b>								
<b>MCM #1 Public Education</b>								
PE-1	Sediment loading and lack of shade	Post relevant PE materials to the City's website and other distribution methods	Utilize material from portfolio to make FAQ sheets, brochures, etc	Staff and consultant	Document materials and topics covered annually and discuss in annual report	Ongoing annually	Completion of multiple documents	
PE-3	Sediment loading and lack of shade	Participate in local annual event	Host a booth or event and document materials	Set aside small fund for promotional items	Document date of events and participation	Ongoing annually	Report number of materials handed out, date, and participation	
PE-4	Sediment loading and lack of shade	Tree City USA	Re-establish this activity. Arbor Day Celebration, outreach material.	Staff time and budgeting	Discuss event an educational material in annual report	Ongoing annually	Advertize the event, develop education material	
PE-5	Sediment loading and lack of shade	Partner with local watershed council, SWCD, university, etc	Attend meetings, network, partner	Staff time and consultant	Report annual progress in yearly report	Ongoing annually	Document progress annually	
<b>MCM #2 Public Involvement</b>								
PI-1	Sediment loading and lack of shade	Maintain a website to post the most current environmental educational information	Post the TMDL Plan on the City website with educational material	Staff time	Post the plan in 2022 and post plan reports submitted to DEQ annually	To occur <b>each year</b> starting in 2022	Post new and updated material annually and report	

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PI-2	Sediment loading and lack of shade	Annual presentation to City Council	Work Session presentation	Consultant and staff	Report progress in yearly report	To occur each year starting in 2022/2023	Content and date to be included in annual report	Council meeting work session being scheduled for fall 2022
<b>MCM #3 Illicit Discharge Detection and Elimination</b>								
ID-2	Sediment loading and lack of shade	Develop an ordinance that prohibits non-stormwater discharges into the stormwater system	Utilize ordinances and programs from other agencies	Staff time involving legal	Provide DEQ annual progress on this BMP in the annual report	Complete by 2030/2031	Document annual activities. Use Phase II as guidance	
ID-3	Sediment loading and lack of shade	Develop and enforce an escalating and response procedure to include construction sites, illegal dumping and illegal connections.	The plan will include escalating steps of enforcement	Staff time	Report progress and final to DEQ	Complete by 2030/2031	Document annual activities	
ID-5	Sediment loading and lack of shade	Annual staff training	Annual training by existing staff. Take advantage of inexpensive regional training	Consultant in Year 1	Report training date, # of employees in attendance	To occur <b>each year</b> starting in 2022/2023	Conduct annual training – develop a schedule. Yr 1 training by consultant	
<b>MCM #4 Construction Site Runoff</b>								
CS-2	Sediment loading and lack of shade	Develop an Erosion Control Ordinance which includes DEQ requirements and riparian setbacks	Ordinance and document need to be consistent with the 1200-C permit	Staff time	Document annual progress	2029/2030	Report progress in each annual report	

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CS-3	Sediment loading and lack of shade	Develop and enforce an escalating and response procedure to include qualifying construction sites	The response procedure will be linked to a process that applies to the ID, PC portions of the plan	Staff time	Report progress in annual report	2029/2030	Education will be emphasized prior to ordinance development. Develop draft	
CS-5	Sediment loading and lack of shade	Annual training for PW person	Develop resource guide	Consultant	Report training and dates	Ongoing annually	Hold training and complete resource manual	
<b>MCM #5 Post Construction Runoff Control in New and Redevelopment</b>								
PC-1	Sediment loading and lack of shade	Develop an ordinance or other mechanism such as design standards to meet the post-construction reqs.	Utilize DEQ resources and mirror what other municipalities have done.	Staff time – potential for engineering costs	Document progress annually	Complete by 2031/2032	Describe progress in the annual report	
PC-2	Runoff from soil disturbance and impervious area	Develop inspection and maintenance requirements for publically owned property	The plan should include a checklist for inspections	Staff time	Report annual progress	2032/2033	Add maintenance plan and protocol to GH manual	
PC-3	Runoff from soil disturbance and impervious area	Identify a location suitable for an LID project for stormwater from ROW	Field survey potential sites and install a PC feature	Small budget	Report annual progress	2026/2027	Locate site and design to take runoff from impervious surface. Use proper soil medium and plants	
PC-4	Sediment loading and lack of shade	Staff training	Annual staff training	Consultant in Year 1	Report annual activities	Ongoing starting in 2022/2023	Consultant to facilitate Year 1 training	

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<b>MCM #6 Good Housekeeping in Municipal Operations</b>								
GH-1	Pollution from municipal operations	Develop a Good Housekeeping Manual	Include protocol for retention of trees and native vegetation along waterways	Staff time w/ Consultant	Complete manual	Complete by 2022/2023	Describe progress in the annual report	
CS-5	Pollution from municipal operations	Annual training for PW person	Develop resource guide	Consultant	Report training and dates	Ongoing annually	Hold training and complete resource manual	
<b>POLLUTANT: Bacteria</b>								
<b>MCM # 1 Public Education</b>								
PE-1	Runoff from pervious surface or degraded riparian area	Post relevant PE materials to the City's website and other distribution methods	Utilize material from portfolio to make FAQ sheets, brochures, etc	Staff	Document materials and topics covered annually and discuss in annual report	Ongoing annually	Completion of multiple documents on the website for the public to access. Update routinely	
PE-2	Runoff from pervious surface or degraded riparian area	SOLV Community River Clean up	City Staff and volunteers partner with SOLV	Staff time	Document event, date, number of participants and discuss in annual report	Ongoing annually	Advertise for event and record events	Scheduled for September 2022
PE-3	Runoff from pervious surface or degraded riparian area	Participate in local annual event	Host a booth or event and document materials	Set aside small fund for promotional items	Document date of events and participation	Ongoing annually	Report number of materials handed out, date, and participation	

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PE-7	Runoff from pervious surface, or illegal discharge	Maintain pet waste stations	Maintain and stock stations	Funding for bags	Document in annual report	Ongoing annually	Record # of bags and maintenance activities	
PE-8	Runoff from pervious surface, or illegal discharge	Provide outreach and education materials to hobby farms and septic system owners	Collect property owner information and send direct mailing	Postage	Report # of mailings in annual report	2x during permit term	Send mailing in 2024 and in 2026	
<b>MCM #2 Public Involvement and Participation</b>								
PI-1	Runoff from pervious surface or degraded riparian area	Maintain a website to post the most current environmental educational information	Post the TMDL Imp Plan and other educational information	Staff time	Post new and updated material annually and report	To occur <b>each year</b> starting in 2022	Post the plan in 2022 and post plan reports submitted to DEQ annually	
PI-2	Runoff from pervious surface or degraded riparian area	Annual presentation to City Council	Work Session presentation	Consultant and staff	Report progress in yearly report	To occur each year starting in 2022/2023	Content and date to be included in annual report	Council meeting work session being scheduled for fall 2022
ID-2	Runoff from soil disturbance and impervious area	Develop an inventory of stormwater assets and facilities	Field verify stormwater system to collect and locate assets and facilities	Staff time	Report progress in annual report	Ongoing annually	Collect information annually and keep records of locations, type, function, condition	

APPENDIX A – 2022 TMDL Matrix

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ID-3	Runoff from soil disturbance and impervious area	Develop an ordinance that prohibits non-stormwater discharges	Develop a plan to meet the conditions of IDDE in 2022/2023	Staff time involving legal	Document annual progress	Complete by 2030/2031	Provide DEQ annual progress on this BMP in the annual report	
ID-4	Runoff from soil disturbance and impervious area	Develop an enforcement response plan	The plan will include escalating steps of enforcement	Staff time	Report progress and final to DEQ	Complete by 2030/2031	Document annual activities	
ID-5	Runoff from soil disturbance and impervious area	Annual staff training	Annual training by existing staff. Take advantage of inexpensive regional training	Consultant in Year 1	Report training date, # of employees in attendance	To occur <b>each year</b> starting in 2022/2023	Conduct annual training – develop a schedule. Yr 1 training by consultant	
<b>MCM #4 Construction Site Runoff</b>								
CS-2	Runoff from soil disturbance and impervious area	Develop an Erosion Control Ordinance which includes DEQ requirements	Ordinance and document need to be consistent with 1200-C and/or 1200-CN programs	Staff time	Document annual progress	2029/2030	Report progress in each annual report	City is currently reviewing ordinances from the cities of Corvallis and Keizer
CS-3	Runoff from soil disturbance and impervious area	Develop and enforce an escalating and response procedure to include qualifying construction sites	The response procedure will be linked to a process that applies to the ID, PC portions of the plan	Staff time	Report progress in annual report	2029/2030	Education will be emphasized prior to ordinance development. Develop draft	

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<b>MCM #5 Post Construction Runoff Control in New and Redevelopment</b>								
PC-1	Runoff from soil disturbance and impervious area	Develop an ordinance or other regulatory mechanism such as design standards	Utilize DEQ resources and mirror what other municipalities have done.	Staff time – potential for engineering costs	Describe progress in the annual report	Complete by 2031/2032	Document progress annually	Staff is reviewing design standards from West Linn
PC-2	Runoff from soil disturbance and impervious area	Develop inspection and maintenance requirements for publically owned property	The plan should include a checklist for inspections	Staff time	Report annual progress	2032/2033	Add maintenance plan and protocol to GH manual	
PC-3	Runoff from soil disturbance and impervious area	Identify a location suitable for an LID project for stormwater from ROW	Field survey potential sites and install a PC feature	Small budget for materials	Report annual progress	2026/2027	Locate site and design to take runoff from impervious surface. Use proper soil medium and plants	
PC-4	Runoff from soil disturbance and impervious area	Staff training	Annual staff training	Cost of training	Report annual training activities	Ongoing starting in 2022/2023	Consultant to facilitate Year 1 training	
<b>MCM #6 Good Housekeeping in Municipal Operations</b>								
GH-1	Pollution from municipal operations	Develop a Good Housekeeping Manual	Include protocol for retention of trees and native vegetation along waterways	Staff time w/ Consultant	Describe progress in the annual report	Complete by 2023/2024	Complete manual and track activities	
GH-3	Pollution from municipal operations	Street Sweeping	Continue street sweeping activities	Staff time	Provide annual activities in annual report	To occur <b>each year</b> starting in 2023	Evaluate practices to improve effort. Record quarterly removal totals	

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GH-4	Pollution from municipal operations	Catchbasin Cleaning	Develop a catchbasin cleaning program	Staff time	Evaluate practices to improve effort	To occur <b>each year</b> starting in 2023	Provide annual activities in annual report	
GH-5	Pollution from municipal operations	Annual training	Use resource materials or attend another event	Consultant	Record date, content, and employees	To occur <b>each year</b> starting in 2023	Describe progress in the annual report	
<b>Other Management Activities</b>								
		Develop a sustainable stormwater fee	Review possible options including an impervious surface study	Staff time	Annual progress shall include options considered, and next steps	2025/2026	Provide annual activities in annual report	
		Complete annual reports	Develop document based on recordkeeping	Consultant	Complete and submit the annual report	By due date annually		
		Evaluate public education activities according to WQMP	Choose 1 activity to promote and help lead other activities	Consultant	Review activities with staff and determine most effective activity and why	To be submitted with annual report		

**APPENDIX A – 2022 TMDL Matrix**

		Annually evaluate implementation efforts and program progress	Review and evaluative actions (monitoring)	Consultant	Review and discuss with staff to plan changes for following year	To be submitted with annual report		
		Complete 5 <sup>th</sup> Year Assessment and Evaluation	Gather information based on recordkeeping and annual reports	Staff time	Complete assessment using DEQ guidelines	2026/2027		

<b>Control Measures</b>	
PE	Public Education
PI	Public Involvement and Participation
ID	Illicit Discharge Detection and Elimination
CS	Construction Site Runoff Control
PC	Post-Construction Runoff Control
GH	Good Housekeeping in Municipal Operations