City of Lake Stevens Surface Water Management Program

Permit Term July 1, 2019 – July 31, 2024

2023 DRAFT

PWR-2023-02

City of Lake Stevens
1812 MAIN STREET, LAKE STEVENS, WA 98258

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Executive Summary

The Surface Water Management Program (SWMP) outlines the structure, status, and planned and future projects for the City of Lake Stevens (City) to meet the regulatory requirements outlined in the National Pollution Discharge Elimination System (NPDES) Phase II Permit for Western Washington (Permit). Eight major program elements are outlined in the SWMP, which include:

1) Stormwater Planning,

2) Public Education and Outreach,

3) Public Involvement and Participation,

4) MS4 Mapping and Documentation,

5) Illicit Discharge Detection and Elimination

6) Runoff from Development

7) Operations and Maintenance

8) Source Control Program for Existing Development

In 2023, the SWMP will be developing a stormwater management action plan (SMAP) to identify a priority basin in the city that would best benefit from stormwater facility retrofits or restoration projects to address surface water flooding and water quality issues. The surface water team has completed an assessment of eight drainage basins within the city's jurisdictional boundary. A draft SMAP document was completed in March 2023 and identifies teo priority catchment areas for Lower Stevens Creek, commonly referred to as the Lake Outlet Channel, and Lower Catherine Creek.

The City continues to partner with the Snohomish Conservation District (SCD) to deliver education and outreach opportunities to the citizens of Lake Stevens focused on stormwater management and water quality. The City will continue the I Love Lake campaign in 2023, focusing on natural yard care practices and working with homeowners to incorporate native plants and reduce impervious surfaces in their landscape designs. This year, a public outreach event titled "I Love Lake Day" has been scheduled for August 19, 2023, comprising of focused outreach for all aspects of the SCD programs, and it will be a jointly produced effort between the district and the City surface water program.

The City's stormwater facilities and operation and maintenance of those facilities is based on facilities mapped in an ArcGIS database. The surface water team will be working closely with the City's GIS Analyst to review the existing ArcGIS database and evaluate data gaps in information for known facilities and mapping of new or annexed facilities. This process will coincide with the City transitioning to VueWorks, a software used to track inspections, work orders, and citizen requests.

The City has identified deficiencies in meeting the regulatory goals outlined in the NPDES permit for inspections and routine maintenance on city owned and operated stormwater flow control and treatment facilities as well as catch basins. In 2023, the City will be taking several steps to address these deficiencies and develop a workplan for compliance with Section S5.C.7 of the NPDES Permit. The Public Works Operations and Maintenance Manager and Stormwater Supervisor will play a dominant role in addressing the deficiencies and outlining a plan for compliance. As stated above, the City is also working towards updating the stormwater facility maps and introducing a new

facility management software, VueWorks, to track and document all activities outlined under S5.C.7. The City anticipates compliance with S5.C.7 in 2023.

The city implemented a Source Control Program in 2023. Stormwater is the number one pollutant in western Washington to our waterways. Stormwater runoff from locations that use and store hazardous materials have the greatest potential to pollute stormwater runoff. This program is designed to inspect, eliminate, and implement future planning for facilities that are found to contribute, or have the potential to contribute, to stormwater pollution.

The City continues to take monthly water samples from Mitchell Creek for fecal coliform as part of the total maximum daily load (TMDL) monitoring requirement for the Snohomish River basin. The purpose of these water samples is to identify locations within the city that may be contributing to the fecal coliform TMDL and eliminating the source.

The City and Public Works Department continue to work towards enhancement of existing programs and implementing new programs to address the requirements outlined the NPDES Permit. As part of the public works process improvement initiative and work towards meeting NPDES requirements, the City will be working towards accreditation with the American Public Works Association and implementation of Vueworks.

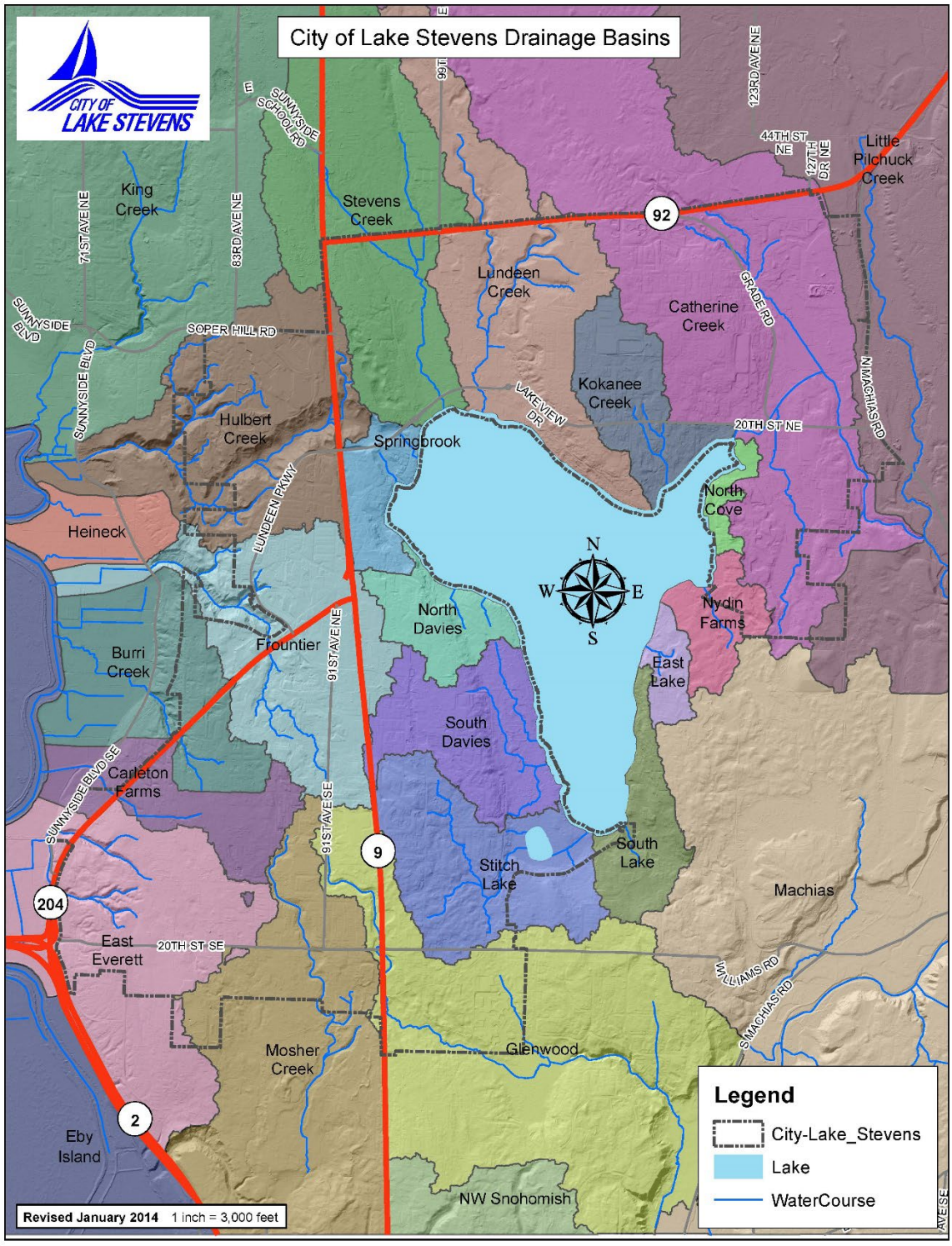
Background

The City of Lake Stevens is in Snohomish County, east of the City of Everett and south of the City of Marysville and the City of Arlington and north of the City of Snohomish. Major access points to Lake Stevens include US-2 ("the Trestle"), Highway 9, and Highway 92. Lake Stevens has the largest freshwater lake in Snohomish County and has a growing population of approximately 40,000 people. Much of the city is comprised of residential neighborhoods, with Frontier Village, the major shopping center, located in the western portion of the city. A small light-industrial area is in the northeast portion of the city located at Hartford Drive and Old Hartford Road.

Approximately 78 percent of the city is located in the Lake Stevens watershed. The western part of the city drains to the west into Ebey Slough, which is a tributary to the Snohomish River. The eastern portion of the city drains to Catherine Creek and the Little Pilchuck River which are also tributaries to the Snohomish River. The Lake Stevens watershed covers 3,485 acres, which is approximately a 4:1 ratio of watershed to lake surface area. The Lake itself covers 1,013 acers and has a maximum depth of 150 feet with an average depth of 62 feet. The contributing creeks to Lake Stevens are Stevens, Lundeen, Kokanee, and Stitch Creek. The outlet for Lake Stevens is Catherine Creek, which is located at the northeastern corner of the lake near downtown Lake Stevens. Catherine creek flows into the Little Pilchuck River just south of the northeastern city boundaries (Figure 1).

Historically, Lake Stevens has suffered from high phosphorus as its main pollutant of concern. To address the high levels of phosphorus, the City and Snohomish County installed a hypolimnetic aerator into Lake Stevens in 1994 to improve conditions for binding phosphorus to iron in lake sediments. In 2017, this aerator was removed from the lake due to mechanical failures. In 2013, the City began using aluminum sulfate (alum) as the primary phosphorus management strategy. Annual alum treatments remained the treatment protocol through 2020. In 2021, the City, in partnership with Snohomish County, conducted a sediment core study to evaluate the effectiveness of the alum treatments and the amount of available phosphorus in the lake sediments. The results of the 2021, recommended continuing with alum treatments, but changing the frequency of application to every other year. Lake Stevens will be treated with Alum on even years, the last treatment was in 2022. An amendment to the 2012 Lake Management Plan will be adopted in 2023.

FIGURE 1. City of Lake Stevens Drainage Basins.



Purpose

The National Pollutant Discharge Elimination System (NPDES) Permit (Permit) is a federal permit that regulates stormwater and wastewater discharges to waters of the State. While it is a federal permit, the regulatory authority has been passed to the Washington State Department of Ecology (Ecology) for program implementation. The Western Washington Phase II Municipal Stormwater Permit began in January of 2007 and ended in 2012. The current permit term began on July 1, 2019 and ends on July 31, 2024.

The NPDES Permit requires that all regulated municipalities create and implement a Stormwater Management Program (SWMP), which addresses eight required program elements:

- Stormwater Planning,
- Public Education and Outreach,
- Public Involvement and Participation,
- MS4 Mapping and Documentation,
- Illicit Discharge Detection and Elimination
- Runoff from Development
- Operations and Maintenance
- Source Control Program for Existing Development

Select cities, such as the City of Lake Stevens, are required to provide additional actions applicable to Total Maximum Daily Load (TMDL) requirements for Snohomish River Tributaries. This SWMP Plan describes the current TMDL monitoring program, and how this program will be implemented in the upcoming calendar year.

The SWMP shall be designed to reduce the discharge of pollutants from the regulated small municipal separate storm sewer system (MS4) to the maximum extent practicable (MEP) and meet all known and reasonable technologies (AKART) required to protect water quality.

The following sections describe the programs to meet NPDES Permit requirements. The section numbers of the NPDES Permit are referenced were applicable and shown at the start of the paragraph in bold text. NPDES Permit Coordination.

S5.A.5.a The City of Lake Stevens borders the Cities of Marysville and unincorporated Snohomish County. The City of Marysville is a Phase II Permittee and Snohomish County is a Phase I Permittee. The primary mechanism for external coordination is a series of meetings held monthly and quarterly that targeted towards phase I and phase II permittees in Puget Sound. These meetings create a forum to coordinate stormwater management activities for shared waterbodies among permittees, avoid conflicting plans, policies, and regulations, and utilizes resources from other jurisdictions. External coordination is also accomplished through the Status and Trends Monitoring Option #1 of section S8 in the NPDES Permit.

The City coordinates with the Lake Stevens Fire Department (Fire District 8) for illicit discharge spill response. The Fire Department has a Hazardous Materials Team and works as a part of the countywide response team.

The City also coordinates with Snohomish County, Department of Ecology and Stormwater Outreach for Regional Municipalities (STORM) to provide education and outreach programs. See a full description of those programs in the Education and Outreach section of this SWMP Plan.

S5.A.5.b Within the City, the Surface Water division is the main work group responsible for Permit implementation. The primary mechanism for internal coordination is engagement with other City working groups through meetings

and direct involvement in activities, thereby providing direct support or clarification when needed and reducing barriers to Permit compliance. Table 1 is a general overview of the Permit requirements and the City departments, or partners, which are responsible for each requirement. The City has also started an interdisciplinary Technical Staff Review (TSR) committee that meets twice a month to discuss topics related to City process implementation and technical issues or discuss projects that require an interdisciplinary approach. The City added two new staff positions to the Surface Water team in 2022, a Surface Water Program Manager and a Surface Water Specialist.

Table 1 Overview of Responsibilities

Permit Section	Title	Division(s) Responsible
S5.C.1	Surface Water Planning	Lake Stevens Public Works (Surface Water) Planning and Community Development
S5.C.2	Public Education and Outreach	Lake Stevens Public Works (Surface Water) Lake Stevens School District Snohomish Conservation District
S5.C.3	Public Involvement and Participation	Lake Stevens Public Works (Surface Water) Lake Stevens Parks and Recreation Departement
S5.C.4	MS4 Mapping and Documentation	Lake Stevens Public Works (Surface Water) Lake Stevens GIS analyst Planning and Community Development
S5.C.5	Illicit Discharge Detection and Elimination	Lake Stevens Public Works (Surface Water) Lake Stevens Sewer District All City Staff (Reporting incidents) Lake Stevens Fire (District 8) Lake Steven Police Department
S5.C.6	Controlling Runoff from New Development, Redevelopment and Construction Sites	Lake Stevens Public Works (Surface Water and Engineering) Lake Stevens Planning epartment
S5.C.7	Municipal Operations and Maintenance	Lake Stevens Public Works
S5.C.8	Source Control for Existing Development	Lake Stevens Public Works (Surface Water)

Lake Stevens Public Works

The Public Works Department is the primary work group responsible for Permit implementation. In 2022, the Public Works Department formalized its Surface Water Program including the addition of two full-time staff members. This program will be led by the Surface Water Program Manager, the Surface Water Coordinator, the Surface Water Specialist/Inspector, and Surface Water Technician/Inspector. The program will also include a GIS Analyst to work with the Surface Water Program to improve stormwater management asset mapping and tracking. In 2023, the City will be implementing VueWorks an improved stormwater work order, inspection, and asset mapping system.

The Surface Water Coordinator implements in-house training efforts and assists other departments to receive external training when needed/appropriate. In-house training for all Public Work's Crews on Best Management Practices (BMP) and Illicit Discharge Detection and Elimination (IDDE) are held annually. While these trainings are utilized to convey the primary subject matter, they are also used to relay overall NPDES Permit concepts, changes in requirements and supporting documents like the Stormwater Pollution Prevention Plan (SWPPP) or BMP Documents. In February 2023, the Surface water coordinator put together CESCL training for several city employees in the streets, parks, stormwater, and planning departments. The training also included employees from the Lake Stevens Sewer District and the City of Redmond.

The City's Operation and Maintenance Department, under the Public Works Department, performs most of the operation and maintenance activities identified in the permit. The Operations and Maintenance team works closely with the Surface Water Technician/Specialist to address maintenance needs based on stormwater facility inspection results.

Other Departments

All staff members are responsible for reporting illicit discharges to the City's Spill Hotline at (425)622-9408 or by contacting the Surface Water Coordinator at (425)622-9442. The City also has an online reporting form for all water quality concerns. This form can be found in the "How do I" section of the City website.

Stormwater Management Program Components

The following sections address the eight sections of the NPDES permit. Reference to the permit sections is included under the *Planned Activities* section for each program component.

Stormwater Planning

Summary Permit Requirements

- Create an interdisciplinary team to assist in the development of the stormwater program
- Create long-range planning programs to ensure that watershed and water quality protection policies, strategies, codes, and other measures intended to protect and improve local water health through planning, or considering stormwater management needs or limitations are implemented
- Ensure the continuation of Low-Impact Development code related requirements as the preferred and commonly used approach to stormwater management in site development
- Implement "Stormwater Management Action Planning" (SMAP) similar to the range of issues outlined in *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication 19-10-010).

Planned Activities

S5.C.1.a City staff (including engineering, surface water management, and community planning), outside public utilities and the fire department attend a bi-weekly meeting targeted towards discussing development projects in the city, process improvement, regulatory requirements, and future planning. This team meeting is referred to as the Technical Staff Review (TSR).

S5.C.1.b Coordination with long-range plan updates are typically coordinated with the Public Works and Planning Departments.

S5.C.1.b.i TSR established opportunities for staff members to take time out of their busy schedules to ensure coordination between department on long-range planning and process implementation are consistent with requirements outlined in the NPDES permit.

> **S5.C.1.b.i(a)** On March 31, 2021, the City responded to annual report questions that detailed how impacts to stormwater identified in the previous permit cycle (2013-2019) were addressed in updates to the City's Comprehensive Plan (or equivalent) and in other state-mandated plans used to accommodate growth and development.
>
> **S5.C.1.b.i(b)** In January 2023, the City submitted an additional report addressing the same questions as in S5.C.1.i(a), but for the current 2019-2024 permit cycle. This will be included with the 2023 report.

S5.C.1.c The City will continue to review each proposed development and redevelopment project in the City for feasibility of Low-Impact Development (LID) techniques as the "preferred and commonly used approach" to stormwater management on development sites. Each year, the City will review and address any newly identified regulatory or administrative barriers to implementation of LID principles or LID BMPs.

S5.C.1.d Using Ecology guidelines from *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication 19-10-010), the City has conducted a process to identify and prioritize receiving waters and contributing watershed within the jurisdiction of Lake Stevens.

> **S5.C.1.d.i** In March , 2022, the City submitted a receiving water assessment and watershed inventory with the annual report. The watershed assessment will be used to identify receiving waters most likely to benefit from

stormwater management action planning (SMAP). The watershed assessment will be submitted in table format and will include:

- Each receiving water body name
- Total watershed area for each receiving water body
- Percent of total watershed area that is in the Permittee's jurisdiction
- Findings of the stormwater management influence assessment for each basin
- An indication of which receiving waters will be used for the S5.C.1.d.ii prioritization process

A map will also be included which shows delineated basins with references to the watershed inventory table.

S5.C.1.d.ii In June, 2022, the City utilized the watershed assessment developed in section (i) above to develop a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to:

1) Conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools
2) Reduce pollutant loading, and,
3) Address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.

The City will document the prioritized and ranked list of receiving waters.

a) The City will document the priority ranking process used to identify high priority receiving waters.
b) The ranking process shall include the identification of high priority catchment area(s) for focus of the SMAP in (iii), below.

S5.C.1.d.iii In March 31, 2023, the City will submit the SMAP for one high-priority area as determined in (ii) above, that identifies all of the following:

a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.
b) Land management/development strategies and/or actions identified for water quality management.
c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:
    - IDDE field screening
    - Prioritization of Source Control inspections
    - Operation and Maintenance (O&M) inspections or enhanced maintenance, or
    - Public Education and Outreach behavior change programs.
d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.
e) A proposed implementation schedule and budget sources for:
    - Short-term actions (i.e., actions to be accomplished within six years), and
    - Long-term actions (i.e., actions to be accomplished within seven to 20 years).
f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

1. Public Education and Outreach

Summary Permit Requirements

- Build general awareness about methods to address and reduce impacts from stormwater runoff.
- Effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

Planned Activities

S5.C.2.a The City has partnered with the Snohomish Conservation District (SCD) for 10 years on a variety of different projects and technical assistance. In the past 6 years, the SCD has been working with the City to implement and execute programs, education and outreach, and project specific implementation to assist the City with NPDES permit compliance. The education programs are designed to educate target audiences about stormwater problems and provide specific actions they can follow to minimize these problems. These programs also provide stewardship opportunities for the community.

S5.C.2.a.i Several programs are planned for 2023 that will build awareness around stormwater, water quality and best management practices. To date, the City has emphasized natural yard care and sustainable landscaping to help reduce stormwater pollution runoff from residential backyards. In 2021, the City started a new campaign targeting stormwater management best management practices associated with stormwater detention ponds that serve residential subdivisions. These programs will continue in 2023 along with other programs to increase awareness of stormwater pollution and best management practices to improve water quality. The City has identified summer farmers markets, Aquafest, and the fall harvest fest as community events where SCD and the City can provide flyers and informational material around stormwater management and best practices. On August 19, 2023, the City and SCD will be holding I Love Lake Day to provide a focused outreach event.

Living with Beavers: Beavers play an integral role in establishing and maintaining wetlands. Wetlands help to improve water quality by naturally filtering water and reducing the flow rate of stormwater. The City in partnership with SCD provides education services in the form of an interactive webinar and site visits for homeowners to implement mitigation measures to help alleviate property damage and flooding associated with natural beaver activity, while protecting natural beaver habitat.

Stormwater Infrastructure: Stormwater detention ponds have been identified as a best management practice to focus on and the target audience is private homeowners, especially homeowners living in a subdivision with common stormwater facilities and the homeowners association has been dissolved. The intent of this program is to provide technical assistance, recommendations, and training to residential private stormwater facility homeowners to achieve maintenance standards and ultimately improving the facility's stormwater detention ability and improving water quality. These ponds can have other ecological benefits, such as habitat for birds and amphibians, therefore, this technical assistance program can help achieve a balance between stormwater management and other ecological benefits. The City and SCD will provide stormwater education in the form of a webinar and onsite workshop as well as informational flyers. In 2021, the City posted information flyers on approximate 50 percent of the privately owned and maintained stormwater detention ponds to raise

awareness among homeowners of the stormwater facilities. The City held a webinar in 2021 on “what is a detention pond” and approximately 20 members of the community joined the webinar. In 2022, the SCD and City held a webinar on “how to maintain a detention pond”. In 2023, the SCD and City will hold three in-person workshops to physically teach and demonstrate typical stormwater pond maintenance activities and safety, to be coordinated with participating HOAs.

Lawns to Lettuce: This program was created to develop stewardship opportunities that encourages community engagement in addressing ways to reduce pollution stormwater runoff from lawns. Converting backyard lawns to vegetable gardens increases the diversity of the landscape which has a positive impact on water quality by decreasing runoff, reducing lawn fertilizers, and decreasing over watering. The SCD will conduct site visits and provide technical assistance to Lake Steven’s residents regarding sustainable food growing as well as maintain a monthly educational newsletter. Up to 10 residents will receive raised beds and compost for sustainable food growth in partnership with Hungry Hearts, a food security nonprofit based in Lake Stevens.

I Love Lake: The City will continue the I Love Lake Campaign. This campaign targets residential yard care to help improve water quality of Lake Stevens. This task is intended to build general awareness about methods to address and reduce impacts from stormwater runoff on urban landscapes. The goal of this program is to promote behavior change centered around yard care and impacts of certain practices to water quality. This program also yields an opportunity that encourages community engagement in addressing the impacts from stormwater runoff. The focus of 2023 for this program is the I Love Lake Day event to be held August 19th.

Youth Education: The SCD will carry out education and outreach programs in the Lake Stevens School District in the form of classroom lessons, high school education and mentoring for Envirothon, field trips and outdoor environmental education, conservation centered art contest, service-learning projects, and hands-on science kits. Existing relationships with science teachers and community groups are being considered to create a more robust stormwater curriculum that meets Next Generation Science Standards.

Mutt Mitt Stations: Pet waste stations have been installed in City Parks. The Stations and the information associated with them educate the public on the health and environmental risks associated with poor pet waste practices. Public Works collaborates with Parks to maintain these stations. Additional pet waste stations will be purchased to increase the availability for suitable places to dispose of pet waste in public areas.

Private Facility Inspections: The City’s Stormwater Inspector contacts the owners of private commercial and residential stormwater systems. In most residential situations, everyone in the neighborhood is contacted after an inspection has occurred. This program educates owners about the stormwater system and how illicit discharges may affect the system they are responsible for maintaining.

General Outreach: The City participates in the regional Puget Sound Starts Here (PSSH) campaign and the STORM group. The Puget Sound Starts Here campaign was created by a partnership of regional governments dedicated to improving water quality in our local lakes, rivers, streams and ultimately Puget Sound. The campaign is run by the STORM group, which includes 57 cities and counties in conjunction with the Washington State Puget Sound

Partnership and Washington State Department of Ecology. The City plans to continue attending the local Snohomish County STORM meetings as time allows.

S5.C.2.a.ii The City will continue to focus on natural yard care and stormwater detention pond maintenance as the behavior change programs planned for 2023.

S5.C.2.a.ii.(a) The City's Stormwater Inspector is working in collaboration with the stormwater division of Public Works to develop and implement a city-wide private stormwater facility maintenance program. This program seeks to educate and assist homeowners in new and existing neighborhood developments about the responsibility of the homeowners and/or property management companies to clean and maintain their private stormwater facilities. These facilities include both "traditional" (non-LID) and LID facilities. In 2021, the City and SCD hosted a detention pond workshop to educate residents on the purpose and functionality of detention ponds. In 2022, the City will build on this campaign and host another webinar targeted around maintenance of detention ponds. These webinars will be available on the City's website and used as a reference when educating and assisting homeowners with their stormwater facilities. Three workshops will be held again in 2023.

S5.C.2.a.ii.(b) The on-going behavior-change program known as the "I Love Lake" program has been implemented to fulfill the requirement for S5.C.2.a.ii(b) for this permit term. The City conducted an evaluation of the "I Love Lake" campaign and documented the lessons learned which guided the development of strategy outlined in S5.C.2.a.ii(c):

1. Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs; or

Under the I Love Lake campaign, the City added a BMP—detention ponds—to address with residential homeowners as part of this campaign. The City will continue the education and outreach efforts centered around detention ponds in 2023. The City will also be expanding on the existing natural yard care programs under the I Love Lake campaign, by assessing the natural yard care awareness of the community with a community survey and offering financial and technical assistance for the implementation of native plant buffers. The City and SCD maintain a website for the campaign at ilovelake.org. All material created and presented targeted around the campaign can be accessed from the City website or the I Love Lake website, and will be available for in-person interaction on August 19 at Lundeen Park at "I Love Lake Day."

S5.C.2.a.ii.(e) and (f) By March 31, 2024**,** the City will evaluate and write a report on:

1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and
2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.

The City will use the results from this evaluation to direct continued efforts for targeted behavior-change programs.

S5.C.2.a.iii Stewardship opportunities for residents will continue to be advertised by the City and in cooperation with partners like SCD. Activities may include stream bank planting, rain barrel painting, and public education opportunities in schools and at community-wide events.

2. Public Involvement and Participation

Summary Permit Requirements

- Provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. The City will comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.
- The City shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and update of the SMAP and SWMP.
- Post the SWMP Plan and the annual report on the City website no later than May 31 each year and make other submittals available to the public upon request.

Planned Activities

S5.C.3.a. To create opportunities for the public to participate in decision-making processes involving the development, implementation, and update of the SWMP, the public will have the opportunity to make comments on an annual basis. A request for comments will be added to the City's website and posted to the City's social media sites. The SWMP draft will be available for review and comment in April of 2023.

S5.C.3.b. The SWMP Plan and the annual report required under S9.A are posted on the Lake Management web page titled "NPDES Phase II Permit" no later than May 31 each year (http://www.lakestevenswa.gov/459/NPDES-Phase-II-Permit). All other submittals are available to the public upon request.

3. Mapping and Documentation

Summary Permit Requirements

- The City will include an ongoing mapping program in the SWMP for mapping and documenting the MS4.

Planned Activities

S5.C.3.a Ongoing Mapping: The City will maintain mapping data for the features listed below:

i. Known MS4 outfalls and known MS4 discharge points.
ii. Receiving waters, other than groundwater.
iii. Stormwater treatment and flow control BMPs/facilities owned or operated by the City, as well as privately owned and operated facilities.
iv. Geographic areas served by the City's MS4 that do not discharge stormwater to surface waters.
v. Tributary conveyances to all known outfalls and discharge points with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following features or attributes (or both) shall be mapped:
    a. Tributary conveyance type, material, and size where known.
    b. Associated drainage areas.
    c. Land use.
vi. Connections between the MS4 owned or operated by the City and other municipalities or public entities. All connections to the MS4 authorized or allowed by the City after February 16, 2007.

S5.C.3.b. The City continues to collect size and material data for all known MS4 outfalls during normal course of business (e.g., during field screening, inspection, or maintenance) and update records. By August 1, 2023, the City will complete mapping of all known connections from the MS4 to a privately-owned stormwater system. The City is also working on improving the data transfer process from new developments and redevelopments to capture as-builts in a digital format to add to the City's asset management system. All stormwater facility mapping will be in digital format compatible with ESRI's ArcGIS software.

4. Illicit Discharge Detection and elimination

Summary Permit Requirements

- The SWMP shall include an ongoing program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the MS4.

Planned Activities

S5.C.5.a Illicit connections and illicit discharges must be identified through, but not limited to: field screening; inspections; complaints/reports; construction inspections; maintenance inspections; source control inspections; and/or monitoring information. The City has available a Spill Hotline and online form for citizens to report an illicit discharge or connection and reporting can also be done through the Department of Ecology's Environmental Report Tracking System (ERTS).

S5.C.5.b The City continues to maintain the water quality violation reporting form on the website to allow citizens to report potential illicit discharges.

S5.C.5.c Lake Stevens Municipal Code (LSMC) Chapter 11.06.100 - Illicit Discharge Detection and Elimination (IDDE), was updated to reflect the requirements in the current Permit. Chapter 11.06 and other related sections in LSMC are used to prohibit non-stormwater illicit discharges into the MS4. This Chapter is enforced by the Stormwater Division and the Code Enforcement Officer (Planning Department). The IDDE chapter includes a list of acceptable discharges, conditionally acceptable discharges and prohibited discharges.

S5.C.5.d The City will continue to implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the City's MS4 using the methods described in section S5.C.5.d.i below.

S5.C.5.d.i To detect and identify non-stormwater discharges and illicit connections to the MS4, the City has adopted the methods described in the *Illicit Connection and Illicit Discharge Filed Screening and Source Tracing Guidance Manual* prepared for Washington State Department of Ecology by Herrera Environmental Consultants in May 2013. Methods implemented include IDDE screening practices during regularly scheduled inspections and daily work activities.

The City must conduct field screening of at least 12% of the MS4 each year starting August 1, 2019. The City's catch basin inspections will serve as the primary IDDE screening method. In 2022 the stormwater department started the process of combining inspections with the cleaning of catch basins. The storm water department used GIS information to systematically divided the city's MS4 into sections based on work areas, neighborhoods, and streets with the goal to achieve 100 percent inspection and cleaning of its catch basins.

To ensure all areas of the City are screened for illicit discharges, Stormwater staff members will emphasize awareness of IDDE during daily activities as part of IDDE training so that the remaining areas of the City are informally screened. Historically, staff members have found more incidents of illicit discharges during their daily work activities than through other methods of detecting discharges. Stormwater treatment and flow control BMPs/facilities will also be screened during the normally scheduled annual inspections.

S5.C.5.d.ii The City also maintains a "Water Quality Investigation Request" form. From the City home page, a resident can click the main "HOW DO I…" drop down menu. Under the reporting section, they click "Water Quality Investigation", and a form automatically opens. Once the form is filled out, the request is sent to the Stormwater Coordinator. The Stormwater Coordinator then investigates the report and determines the appropriate course of action to rectify the situation.

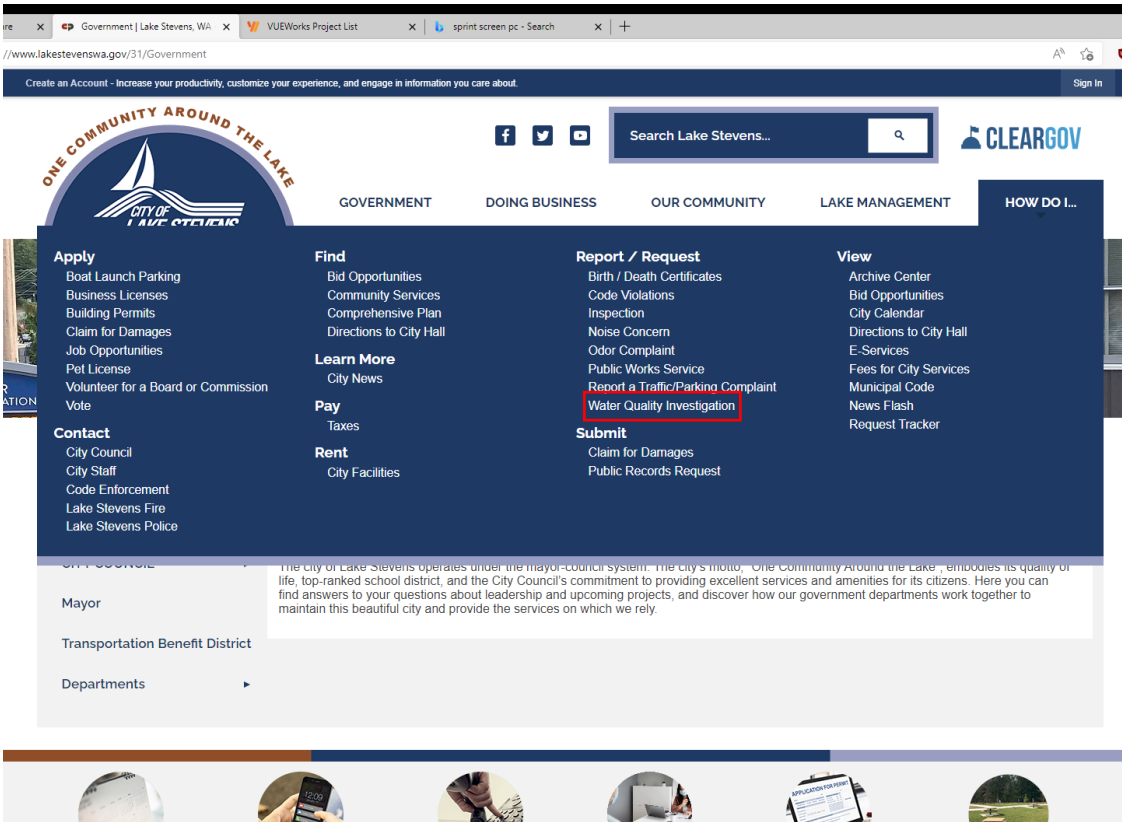


Figure 1 City of Lake Stevens Website

S5.C.5.d.iii In 2021, the surface water program utilized the City's software NeoGov to develop an illicit discharge detection and elimination online training to distribute to all field staff in the City. Field staff are expected to be able to recognize illicit discharges as part of their normal job responsibilities and follow up with the surface water program for further investigation and source detection. IDDE training will be distributed to staff annually and part of the on-boarding process for new hire field staff members. Surface water program staff will inform public employees, businesses, and the public of hazards associated with illicit discharges and improper disposal of waste through staff trainings, the Local Source Control program and other education and outreach materials.

S5.C.5.e Public Works will implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the City's MS4.

S5.C.5.e.i The procedure for characterizing the nature of and potential public or environmental threat posed by an illicit discharge follows the guidance in *Illicit Connection and Illicit Discharge Filed Screening and Source Tracing Guidance Manual* prepared for Washington State Department of Ecology by Herrera Environmental Consultants in May 2013 and the NPDES permit requirements. In 2022, the updated its IDDE policy and standard operating procedures and made reference cards for all field employees to carry on them at all times. All illicit discharges, including spills, which may constitute a threat to human health, welfare, or the environment, are investigated immediately. All other investigations, or referring of investigations, will occur within 7 days of receiving a complaint, report or monitoring information indicating an illicit discharge.

S5.C.5.e.ii Procedures for tracing the source of an illicit discharge follows the guidance in *Illicit Connection and Illicit Discharge Filed Screening and Source Tracing Guidance Manual* prepared for Washington State Department of Ecology by Herrera Environmental Consultants in May 2013. The procedures include visual inspections, opening manholes, using mobile cameras, and collecting and analyzing water samples. All field investigations will occur within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

S5.C.5.e.iii Procedures for eliminating the illicit discharge follows the guidance in *Illicit Connection and Illicit Discharge Filed Screening and Source Tracing Guidance Manual* prepared for Washington State Department of Ecology by Herrera Environmental Consultants in May 2013. Procedures include notifying appropriate authorities and the property owner, providing technical assistance for eliminating the discharge, follow-up inspections, escalating enforcement, and legal actions if the discharge is not eliminated. If an illicit connection is found, the enforcement actions specified in LSMC will be used to eliminate the illicit connection within 6 months.

S5.C.5.e.iv. IDDE records are reviewed annually to ensure all timelines outlined in the Permit have been met.

S5.C.5.f. All staff responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, and illicit connections, have received training based on the *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual*, by Herrera Environmental Consultants, May 2013 for initial training on these activities. IDDE training will continue to be implemented annually. Trainings developed by others will also be attended, as available, including training opportunities sponsored by the Department of Ecology, HAZWOPER refresher classes, ECOSS and the Washington State Stormwater Conference.

S5.C.5.g Stormwater staff track and maintain records of the activities conducted to meet the requirements of this section.

5. Controlling Runoff from New Development, Redevelopment and Construction Sites

Summary Permit Requirements

- Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.
- Implement a program that includes a permitting process with site plan review, inspection, and enforcement capability.
- Implement a program that includes provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities.
- Train staff members that are responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement.

Planned Activities

S5.C.6.a Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects. The City shall adopt and make effective a local program, no later than June 30, 2022, that meets the requirements of S5.C.6.b(i) through (iii), below, and shall apply to all applications submitted:

i. On or after July 1, 2022.
ii. Prior to January 1, 2017, that have not started construction by January 1, 2022.
iii. Prior to July 1, 2022, that have not started construction by July 1, 2027.

S5.C.6.b – e The City adopted the 2019 Stormwater Management Manual for Western Washington (SWMMWW) in June 2022 to control runoff from new development, redevelopment, and construction sites

- On February 28 and March 1, 2023, the City will arrange training for Surface Water, Engineering, and Planning, staff to attend an in-person Certified Erosion and Sediment Control Lead training.

Summary Permit Requirements

- Implement maintenance standards that are as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the *2019 Stormwater Management Manual for Western Washington*
- Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities and taking appropriate maintenance actions in accordance with the adopted maintenance standards.
- Spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities after major storm events.
- Complete inspections of all catch basins and inlets owned or operated by the City at least once by August 1, 2017, and every two years thereafter.
- Implement practices, policies, and procedures to reduce stormwater impacts associated with road maintenance activities and runoff from all lands owned or maintained by the City.
- Train staff members who have construction, operations or maintenance job functions that may impact stormwater quality.
- Update Stormwater Pollution Prevention Plans (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the City.

Planned Activities

S5.C.7.a In 2021, the City updated all inspection forms for stormwater management facilities that outline the maintenance standards that are consistent with the 2019 SWMMWW.

In June, 2022, the City updated its maintenance standards to meet the requirements of this section. Maintenance shall be performed:

- Within 1 year for typical maintenance of facilities, except catch basins.

- Within 6 months for catch basins.
- Within 2 years for maintenance that requires capital construction of less than $25,000.

The City has added a new Operations Manager, Stormwater Supervisor, and Stormwater Lead to the operations and maintenance team. Together, this team is dedicated to improving process, standards, and maintenance goals as they relate to the City's stormwater facilities. In 2023, the City will be implementing an asset management software, VueWorks, to improve the processes of inspections and maintenance of its MS4. On February 28 and March 1, 2023, the City will arrange CESCL certification training for Streets and Stormwater staff.

S5.C.7.b Annual inspection of all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities are completed by the stormwater inspector and work orders are generated when inspections identify maintenance is needed. Inspections are tracked digitally. Work orders are generated on a paper form and once completed are logged digitally. The City is working to improve the efficiency of this process and enhance the tracking of inspections and maintenance for each asset. The City will be implementing, in 2023, VueWorks, an asset management software that will take the place of the current tracking and record keeping process.

S5.C.7.b.i The program shall include provisions to verify adequate long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.7.a. The provisions shall include:

a) Implementation of an ordinance or other enforceable mechanism that:
   - Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.7.a.
   - Requires inspection of facilities in accordance with the requirements in (b), below.
   - Establishes enforcement procedures.

b) Annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the permittee according to S5.C.6.c, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency. Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19, Certification and Signature.

The City completed a comprehensive inspection of all known privately owned and operated residential stormwater facilities within the city by April 2022. Inspections of all privately owned and operated commercial stormwater facilities was completed by the end of 2022. This comprehensive inspection process will help guide the development of a private stormwater facility management program, which will include education and outreach on proper facility maintenance, guide city decision-makers on enforcement mechanisms, identify new management techniques, and explore alternate funding sources to ensure these facilities come into compliance with maintenance standards.

S5.C.7.c Facilities throughout Lake Stevens are "spot-checked" following a heavy rain event. The Permit states that hot spots should be inspected following a 24-hour 10-year recurrence interval or larger storm event. The City does not track storm magnitudes and inspects all hot spots after every storm event. If damage is found at a City stormwater facility, all stormwater facilities that may be affected will be inspected. Repairs will be conducted

based on the results of inspections.

S5.C.7.c For the 2013 to 2018 permit term, all catch basins and inlets owned or operated by the City must be inspected at least once by August 1, 2017, and every two years thereafter. The Permit allows permittees to change the catch basin inspection frequency as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the new proposed inspection frequency.

In 2022, inspections of catch basins were performed at the time of catch basin cleaning. The goal in 2022 was to clean all City owned and maintained catch basins. This goal will be met by the second quarter of 2023. Moving forward, the a "circuit" based inspection may be considered. This type of inspection method is defined by inspection of 25 percent of catch basins and inlets within each circuit are inspected to identify maintenance needs. This is to include an inspection of the catch basin immediately upstream of any system outfall, if applicable. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards. There are 5,285 Catch Basins and/or Inlets that are owned or operated by the City.

S5.C.7.c.iv The inspection and maintenance program is designed to inspect all sites and to achieve, at minimum, a 95 percent inspection rate. A method for recording each maintenance activity described above has been established.

S5.C.7.d The policies and practices to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City were implemented for consistency with the 2019 *SWMMWW*. By December 31, 2022, the City will update its Standard Operating Procedures to reflect the following tasks.

i. Pipe cleaning
ii. Cleaning of culverts that convey stormwater in ditch systems
iii. Ditch maintenance
iv. Street cleaning
v. Road repair and resurfacing, including pavement grinding
vi. Snow and ice control
vii. Utility installation
viii. Pavement striping maintenance
ix. Maintaining roadside areas, including vegetation management
x. Dust control
xi. Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts
xii. Sediment and erosion control
xiii. Landscape maintenance and vegetation disposal
xiv. Trash and pet waste management
xv. Building exterior cleaning and maintenance

These Standard Operating Procedures (SOPs) will implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from lands owned or maintained by the City, and road maintenance activities under the functional control of the City. The City and Public Works Department continue to identify processes of implementing the SWMP and identify and develop process improvements. In 2022, a memorandum was drafted that outlines the City's policies and SOPs that address each of these activities. Creating and updating policies and practices for standard public work is part of the American Public Works Association accreditation process. The City will continue to update and maintain policies and SOPs as needed.

S5.C.7.e The City will implement a training program for its employees whose primary construction, operations or maintenance job functions may impact stormwater quality. These trainings will include a combination of certification training such as Certified Erosion and Sediment Control Lead (CESCL) and trainings as part of the monthly crew meetings addressing such topics as inspections, selection, and installation of erosion control BMPs, spill response, etc. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided to address changes in procedures, techniques, regulatory requirements, or staffing.

S5.C.7.f The City will prepare, review, and revise the stormwater pollution prevention plans (SWPPP) for City owned and operated facilities. Annual inspections of City owned and operated facilities are performed to ensure proper stormwater BMPs are in place and functioning as intended. Any deficiencies in stormwater BMPs identified will be addressed through a work order. In December 2022, the City revised the SWPPPs for City owned and operated facilities to include the following information:

i. A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected must be consistent with the Stormwater Management Manual for Western Washington, or a Phase I program approved by Ecology. The SWPPP must be updated as needed to maintain relevancy with the facility.

ii. At a minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections must be documented in an inspection report or checklist.

iii. An inventory of the on-site materials and equipment, and the activities conducted at the facility may be exposed to precipitation or runoff and could result in stormwater pollution.

iv. A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure.

v. A plan for preventing and responding to spills at the facility that could result in an illicit discharge.

S5.C.7.g The City will maintain records of inspections and maintenance activities conducted as a requirement of the permit.

6. Source Control for Existing Developments

Summary Permit Requirements

The City will implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4.

Planned Activities

S5.C.8.a In 2023, the City implemented a program for inspection of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities. Pollution-generating sources at publicly and privately owned institutional, commercial, and industrial sites to enforce the implementation of required BMPs to control pollution

discharging into the MS4 will be inspected as part of this program. A reduction of polluted runoff from application of pesticides, herbicides, and fertilizers from the sites identified in S5.C.8.b.ii will be emphasized in this program.

S5.C.8.b In2022, the City adopted and made effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources). The requirements of this subsection are met by using the source control BMPs in the 2019 SWMMWW.

Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, shall be required for pollutant-generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.b.iv.

In 2022, the City established an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory includes:

(a) Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8).
(b) Other pollutant-generating sources, based on complaint response, such as: home-based businesses and multi-family sites.

Starting January 1, 2023, the City implemented an inspection program for sites identified pursuant to S5.C.8.b.ii:

(a) All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for the tailoring and distribution of the information during site inspections.

(b) The City shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements.

(c) City shall inspect 100% of sites identified through credible complaints.

A total of 236 businesses have been identified and included in the Source Control Program. A Source Control Implementation plan and SOP was developed for the Program. City staff attended a training on source control inspection procedures in October 2022. The City began this Program in January 2023. In 2023, the City must conduct 47 inspection for compliance with the NPDES permit. Inspections are being tracked internally and will be transferred to VueWorks once implemented.

7. Total Maximum Daily Load (TMDL) Requirements

Summary Permit Requirements

- Inspect commercial animal handling areas and commercial composting facilities to ensure implementation of source control BMPs for bacteria and implement an ongoing inspection

program to re-inspect facilities with bacteria source control problems a minimum of every three years.

- Conduct public education and outreach activities to increase awareness of bacterial pollution problems and promote proper pet waste management behavior.
- Install and maintain animal waste collection and/or education stations at City parks and other City-owned and operated lands reasonably expected to have substantial domestic animal use.
- When conducting IDDE-related field screening under section S5.C.3 of the Permit include screening for bacteria sources.
- Review fecal coliform data collected under the 2013-2018 Permit and identify one high priority area that will be the focus of source identification and elimination efforts in at least one sub-basin. The source identification and elimination program shall be implemented no later than May 1, 2021. The City shall prepare written documentation of this review and the identified high priority area; documentation will be submitted with the Annual Report for 2020.
- Conduct surface water monitoring for characterization and long-term trends evaluation of fecal coliform in accordance with the QAPP approved under the 2013 Permit.

Planned Activities

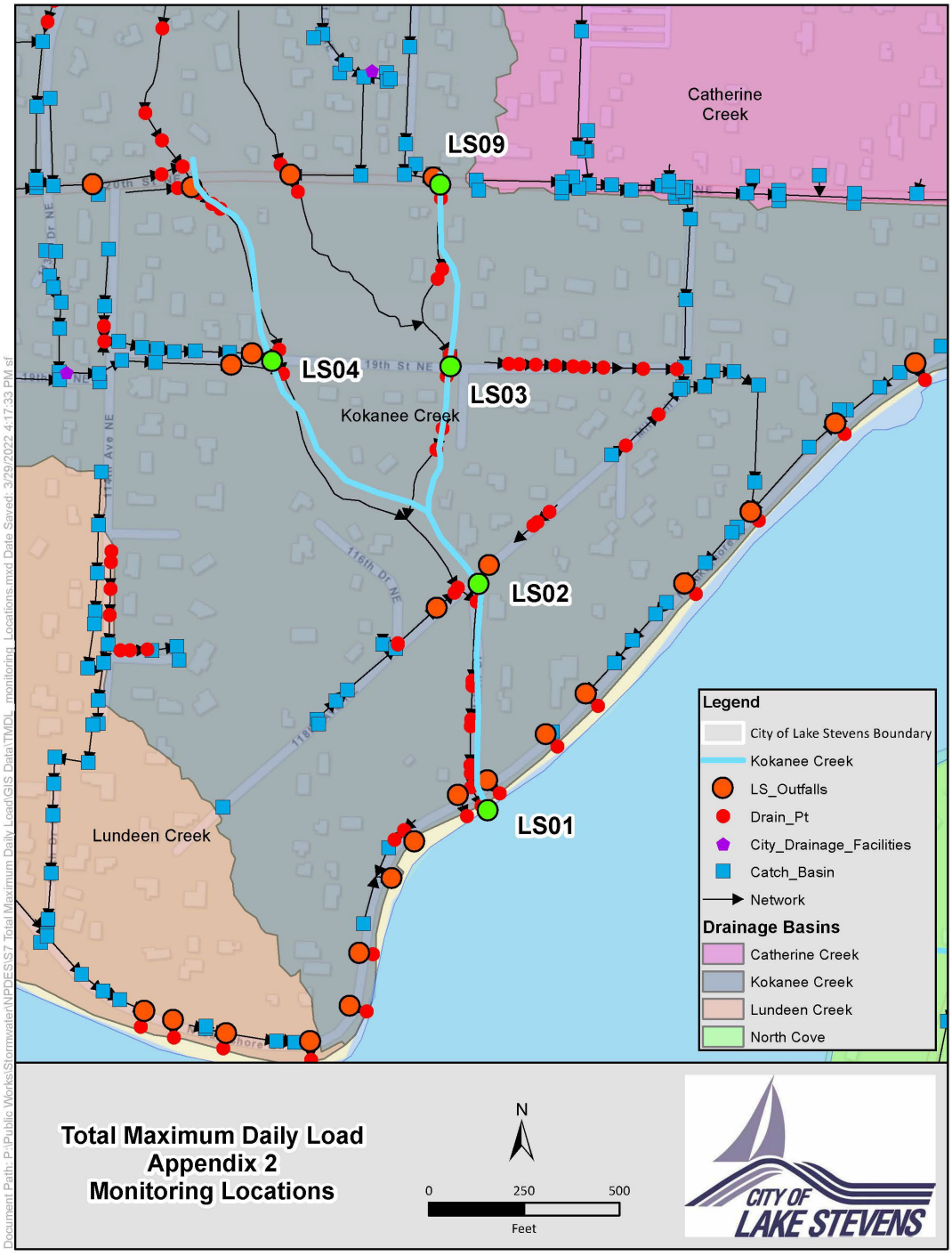
Business Inspections: Inspections of source control BMPs at commercial animal handling areas and composting facilities were conducted in 2022. Future inspections of these facilities will be inspected under the City Source Control Program at the frequency outlined in Appendix 2 of the permit.

Targeted Source Identification & Elimination: One new high-priority area was added to the monitoring program and monthly water quality samples have been collected (Figure 2). The City will review the TMDL requirements in the new permit issued in July 2024.

The City will implement the schedules and activities identified in S5.C.5 of the Western Washington Phase II Permit in response to any illicit discharge found. The annual report's TMDL summary will include qualitative and quantitative information about the source identification and elimination activities, including procedures followed and sampling results, implemented in the selected high priority area(s).

Surface Water Monitoring: The City will conduct surface water monitoring for characterization and long-term trends evaluation of fecal coliform in accordance with the QAPP approved under the 2013 Permit. QAPP documents will be in accordance with *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies,* July 2004, Ecology Publication No. 04-03-030. The City will follow the approved Lake Stevens QAPP unless changes are approved by Ecology.

Figure 2. Total Maximum Daily Load Monitoring Locations on Kokanee Creek



Surface Water Monitoring: Surface water staff will continue monitoring under an approved QAPP and record the data via the Environmental Information Management (EIM) database.

Monitoring and Assessment

S8.A.1. The City has chosen S8.B Status and Trends Monitoring Option #1 in the *Phase II Western Washington Municipal Stormwater Permit,* from August 1, 2013 – July 31, 2019. The payment for this has already been paid as of December 1, 2019, according to Section S8.D.

S8.A.2 The City has chosen Option S8.A.2.a as the means for meeting regional status and trends monitoring.

S8.B.1 The City has chosen Option #1 from S8.C as the means for meeting regional status and trends monitoring.

S8.B.2 The City has chosen Option #1 from S8.C as the means for meeting regional status and trends monitoring.

S8.B.3 The City will supply information as requested for effectiveness and source identification studies that are under contract with the Department of Ecology as active Stormwater Action Monitoring (SAM) projects as requested by the SAM Coordinator.

S8.C. (Not Applicable)

S8.D Payments for the City's regional monitoring and assessment per S8.A. and S8.B will be paid according to this section.