

**CITY OF SAMMAMISH
SAMMAMISH ADDENDUM TO THE
2021 KING COUNTY SURFACE WATER DESIGN MANUAL
Effective Date: 6/29/2022
Version 2 Revised 10/4/2022**

PREFACE – How to Use this Document

General Introduction

The City of Sammamish has adopted the 2021 King County Surface Water Design Manual (2021 KCSWDM) to comply with the Washington State Department of Ecology Phase II Municipal Stormwater permit. This Addendum to the 2021 KCSWDM defines how the requirements of the KCSWDM are to be implemented within the City of Sammamish. The Addendum specifies all changes, additions, and deletions to the 2021 KCSWDM to make it appropriate for use within the City of Sammamish. The 2021 KCSWDM along with this Addendum define the drainage requirements for development and redevelopment projects within the City.

Purpose of and Need for the Addendum

The City has been issued a Phase II Municipal Stormwater Permit (Permit) effective August 1, 2019. The Permit was issued under the National Pollutant Discharge System (NPDES), as administered by the Washington State Department of Ecology (Ecology) within Washington State. The Permit specifies minimum requirements and technical thresholds for stormwater mitigation needed for construction sites, new developments, and redevelopments.

The City of Sammamish has previously relied upon the earlier versions of the KCSWDM to guide stormwater standards within the City. King County recently updated its manual to be consistent with the 2019 Ecology manual. Ecology has deemed the 2021 KCSWDM and associated requirements to be equivalent to the 2019 Ecology Manual. By adopting the 2021 KCSWDM and addressing the associated requirements, the City will be in compliance with the NPDES requirements that rely on the Ecology manual or approved equivalent.

The purpose of this Addendum is to tailor the 2021 KCSWDM to meet the unique conditions within the City, and be consistent with the City's codes, organization, and processes. No substantive changes have been made to the 2021 KCSWDM in order to maintain equivalency in requirements and the level of protection provided by the 2021 KCSWDM.

Projects Permitted Under Earlier Versions of the KCSWDM

Per requirements in Sammamish's Phase II Municipal Stormwater Permit (effective date August 1, 2019), projects permitted under the 2016 SWDM that applied prior to July 1, 2022 and have not started construction by July 1, 2027, and projects permitted under earlier versions of the SWDM that applied prior to January 1, 2017 and have not started construction by January 1, 2022, must be revised to comply with the current stormwater requirements as directed by state regulations. Revisions will need to be approved by the Department of Community Development.

*“Started construction” means, the site work associated with, and directly related to the approved project is at a stage where rough grading is complete or utilities are installed. For rough grading to be considered complete, elevations are within 1 foot of final design elevations.

Relationship of the KCSWDM and the City of Sammamish Development Code to Low Impact Development (LID)

The City of Sammamish encourages using Low Impact Development (LID) principles to reduce impervious surfaces, retain native vegetation, and reduce runoff from developed sites. SDC 21.03.030 Low Impact Development provides preferred approaches and incentives for low impact development through a system of “Technique Points” that can be applied toward increased density, development recognition, increased signage, or attached housing. The 2021 KCSWDM requires on site flow control best management practices (BMPs) to mitigate the impacts of storm and surface water runoff generated by new impervious surfaces, new pervious surfaces, existing impervious surfaces, and replaced impervious surfaces. Flow control BMPs are methods to disperse, infiltrate, or otherwise reduce or prevent development related increases in runoff at or near the sources of those increases. The 2021 KCSWDM provides specific design guidance for implementation of the LID measures encouraged in the City’s development code. As a result, the 2021 KCSWDM and the City of Sammamish development code complement each other.

How to Use this Document

This Addendum shall be used in coordination with the 2021 KCSWDM for the following:

- To translate specific wording or reference from King County to the City.
- To cross-reference City ordinances and City maps in lieu of King County ordinances and maps.
- To provide a linkage or reference to other City requirements such as more restrictive requirements outlined in basin plans and the City’s Critical Areas Ordinances.
- To provide exceptions and additions to the 2021 KCSWDM.

The 2021 KCSWDM shall be used in its entirety except as directed in this Addendum. Exceptions and additions to the 2021 KCSWDM are organized and referenced by chapter and section in the

same manner as the 2021 KCSWDM. Some global changes are provided in this preface, which shall be applied throughout the entire 2021 KCSWDM. The user shall override the maps and references to other documents as indicated within this Addendum.

Addendum Organization

The information presented in this Addendum is organized as follows:

- **Preface – How to use this Document:** This preface provides instructions for using the City of Sammamish’s Addendum to the 2021 KCSWDM. It also defines terms in the 2021 KCSWDM that are used differently for the City of Sammamish; City departments that are equivalent to county departments referred to in the 2021 KCSWDM; and designations from the 2021 KCSWDM that do not apply to proposals in the City of Sammamish.
- **Chapter 1 – Drainage Review and Requirements:** The City of Sammamish has made several changes to Chapter 1 of the 2021 KCSWDM. This Addendum provides replacement and supplemental text for specific sections of Chapter 1. Apart from these changes, the King County version of Chapter 1 applies to proposals in the City of Sammamish.
- **Chapter 2 – Drainage Plan Submittal:** The City of Sammamish has made minor changes to Chapter 2 of the 2021 KCSWDM. Section 2.4.2 has been modified to include an additional requirement for special inspection of installed LID BMPs. The King County version of Chapter 2 applies to proposals in the City of Sammamish, except that the applicant shall refer to the City of Sammamish documents for technical submittal requirements, project plan requirements, and as-built requirements.
- **Chapter 3 – Hydrologic Analysis and Design:** The City of Sammamish provides only supplemental information to Chapter 3 of the 2021 KCSWDM. The King County version of Chapter 3 applies to proposals in the City of Sammamish.
- **Chapter 4 – Conveyance System Analysis and Design:** The City of Sammamish has made minor changes to Chapter 4 of the 2021 KCSWDM. More stringent requirements for allowable pipe materials, deflection, maximum distance between structures, and other requirements are listed in the City of Sammamish Addendum. Apart from these changes, the King County version of Chapter 4 applies to proposals in the City of Sammamish.
- **Chapter 5 – Flow Control Design:** The City of Sammamish has made very minor changes to Chapter 5 of the 2021 KCSWDM. This addendum to Chapter 5 provides replacement text for the sections that are changed. Design criteria for ponds have been added/modified to address pond and vault aesthetics. Apart from these changes, the King County version of Chapter 5 applies to proposals in the City of Sammamish.

The City of Sammamish has adopted a Low Impact Development Ordinance that encourages the use of LID site planning techniques within the City. LID site planning techniques can help to reduce the size of flow control facilities required in the 2021 KCSWDM.

- **Chapter 6 – Water Quality Design:** The City of Sammamish has made minor changes to Chapter 6 of the 2021 KCSWDM. This addendum to Chapter 6 provides replacement text for the sections that are changed. Apart from these changes, the King County version of Chapter 6 applies to proposals in the City of Sammamish.

The City of Sammamish amends Chapter 6 of the 2021 KCSWDM to allow for bioretention to be utilized as a pretreatment facility.

The City of Sammamish requires higher levels of phosphorus removal for areas that drain to Beaver Lake and Pine Lake. The 2021 KCSWDM Addendum identifies the procedures to follow and the areas that are involved in higher levels of phosphorus removals.

- **Definitions:** The City of Sammamish has made changes to the definitions section of the 2021 KCSWDM. This Addendum to the Definitions section provides replacement text for the definitions that are changed. Apart from these changes, the King County version of the Definitions Section applies to proposals in the City of Sammamish.
- **Appendices:** Appendices A, C, and D apply to proposals in the City of Sammamish.
- **References:** King County Reference sections 9, and 10 do not apply to the City of Sammamish. King County Reference sections 1, 2, 3, 4A, 4B, 7B, and 8F through 8Q have been replaced by a City of Sammamish reference. The King County version of Reference section 4C, 4D, 5, 6, 7A, 7C, and 8A through 8E, 11, and 14 apply to proposals in the City of Sammamish.

City Equivalents for County Agencies

Unless the context requires otherwise, any reference to “County”, “King County”, or county department, shall refer to the City of Sammamish and any reference to county staff shall refer to the City Manager or designee, unless specifically referring to the Department of Community Development (DCD).

City Equivalents for County Ordinances

For proposals in the City of Sammamish, all references in the 2021 KCSWDM to the following ordinances or municipal codes shall be replaced by reference as indicated in the following table.

King County Code (KCC)	Description	Sammamish Municipal Code (SMC)	Description
KCC 16.82	Clearing and Grading	SDC 21.03.070	Clearing and Grading
KCC 21A.14	Development Standards Design Requirements	SDC 21.04.030	District Standards – Density and Dimensions
KCC 21A.24	Critical Areas	SDC 21.03.020	Environmentally Critical Areas
KCC 21A.06	Technical Terms and Land Use Definitions	SDC 21.04.040	Technical Terms and Land Use Definitions
KCC 21A.08	Permitted Uses	SDC 21.05	Uses
KCC 21A.12	Development Standards – Density and Dimensions	SDC 21.04.030	District Standards—Density and Dimensions
KCC 20.14	Basin Plans	SMC 24.20	Interim Comprehensive Plan – Basin Plans
KCC 20.20	Procedures for Land Use Permit Applications, Public Notice, Hearings and Appeals	SDC 21.09.010	Procedures for Land Use Permit Applications, Public Notice, Hearings and Appeals
KCC 21A.25 (formerly Title 25)	Shoreline Management	SMC 25	Shoreline Management
KCC 9	Surface Water Management	SDC 21.03.050 SMC 15.10	Surface Water Management Flood Damage Prevention

In general, references to the King County Critical Areas Ordinance (KCC 21A) are to be replaced by reference to the Sammamish Development Code (SDC Title 21), particularly, SDC 21.03.020, Environmentally Critical Areas. Definitions for critical areas terminology may be found in SDC 21.04.040. The following table provides additional detail on critical areas.

King County Code (KCC)	Description	Sammamish Municipal Code (SMC)	Description
Title 2	Administration	SMC Chapter 21.09	Administration
21A.24.230	Flood hazard area	SDC 21.03.020(W)(3) SMC 15.10	Frequently flooded areas Flood Damage prevention

King County Code (KCC)	Description	Sammamish Municipal Code (SMC)	Description
21A.24.311 – 21A.24.314	Critical Aquifer recharge area	SDC 21.03.020(X) SDC 21.04.040	Critical aquifer recharge areas – Development standards Definition
21A.24.220	Erosion hazard area	SDC 21.03.020(W)(1) SDC 21.03.020(W)(2) SDC 21.04.040 SDC 21.04.040	Erosion hazard areas – Development standards and permitted alterations Erosion hazards near sensitive water bodies overlay Definition Erosion hazard areas Definition Erosion hazards near sensitive water body overlay
21A.24.280	Landslide hazard area / Landslide hazard drainage area	SDC 21.03.020(W)(6) SDC 21.04.040	Landslide hazard area – Development standards and permitted alterations Definition
21A.24.290	Seismic hazard areas	SDC 21.03.020(W)(7) SDC 21.04.040	Seismic hazard area – Development standards and permitted alterations Definition
21A.24.310	Steep slope hazard areas	SDC 21.04.040 SDC 21.04.040	Definition. Steep slope hazard areas now included as part of landslide hazard areas. Definition
21A.24.318 – 21A.24.345	Wetlands areas	SDC 21.03.020(Y)(1) SDC 21.04.040	Wetlands - Development standards Definition
21A.24.355 – 21A.24.381	Aquatic Areas	SDC 21.03.020(AA)(1) – SDC (21.03.020(AA)(3))	Streams

King County Code (KCC)	Description	Sammamish Municipal Code (SMC)	Description
21A.24.382 - 21A.24.388	Wildlife habitat conservation areas	SDC 21.03.020(Z) SDC 21.04.040	Wildlife habitat conservation areas Definition

City Equivalents for County Maps

For proposals in the City of Sammamish, all references in the 2021 KCSWDM to the following maps shall be replaced by reference as indicated in the following table.

King County Map or Designation	City of Sammamish Map*
Flow Control Applications Map	Flow Control Applications Map. Map included in Sammamish Addendum
Landslide Hazard Drainage Areas Map	Landslide Hazard Drainage Area Map. Map included in Sammamish Addendum
Water Quality Applications Map	Water Quality Applications Map. Map included in Sammamish Addendum
Erosion Hazard Near Sensitive Water Bodies Map	Erosion Hazard Near Sensitive Water Bodies Map Map included in Sammamish Addendum
Flood Hazard Area as defined in KCC 21A.06	Environmentally Sensitive Areas Map Frequently flooded areas include all areas of special flood hazards within the jurisdiction of the City of Sammamish as defined in SDC 21.04.040 and as shown on the Environmentally Sensitive Areas Map.
Erosion Hazard Area	Definition provided in SDC 21.04.040
Landslide Hazard Area	Definition provided in SDC 21.04.040
Critical Aquifer Recharge Area	Definition provided in SDC 21.04.040

City Equivalents for County Plans or Studies

In general, references to county-approved plans or studies in the 2021 KCSWDM are to be replaced by reference to appropriate City-approved plans or studies. If comparable City-approved plans or studies do not exist, then references to County-approved plans or studies shall be retained for proposals in the City of Sammamish.

County Designations that do not Apply in the City

The following designations are used in the 2021 KCSWDM but are not currently used in the City of Sammamish; any reference in the 2021 KCSWDM to the existence of areas with these designation or thresholds or requirements for such areas is to be disregarded for proposals in the City of Sammamish:

- **Agricultural Project**
- **Coal Mine Hazard Area**
- **Forest Production Zone Area**
- **Master Drainage Plans (MDPs)**
- **Rural Residential Development**
- **Sensitive Area Folio** - refer to City of Sammamish Critical Areas Maps at <https://www.sammamish.us/government/departments/public-works/maps-and-gis-data/>
- **Stormwater Compliance Plans (SWCPs)**
- **Urban Planned Development**
- **Zoning Classifications:** The 2021 KCSWDM references to Agricultural (A) Zoning, Forest (F) Zoning, or Rural (R) Zoning are intended for areas outside of the Urban Growth Boundary; therefore, the City of Sammamish contains no equivalent zoning. Project proponents should refer to City zoning maps to determine which zoning classifications apply to their projects.

CHAPTER 1 – Drainage Review and Requirements

The City of Sammamish has made several minor changes to Chapter 1 of the 2021 KCSWDM. This chapter provides replacement and supplemental text for specific sections of Chapter 1. Apart from these changes, the King County version of Chapter 1 applies for proposals in the City of Sammamish. The City’s changes to the County document are as follows:

- **Key Terms and Definitions (page 1-1 of the 2021 KCSWDM)** — Replace all references to KCC 21A with SMC Title 21. Additional definitions are included in SDC 21.03.050.B. In addition, the following changes to specific terms apply:

Term (page)	Action
<p>Critical aquifer recharge area (p 1-2)</p>	<p><i>Replace as follows per SDC 21.04.040:</i></p> <p>“Critical aquifer recharge areas” means those areas in the City of Sammamish with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2). CARAs have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of groundwater resources or contribute significantly to the replenishment of groundwater. CARAs shall be classified based on the following criteria:</p> <p>(1) Class 1 CARAs include those areas located within the mapped one- or five-year capture zone of a wellhead protection area.</p> <p>(2) Class 2 CARAs include those areas located within the mapped 10-year capture zone of a wellhead protection area.</p> <p>(3) Class 3 CARAs include those areas outside wellhead protection areas that are identified as high aquifer recharge potential areas based on characteristics of surficial geology and soil types. (Ord. O2013-350 § 1 (Att. A); Ord. O2005-193 § 2)</p> <p>Critical aquifer recharge areas are regulated in SDC 21A.50.280 Critical aquifer recharge areas – Development standards.</p> <p>Also mapped. See City’s website</p>

Term (page)	Action
<p>Critical Drainage Area (p 1-2)</p>	<p>Replace as follows per SDC 21.03.050(B):</p> <p>“Critical drainage area” is an area that drains to Pine Lake or Beaver Lake, and all landslide hazard drainage areas as mapped or as determined by the City. Site specific evaluation shall be made to assess all areas. Critical drainage areas require more restrictive regulation than citywide standards afford in order to mitigate water quality, flooding, severe erosion, or landslide problems that result from the cumulative impacts of development and urbanization.</p> <p>Critical drainage areas are defined in SDC 21.03.050(B) and are regulated in SDC 21.03.050(D) and SDC 21.03.020(AA)(6) Lake management areas – Special District overlay.</p>
<p>Erosion hazard area (p 1-3)</p>	<p><i>Replace as follows per SDC 21.04.040:</i></p> <p>“Erosion hazard area” is the critical area designation that is applied to areas underlain by soils that are subject to severe erosion when disturbed. See the “Definitions” section for more details.</p> <p>Erosion hazard areas are regulated in SDC 21.03.020(W)(1) Erosion hazard areas – Development standards and permitted alterations.</p>
<p>Flood Hazard Area (p 1-3)</p>	<p><i>Replace as follows per SMC 15 Flood Damage Prevention:</i></p> <p>SMC 15 shall be the basis for establishing the areas of special flood hazard.</p>
<p>Landslide Hazard Area (p 1-5)</p>	<p><i>Replace as follows per SDC 21.04.040:</i></p> <p>“Landslide hazard area” is the critical designation that is applied to areas potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors. See the “Definitions” section for more details.</p> <p>Landslide hazard areas are regulated in SDC 21.03.020(W)(6) Landslide hazard areas – Development standards and permitted alterations.</p>
<p>Landslide Hazard Drainage Area (p 1-5)</p>	<p><i>Replace as follows:</i></p> <p>“Landslide hazard drainage area” is a critical drainage area and are areas where overland flows pose a significant threat to health and safety because of their close proximity to a landslide hazard area as defined by SDC 21.04.040. Landslide hazard areas are also considered landslide hazard drainage areas. Mapped landslide hazard drainage areas are approximate. Public Works may determine that areas not mapped as landslide hazard drainage areas may meet this definition.</p> <p>Landslide Hazard Drainage Areas are defined in SDC 21.03.050(B) and are regulated as Critical Drainage Areas.</p>

- **Section 1.1.1 PROJECTS REQUIRING DRAINAGE REVIEW (page 1-12 of the 2021 KCSWDM)** — Delete numbers 1 through 6 and replace with the following:

Projects as listed in SDC 21.03.050(D)(2). Also see Attachment C of the Sammamish Addendum.

City of Sammamish Permits and Approvals
Building/Construction Permits
Right of Way Permit
Site Development Permits
Conditional Use Permits
Clearing and Grading Permit
Shoreline Management Substantial Development Permits
Short Subdivision Developments (Short Plat)
Subdivision Developments (Plats)
Commercial Site Development Permit (CSDP)
Unified Zone Development Permit (UZDP)
Plat Alterations
Zone Variance Approval
Drainage Adjustment Approval
Deviation from the Public Works Standards
Reasonable Use Exception
See sammamish.us/permits-regulations/permit-center/applications-forms-building-and-land-use/ for additional permits and approvals.
Notes: See SDC 21.09.010 – PROCEDURES FOR LAND USE PERMIT APPLICATIONS, PUBLIC NOTICE, HEARINGS, AND APPEALS for additional information.

- **Figure 1.1.2.A FLOW CHART FOR DETERMINING TYPE OF DRAINAGE REVIEW REQUIRED (page 1-14 of the 2021 KCSWDM)** — Amending Figure 1.1.2.A such that the first box reads:

Is the project a **single family residential project** that meets any one of the criteria for drainage review as listed in SDC 21.03.050(D)(2) AND meets one of the following criteria:

- **Table 1.1.2.A REQUIREMENTS APPLIED UNDER EACH DRAINAGE REVIEW TYPE (page 1-15 of the 2021 KCSWDM)** — Amending Table 1.1.2.A such that the first box reads:

Single family residential projects and **agricultural projects** that results in $\geq 2,000$ sf of **new plus replaced impervious surface** or $\geq 7,000$ sf of **land disturbing activity** but do not exceed the new plus replaced PGIS, new PGPS, and **new pervious surface** thresholds specified in Sec. 1.1.2.1; OR is an agricultural project that qualifies for the “Impervious Surface Percentage Exemption For Agricultural Projects”; OR is a project located in a critical drainage

area draining to a landslide hazard area and would result in a new single-family dwelling unit, accessory dwelling unit, multifamily, or commercial facility; OR is a project located in a critical drainage area draining to a landslide hazard area that would result in a net increase in impervious surface of 200 square feet or more or 2,000 square feet or more of land disturbing activity; OR is a project located within a critical drainage area draining to Pine or Beaver Lake and would result in a new single-family dwelling unit, accessory dwelling unit, multifamily, or commercial facility, or would result in a net increase in impervious surface of 500 square feet or more, or would involve 2,000 square feet or more of land disturbing activity; OR is a project located within a critical drainage area in the Tamarack or Inglewood Historic Plats and would result in any net increase in impervious surface; OR is a project located within Tamarack and would result in any land disturbing activity greater than 2,000 square feet or greater than 20 percent of the lot or tract area (whichever is less); OR is a project located within the Inglewood Historic Plat, east of East Lake Sammamish Parkway NE, and would result in any land disturbing activity greater than 2,000 square feet, or greater than 20 percent of the lot or parcel area. ; See the flow chart in Attachment C.

- **Section 1.1.2.1 SIMPLIFIED DRAINAGE REVIEW (page 1-16 of the 2021 KCSWDM)** — Amending paragraph four (under the title “Threshold”) such that it reads as the following:

Simplified Drainage Review is required for any *single family residential project* or *agricultural project* that will result in 2,000 square feet or more of *new impervious surface*, *replaced impervious surface*, or *new plus replaced impervious surface*, or 7,000 square feet or more of *land disturbing activity*, OR is a project located in a critical drainage area draining to a landslide hazard area and would result in a new single-family dwelling unit, accessory dwelling unit, multifamily, or commercial facility; OR is a project located in a critical drainage area draining to a landslide hazard area that would result in a net increase in impervious surface of 200 square feet or more or 2,000 square feet or more of land disturbing activity; OR is a project located within a critical drainage area draining to Pine or Beaver Lake and would result in a new single-family dwelling unit, accessory dwelling unit, multifamily, or commercial facility, or would result in a net increase in impervious surface of 500 square feet or more, or would involve 2,000 square feet or more of land disturbing activity; OR is a project located within a critical drainage area in the Tamarack or Inglewood Historic Plats and would result in any net increase in impervious surface; OR is a project located within Tamarack and would result in any land disturbing activity greater than 2,000 square feet or greater than 20 percent of the lot or tract area (whichever is less); OR is a project located within the Inglewood Historic Plat, east of East Lake Sammamish Parkway NE, and would result in any land disturbing activity greater than 2,000 square feet, or greater than 20 percent of the lot or parcel area, AND meets one of the following criteria:

- **Section 1.2 CORE REQUIREMENTS, Downstream Water Quality Problems Requiring Special Attention (page 1-30 of the 2021 KCSWDM)** — The following supplemental information is added to this section:

Studies and lake management plans have determined that Beaver and Pine Lakes within the City of Sammamish require a higher level of total phosphorus reduction than that currently

required by the 2021 KCSWDM. For projects that drain to Beaver Lake or Pine Lake, Sensitive Lake Water Quality Treatment and 80% total phosphorus removal using All Known Available and Reasonable Technology (AKART) shall be provided.

The federal Clean Water Act requires that a Total Maximum Daily Load (TMDL) cleanup plan be developed for each of the waterbodies on the state’s list of impaired waterbodies, known as the “303(d) list.” The TMDL study identifies pollution problems in the watershed and specifies how much pollution needs to be reduced or eliminated to achieve clean water. Ecology has prepared TMDLs for fecal coliform bacteria, temperature, and dissolved oxygen for the Bear-Evans watershed. Strategies identified in the TMDLs to address the water quality impairment in the Bear-Evans watershed are listed below. Development or redevelopment projects within the City of Sammamish that ultimately drain to Evans Creek shall incorporate these actions.

TMDL – Implementation Strategy for Fecal Coliform Bacteria in the Evans Creek Watershed

- Implement structural (as appropriate) and non-structural stormwater source control best management practices (BMPs).
- Restore riparian vegetation to help filter out stormwater pollutants.
- Properly manage domestic animal and livestock wastes.

TMDL – Implementation Strategy for Temperature and Dissolved Oxygen in the Evans Creek watershed

- Plant new and preserve existing trees in the riparian zone along lengths of the creeks.
- Investigate opportunities to enhance groundwater recharge.
- Restore and protect wetlands in areas that will benefit the stream and enhance habitat.
- Consider a water management strategy that recognizes the benefits of maintaining summer baseflows.
- Minimize human-caused sources of nutrients in the watershed.

• 1.2.1 CORE REQUIREMENT #1: DISCHARGE AT THE NATURAL LOCATION

- Revise Section 1.2.1.2 Discharge Requirements (page 1-26 of the 2021 KCSWDM) as follows:

2. If a proposed project, or any *natural discharge area* within a project, is located within a *Landslide Hazard Drainage Area* and drains over the erodible soils of a *landslide hazard area* with slopes steeper than 15%, THEN a **tightline system must be provided** through the

landslide hazard area to an acceptable discharge point. The tightline system must comply with the design requirements in Core Requirement #4 and in Section 4.2.2 unless otherwise approved by the Director of Public Works (“Public Works”). Drainage easements for this system must be secured from downstream property owners, and/or for any offsite system elements, and recorded prior to engineering plan approval.

- **1.2.3 CORE REQUIREMENT #3: FLOW CONTROL FACILITIES**

- **1.2.3.1 AREA-SPECIFIC FLOW CONTROL FACILITY REQUIREMENT**

- Add new sections following IMPERVIOUS SURFACE PERCENTAGE EXEMPTION FOR AGRICULTURAL PROJECTS (page 1-42 of the 2021 KCSWDM)
 - MAINTENANCE EXEMPTIONS

The following pavement maintenance practices are exempt:

- a) Pothole and square cut patching
- b) Overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage (overlaying permeable or pervious pavements with traditional (non-permeable) asphalt or pavement is not considered pavement maintenance)
- c) Shoulder grading
- d) Reshaping/regrading drainage systems
- e) Crack Sealing
- f) Resurfacing with in-kind material without expanding the road prism
- g) Pavement preservation activities that do not expand the road prism
- h) Vegetation maintenance
- i) Catch basin and pipe maintenance
- j) Regrading/reshaping/resurfacing of existing ramps or sidewalks to meet ADA requirements
- k) Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

- l) Projects that do not impact the base course are exempt and are not considered “replaced impervious”.

- **MAINTENANCE NON-EXEMPTIONS**

The following pavement maintenance practices are not exempt.

- a) The practices subject to the Core Requirements that are triggered when the thresholds are met or exceeded. The extent to which the manual applies is explained for each circumstance.
- b) Removing and replacing a paved surface and impacting the base course. If impervious surfaces are not expanded, Core Requirements #1, 5, 6, and 9 apply.

- Per SDC 21.03.050.4.e.ii., maintenance exemptions do not apply in critical drainage areas.

- **Section 1.2.6 CORE REQUIREMENT #6: MAINTENANCE AND OPERATIONS**

- Add the following sentence to the end of the first paragraph under heading “Drainage Facilities Operated by King County”:

Samamish assumes maintenance and operation of drainage facilities in tracts owned by an HOA under specific situations, in which case the City may allow an easement instead of dedication. Maintenance of fountain features incorporated within drainage facilities shall be the obligation of the HOA.

- **Section 1.2.8 CORE REQUIREMENT #8: WATER QUALITY**

- Add the following new maintenance exemptions and non-exemptions under the section EXEMPTIONS FROM CORE REQUIREMENT #8 (page 1-69 of the 2021 KCSWDM)

4. **MAINTENANCE EXEMPTIONS**

The following pavement maintenance practices are exempt:

- a) Pothole and square cut patching
- b) Overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage (overlaying permeable or pervious pavements with traditional (non-permeable) asphalt or pavement is not considered pavement maintenance)

- c) Shoulder grading
- d) Reshaping/regrading drainage systems
- e) Crack Sealing
- f) Resurfacing with in-kind material without expanding the road prism
- g) Pavement preservation activities that do not expand the road prism
- h) Vegetation maintenance
- i) Catch basin and pipe maintenance
- j) Regrading/reshaping/resurfacing of existing ramps or sidewalks to meet ADA requirements
- k) Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.
- l) Projects that do not impact the base course are exempt and are not considered “replaced impervious”.

5. MAINTENANCE NON-EXEMPTIONS

The following pavement maintenance practices are not exempt.

- a) The practices subject to the Core Requirements that are triggered when the thresholds are met or exceeded. The extent to which the manual applies is explained for each circumstance.
- b) Removing and replacing a paved surface and impacting the base course. If impervious surfaces are not expanded, Core Requirements #1, 5, 6, and 9 apply.

- **C. Subdivision Implementation of BMPs on Individual Lots**

These are flow control BMPs installed on a subdivision's proposed lots as part of the subdivision project. For example, the subdivision developer may elect to pre-install some or all of the flow control BMPs required by the individual lot BMP requirements in Section 1.2.9.2. To receive credits for these BMPs, the subdivision project must meet all of the following requirements:

- (1) The flow control BMPs must be installed and implemented in accordance with the individual lot BMP requirements in Section 1.2.9.2. This includes recording a **declaration**

of covenant and grant of easement for each lot with BMPs as specified in Implementation Requirement 3 of Section 1.2.9.2.4.

(2) BMPs to be installed on individual lots as part of the subdivision project must be shown on the **site improvement plans** submitted with the engineering plans for the proposed project as specified in Section 2.3.1.2.

(3) Flow control BMPs shall be constructed and completely operational prior to recording of final plat or binding site plan.

- **Section 1.3.1 SPECIAL REQUIREMENT #1: OTHER ADOPTED AREA- SPECIFIC REQUIREMENTS (page 1-99 of the 2021 KCSWDM)** — Replace the table in Section 1.3.1 on page 1-100 with the following:

Threshold	Requirement
If a proposed project is in a basin plan or lake management plan...	THEN the proposed project shall comply as codified by the City of Sammamish Municipal Code Section 21.03.020(AA)(6).

- **Section 1.4.2 CRITERIA FOR GRANTING ADJUSTMENTS (page 1-110 of the 2021 KCSWDM)**

The City modifies some of these criteria as stated below:

Section 6.7.2.2 of the KCSWDM limits the number of installations to two using an experimental design adjustment. The number of allowed installations in Sammamish will normally be limited to five, until the City has obtained enough evidence indicating that the performance meets the desired criteria. Failure to meet performance criteria at any one site may result in denial of any further installations.

Section 6.7.2.2 of the KCSWDM requires a proposed flow control or water quality facility under the experimental design adjustment to require regular maintenance no more than once per year. The City will consider technologies that require up to two regular maintenance visits per year, provided the cumulative maintenance is similar in cost and time to approved technologies that require one visit per year.

Section 6.7.2.3 of the KCSWDM allows a privately maintained facility to have an inspection/maintenance cycle as short as quarterly. The City will only allow up to two maintenance or inspection visits per year, as four is too frequent.

Reference 8-F of the KCSWDM requires monitoring. The City interprets this monitoring to be required for understanding the technologies’ performance, constructability and durability, and the costs associated with maintaining or replacing the facility. The City is concerned with the continued performance of these technologies and the potential for increased

maintenance, both in frequency and in cost. Therefore, the maintenance and monitoring plan submitted with any experimental design adjustment shall provide the following information:

1. Identify the contractor performing the installation.
2. A detailed construction cost estimate, including the cost of the technology itself and the cost to install it.
3. The entity responsible for future maintenance and the individual responsible (if different) for coordinating or completing the maintenance activity.
4. A table listing regular maintenance tasks for the life of the facility, including the following information:
 - (a) A description of each task;
 - (b) How to perform the task; and
 - (c) The frequency required.
5. A one-page facility summary to be provided to the facility owner, including:
 - (a) Contact information for the facility manufacturer;
 - (b) List of certified maintenance providers and contact information;
 - (c) Basic description of the facility components and configuration; and
 - (d) A table of required maintenance, as described in 3.4.4.4.
6. A maintenance log:
 - (a) Shall be kept on site and updated by the owner;
 - (b) Shall be submitted to the City upon request;
 - (c) Shall list any defects found in the facility, or issues with performance; and
 - (d) For Conditional Use Level Designation (CULD) technology, shall note any approval or disapproval for General Use Level Designation (GULD) after installation.

Maintenance shall be conducted by a certified maintenance provider if identified by the manufacturer. In the event certified providers are not listed by the manufacturer, a licensed contractor with experience maintaining that type of facility shall be used. The maintenance shall be documented on the maintenance log, and the report shall be submitted to the City within 30 days of the maintenance activity.

- **Section 1.4.4 ADJUSTMENT REVIEW PROCESS (page 1-113 of the 2021 KCSWDM)**

— Replace first paragraph as follows:

Proposed projects subject to Full or Large Project Drainage Review or any project subject to drainage review located within a critical drainage area that request a Standard or Experimental Design Adjustment from any Core or Special Requirement, shall declare their intent for an Adjustment with a land use application. Adjustments shall be processed as a Type 2 decision in accordance with SMC Chapter 21.09. Criteria for granting an adjustment are in the City’s adopted Surface Water Design Manual and City Addendum, Section 1.4.2. Drainage Adjustments not disclosed as part of the land use application shall be processed as a stand-alone Type 2 decision. All other adjustments will be Type 1 decisions under the purview of the Public Works Director.

The installation of proprietary or emerging technologies is not allowed, unless it has been adopted by the KCSWDM, or approved through an Experimental Design Adjustment, or approved through a Blanket Adjustment which must be initiated by the City or King County.

The Department of Ecology has established use level designations for proprietary technology that are tested using the TAPE protocol. The City recognizes that these emerging technologies are typically proposed by applicants for use in the City, in lieu of approved treatment methods specified in the KCSWDM, due to site constraints such as limited area or soils not conducive to infiltration. Any technology proposed for use under an Experimental Design Adjustment must be classified as GULD or CULD by Ecology. Pilot Use Level Designation (PULD) technologies will not be approved.

CHAPTER 2 – Drainage Plan Submittal

The City of Sammamish has added supplemental information and made minor changes to Chapter 2 of the 2021 KCSWDM, as described below. Apart from this information, project proponents should refer to the county document for guidance on drainage plan submittal. All drainage reviews shall be conducted by the Department of Public Works.

Supplemental Information

As part of our Surface Water Design Manual the applicant shall refer to the following documents for Project Plans and As-Builts.

1. Site Development Permit Application. This document is provided on the city website.
2. The applicant shall use the *City of Sammamish 2-Year Maintenance and Defect Request for Acceptance* form (available from the City of Sammamish Permit Center)

The most updated Sammamish Public Works Standards. This document is provided on the city website.

Section 2.4.2 FINAL CORRECTED PLAN SUBMITTAL (page 2-41 of the 2021 KCSWDM)
— Replace Section 2.4.2 in entirety as follows:

The applicant shall use the *2-Year Maintenance and Defect Request for Acceptance* form (available from DCD) as a guide to assembling a *Second Submittal Intake* package for project closeout.

During the course of construction, special inspections are required for LID and Flow Control BMPs. Once construction is completed, a qualified professional shall provide a signed letter verifying that the BMPs have been inspected, installed correctly, and are functioning as designed. Any as-built deviations from the design shall be explained clearly in the letter.

Section 2.4.3 FINAL PLAT, SHORT PLAT, AND BINDING SITE PLAN SUBMITTALS (page 2-42 of the 2021 KCSWDM) —

Section shall be replaced with City processes as defined in SDC 21.02.060 Land Division. The relevant forms are available at the Department of Community Development website:
<https://www.sammamish.us/permits-regulations/permit-center/applications-forms-building-and-land-use/>

CHAPTER 3 – Hydrologic Analysis and Design

Supplemental information for Chapter 3 of the 2021 KCSWDM is provided below. With the exception of this supplemental information, project proponents should refer to the county document for guidance on hydrologic analysis and design.

Supplemental Information

The following is additional detail is provided on the analysis of artificial turf and sports fields:

Artificial Turf as Impervious vs Pervious Surface

Impervious: If installed with underdrains, artificial turf is considered an impervious surface for the purposes of threshold determinations and runoff volume modeling for detention and treatment. When sizing flow control facilities for areas served by artificial turf without underdrains, a modeling credit can be taken that allows the area to be modeled as 50% grass / 50% impervious where either there is no added liner, the added liner is a treatment liner, or where the added liner is one that does not restrict infiltration rates below the in situ soil infiltration rate (Tables 1.2.9.A and 3.2.2.B of the 2021 KCSWDM).

Pervious: Artificial turf is considered a pervious surface when it is installed without an underdrain system.

Artificial Turf as a Pollution-Generating Surface

Artificial turf installed will be considered a pollution-generating surface.

Artificial Turf's use Near Dispersion Devices

Per the 2021 KCSWDM definition, vegetated flowpath segments must be over well-established groundcover, or native vegetation with groundcover. Artificial turf does not meet the criteria of a vegetated flowpath segment, which is required for any flow control BMP dispersion device. Thus, artificial turf is not permitted within a dispersion flowpath.

Sports Fields as Pollution-Generating Surfaces

All sports fields, whether natural or artificial turf, are pollution generating surfaces due to herbicides/paints and soil runoff, and thus require water quality treatment. Natural turf fields require Basic Water Quality treatment. Crumb rubber infill requires enhanced basic water quality treatment. Treatment required for other types of artificial infill should be

assessed individually by the City for their pollutant loading potential and may only require basic water quality treatment.

CHAPTER 4 – Conveyance System Analysis and Design

The City of Sammamish has made minor changes to Chapter 4 of the 2021 KCSWDM. The following stricter requirements apply as applicable in this chapter:

1. Allowable Pipe Materials:

Corrugated polyethylene (CPE) pipe and ~~Polyvinyl chloride (PVC) pipe~~ are is deleted.

Polyvinyl chloride (PVC) pipe is conditionally allowed where an alternative material is either a) not readily available, or (b) inferior to PVC. Instances where such allowances would be made include the internal components of pre-manufactured stormwater treatment systems, systems approved through experimental design adjustments, privately maintained systems comprised of pipes less than 12 inches in diameter, and roofing and footing drains.

Polypropylene (PP) pipe is modified with the following criteria:

In accordance with: WSDOT Section 9-05.24 Polypropylene Culvert Pipe, Polypropylene Storm Sewer Pipe, and Polypropylene Sanitary Sewer Pipe

All joints for polypropylene pipe shall be made with a bell/bell or bell and spigot coupling and shall conform to ASTM D 3212 using elastomeric gaskets conforming to ASTM F 477. All gaskets shall be factory installed on the pipe in accordance with the manufacturer's recommendations.

Qualification for each manufacturer of polypropylene storm sewer pipe requires joint system conformance to ASTM D 3212 using elastomeric gaskets conforming to ASTM F 477 and a formal quality control plan for each plant proposed for consideration.

A Manufacturer's Certificate of Compliance shall be required and shall accompany the materials delivered to the project. The certificate shall clearly identify production lots for all materials represented. The Contracting Agency may conduct verification tests of pipe stiffness or other properties it deems appropriate.

WSDOT Section 9-05.24(1) Polypropylene Culvert Pipe and Storm Sewer Pipe.
Polypropylene culvert and storm sewer pipe shall conform to the following requirements:

- For dual wall pipe sizes up to 30 inches: ASTM F2736.
- For triple wall pipe sizes from 30 to 60 inches: ASTM F2764.
- For dual wall profile pipe sizes 36 to 60 inches: AASHTO MP 21, Type S or Type D.

- Fittings shall be factory welded, injection molded or PVC.

2. Acceptable Pipe Sizes:

12-inch is the minimum diameter pipe to be maintained by the City. 8-inch pipe will not be accepted for pipe systems maintained by the City of Sammamish, with the exception of special cases within the road right-of-way.

3. Storm Drain Markers:

Storm drain markers are required at every catch basin. Markers are to be placed in locations approved by Public Works.

4. Storm Testing:

All storm system shall be jetted, cleaned, and televised prior to final acceptance into City maintenance.

5. Structure Locations and Appurtenances:

Maximum pipe run between structures shall be 300-ft. For maintenance of structures, a truck turnaround shall be provided. Maximum distance between maintenance vehicle access and drainage structure shall be 150-ft. Structures located in non-pavement areas shall include 2-ft wide asphalt ring around structure lid.

6. Pipe Deflections:

Once backfill is complete, the line and grade at pipe flow line leaving standing water greater than ½-inch in depth shall not be accepted and must be repaired prior to acceptance by the City.

7. Pipe Anchors:

Pipe anchor shall include 1" PVC pipe to be installed through the concrete anchor below the pipe to allow passing of ground water.

8. Drainage Structures:

The most updated Sammamish Public Works Standards and WSDOT Standard Plans Section

B shall be used to determine acceptable design standards.

9. Drainage Structures Ladders:

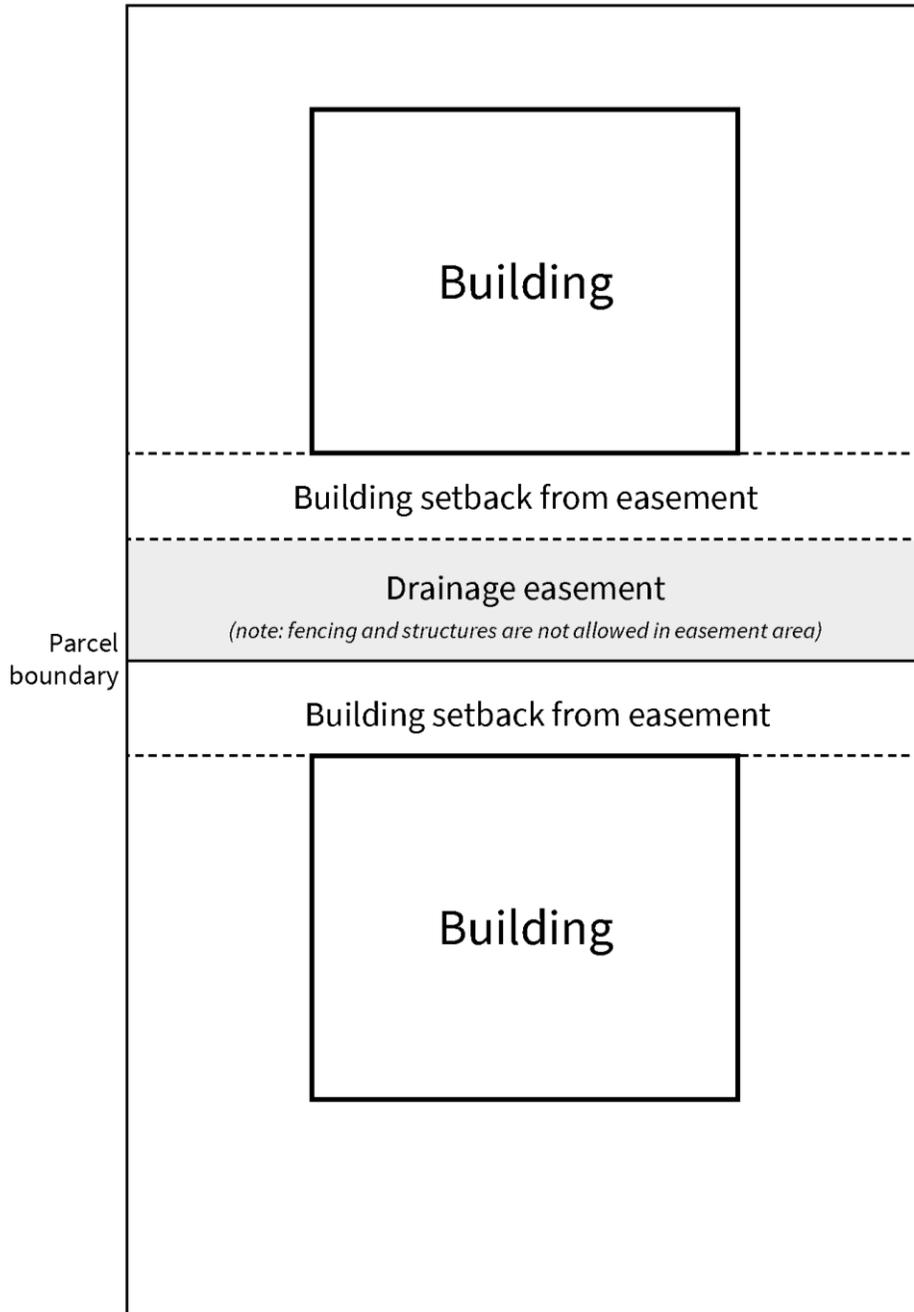
Ladders required within drainage structures shall not block inlet or outlet pipes and must be accessible from structure opening. Refer to Sammamish Public Works Standards and WSDOT Standard Plans for details and specifications.

10. Submerged and Surcharged Pipe:

The 100-year design elevation of downstream stormwater facilities such as stormwater ponds or vaults shall be at or below all pipe inverts. Exception to this standard is the pipe from the first catch basin just upstream of the stormwater facility may be submerged to allow pipe inlet to facility to be submerged.

The following is provided to supplement Chapter 4 of the 2021 KCSWDM:

Section 4.1.2 EASEMENT AND SETBACK REQUIREMENTS (page 4-3 of the KCSWDM) – Add the following figure as a supplement:



See Section 4.1.2 of the King County Surface Water Design Manual for easement and setback details.

CHAPTER 5 – Flow Control Design

The City of Sammamish has added supplemental information and made several minor changes to Chapter 5 of the 2021 KCSWDM, as described below. Apart from this information, project proponents should refer to the county document for guidance on flow control design.

Supplemental Information

The City of Sammamish has identified specific areas where the Conservation Flow Control (Level 2) and Flood Problem Flow Control (Level 3) flow control standards described in the 2021 KCSWDM are to be applied within the City. Locations are shown on the City of Sammamish Flow Control Applications map accompanying this Addendum.

The King County Basic Flow Control (Level 1) standard does not apply within the City. There may, however, be circumstances where the Basic Flow Control standard can be applied. The 2021 KCSWDM defines the Basic Flow Control Standard as being appropriate for areas that drain to a closed conveyance system that discharges to a waterbody designated as a major receiving water. Lake Sammamish is designated a major receiving water. Developments that drain to closed drainage systems discharging directly to Lake Sammamish could, by definition, be eligible for the Basic Flow Control Standard. This would not be the case where runoff from a new or redevelopment project area discharges to an existing downstream drainage system where downstream capacity issues are likely with an increase in runoff to the system.

Changes to 2021 KCSWDM

- **Section 5.1.1.1 DESIGN CRITERIA, Side Slopes (page 5-4 of the 2021 KCSWDM) —** Amend criteria 2, 3, and 4 to read as follows:

Intent. The design of stormwater ponds and vaults are intended to be attractive site amenities. Open ponds are intended to appear like natural ponds. The physical appearance of vault walls are also intended to be minimized. To achieve the design of ponds and vaults that are more aesthetically compatible with adjacent land uses, standards have been established related to the slope of perimeter side slopes, curvilinear design, and the introduction of active and passive recreational elements. The Director may approve designs that do not meet the numeric standards below, provided the intent of the proposed design is equal to or better than the design that would accrue through strict adherence to these standards (refer to back pages of Sammamish Addendum for illustrations of intent).

- 1) Up to 25% of the pond perimeter interior and exterior side slopes may be steeper than 3H:1V, if analyzed by a geotechnical engineer for stability and approved by the City.

- 2) Pond may contain vertical interior and exterior retaining walls, provided:
 - (a) They are constructed of reinforced concrete per Section 5.1.3 (p. 5-22) and the visible surface has an attractive pattern/finish;
 - (b) A safety handrail is provided meeting SMC Chapter 16 along the top of the wall, is not a cyclone or chain link fence, and is clearly recorded and documented that maintenance and repair is not the responsibility of the City;
 - (c) At least 75% of the pond interior and exterior perimeter will be a vegetated soil slope not steeper than 3H:1V; and
 - (d) The design is stamped by a licensed structural engineer.
 - 3) For privately owned and maintained facilities, no more than 25% of the pond interior and exterior perimeter may be retaining walls, and building foundations may serve as one or more of the pond walls.
 - 4) Pond interior berms shall be earthen and contain no steeper than 2:1 side slopes.
 - 5) The perimeter of the pond must be designed such that it is curvilinear in design with minimum radius of 25-ft and a maximum radius of 100-ft. Intent: To create a pond that does not appear manmade (not appearing rectangular in shape).
- **Section 5.1.1.1 DESIGN CRITERIA, Embankments (page 5-4 of the 2021 KCSWDM)**
Amend criteria 1 to read as follows:
 - 1) Pond berm embankments higher than 6 feet shall require design by a geotechnical engineer. Pond embankments adjacent to property lines shall be no higher than 6 feet, unless mitigated and approved by the Director. The embankment height measurement includes the freeboard and is measured from the toe of the slope of the top of the embankment. Mitigation measures for exceeding the 6 foot height restriction for berms adjacent to property lines may include:
 - Designed and analyzed by a geotechnical engineer or licensed structural engineer
 - The toe of embankment slope shall be setback at least 10 feet from the property line
 - 10-ft of Type I landscaping shall be provided between toe of berm and property line to provide landscape screening.

- **Section 5.1.1.1 DESIGN CRITERIA, Setbacks (page 5-7 of the 2021 KCSWDM) —**
Amend to include the following criteria after criteria 5 to read as follows:
 - 6) For pond berm embankments higher than 6 feet, the toe of the exterior slope shall be setback 10 feet or more to the tract or from the property line.

- **Section 5.1.1.1 DESIGN CRITERIA, Landscaping (page 5-8 of the 2021 KCSWDM) –**
Amend to include the following criteria:
 - 1) The opening sentence is modified to read “Landscaping for aesthetic purposes is required.”

 - 2) Ponds shall include trails or paths that encourage passive recreation in connection with stormwater facilities. Connect stormwater paths to off-site trail systems where feasible. Trails within tracts of City-maintained ponds in residential subdivision developments shall be designated “to be maintained by the homeowner’s association”. The square footage of trails or paths that provide passive recreation may be credited towards the onsite recreation space requirement for projects that are required to provide onsite recreational space per SDC 21.02.030(I) and SDC 21.07.060(A)(9). Additional credit may be provided for detention ponds if they meet the requirements in Section 5.1.1.1, DESIGN CRITERIA, Detention Ponds in Recreation Tracts.

 - 3) Table 5.1.1.A should be expanded to include but not limited to the following:
 - Amended Plant List Examples: SMALL TREES AND SHRUBS WITH FIBROUS ROOTS

Small Trees/ High Shrubs

Botanical	Common
<i>Acer circinatum</i>	Vine maple
<i>Amalanchier x grandiflora</i>	Serviceberry
<i>Cornus sericea</i>	Red twig dogwood
<i>Morella californica</i>	California Wax Myrtle
<i>Holodiscus discolor</i>	Oceanspray
<i>Physocarpus opulifolius</i>	Ninebark
<i>Pinus contora var contorta</i>	Shore pine
<i>Ribes aureum</i>	
<i>Ribes sanguineum ‘King Edward VII’</i>	Red-flowering current
<i>Sambucus nigra</i>	Black elderberry

Low Shrubs / Ornamental Grasses/ Perennial / Groundcover / Bulbs

Botanical	Common
<i>Achillea millefolium</i>	Western yarrow
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick
<i>Aster oblongifolius</i> 'October Skies'	Aromatic aster
<i>Cammasia quamash</i>	Camas Lily
<i>Cornus sericea</i>	Dwarf red-twig dogwood
<i>Festuca idahoensis</i>	Idaho fescue
<i>Fragaria chiloensis</i> 'Lipstick'	Coastal strawberry
<i>Gaultheria shallon</i>	Salal
<i>Helianthemum nummularium</i>	Sunrose
<i>Helictotrichon sempervirens</i>	Blue oat grass
<i>Iris tenax</i>	Tough-leaf iris
<i>Mahonia aquifolium</i>	Oregon grape-holly
<i>Lonicera pileata</i>	Boxleaf honeysuckle
<i>Lonicera involucrata</i>	Twinberry
<i>Mahonia nervosa</i>	Cascade Oregon grape
<i>Mahonia repens</i>	Creeping mahonia
<i>Narcissus</i> sp.	Daffodil
<i>Nassella tenuissima</i> (formerly <i>stipa</i>)	Mexican feather grass
<i>Pennisetum alopecuroides</i>	Fountain grass
<i>Philadelphus lewisii</i>	Mock-orange
<i>Pinus mugo</i> <i>pumilio</i>	Mugho Pine
<i>Polysticum munitum</i>	Sword fern
<i>Potentilla gracilis</i>	Graceful cinquefoil
<i>Prunus laurocerasus</i> 'Mt. Vernon'	Mt. Vernon Dwarf Laurel
<i>Rosa gymnocarpa</i>	Baldhip rose
<i>Rosa</i> 'Hansa'	Double pink old-fashioned rose
<i>Rosemarinus officinalis</i>	Rosemary
<i>Rhododendron</i> 'PJM' hybrids	PJM Hybrid Rhododendrons
<i>Rudbeckia fulgida</i> var. <i>sullivantii</i>	
<i>Salvia</i> 'May Night'	
<i>Solidago rugosa</i>	Goldenrod
<i>Spiraea japonica</i>	Japanese spirea
<i>Vaccinium ovatum</i>	Evergreen huckleberry

- **Section 5.1.1.1 DESIGN CRITERIA, Detention Ponds in Recreational Tracts (page 5-11 of the 2021 KCSWDM)** – Amend section to read as follows:

Projects required to provide onsite recreational space or landscaped open space per SDC 21.02.030(I) and SDC 21.07.060(A)(9) may combine the detention pond tract with the recreation space tract or landscaped area to receive up to a 100% reduction in required onsite recreational space, less any recreation facilities required pursuant to SDC 21.02.030(J). To receive up to the 100% credit, the following criteria must be met as required by SDC 21.02.030(I)(4) and SDC 21.07.060(A)(10)(d):

1. The proposed stormwater tract must be dedicated to the City, granting access to maintain the drainage facility. Any recreational space located within the tract must be maintained by the HOA .
2. To receive a 50% credit, the stormwater pond must meet all standards for typical ponds unless modified by the following additional requirements:
 - a. Side slopes shall not exceed 33 percent unless they are existing, natural, and covered with vegetation. *Intent: To create ponds that are natural in appearance.*
 - b. A bypass system or an emergency overflow pathway shall be designed to handle flow exceeding the facility design and located so that it does not pass through active recreation areas or present a safety hazard.
 - c. The area surrounding the stormwater pond shall be landscaped in a manner to enhance passive recreational opportunities, including a trail or pathway around the pond perimeter. *Intent: To create opportunities for passive recreation or wildlife viewing.*
 - d. The stormwater pond shall be designed so that it does not require fencing per the fencing requirements in Chapter 5 of 2021 KCSWDM (page 5-6).
 - e. Split rail fencing (3 ft. minimum height) is required around the pond at the emergency overflow elevation of the pond or higher. Wire mesh backing of the fence is encouraged, but not required. *Intent: To preserve the functional integrity of the pond while allowing view of facility.*

3. To receive a 100% credit, the stormwater pond must meet all the additional requirements in criteria 2 above, and provide three or more of the following amenities;
- a. Provide seating using walls, benches and/or tables and chairs that view the stormwater pond. *Intent: To provide opportunities within the stormwater tract to linger and interact with the stormwater facility.*
 - b. Create overlook or destination points using decks or platform with views of the stormwater system. *Intent: To provide opportunities to view the stormwater facility and wildlife.*
 - c. Provide vertical planes (using stairs, platforms, etc.) that allow stormwater to be interacted with and viewed from different levels. *Intent: To provide visual interest and provide ways to interact with the stormwater facility, such as climbing down to the stormwater facility or viewing from above.*
 - d. Provide interpretive signage describing the stormwater feature, or the landscape features (such as highlighting the pollinator benefits of plantings incorporated into the stormwater tract). Interpretive signage shall:
 - Be visually appealing and colorful
 - Be educational
 - Be located in a high visibility location
 - Be mounted as low profile
 - Be framed with black metal (not wood)
 - Have panels constructed of high pressure laminate (with intended lifespan of 10+ years)
 - Include plain language that is accessible to the general public (not technical language)
 - Be maintained in good condition and replaced by the HOA if in disrepair

Intent: To provide education opportunities associated with the stormwater facility.
 - e. Stack horizontal and vertical planes to create features such as pools and waterfalls. *Intent: To exploit visual interest of stormwater flowing over surfaces, plunging down planes, or falling over edges.*

- f. Provide a fountain feature near the pond center. Intent: To provide visual interest through continuous water movement.
 - g. Provide at least one fitness station located near the pond accessible via a trail or pathway. Intent: To provide active recreation opportunities and encourage the use of the stormwater tract for recreation.
- 4. Where a tract is jointly used for recreational space and Sammamish maintained drainage facilities, the City shall only hold responsibility for maintenance of the drainage facilities, and an access easement shall be provided for that purpose. All recreational features such as, but not limited to, landscaping, trails, fences, benches, etc., shall be the responsibility of the Homeowner's Association or jointly by all property owners within the platted development. Recorded documentation of maintenance responsibilities shall be provided.
- **Section 5.1.1.1 DESIGN CRITERIA, Detention Ponds in Open Space (page 5-12 of the 2021 KCSWDM)** — This section does not apply. City of Sammamish does not require this signage.
- **Section 5.1.1.1 DESIGN CRITERIA, Figure 5.1.1.D Stormwater Facility Signs (page 5-16 of the 2021 KCSWDM)** — Replace Figure 5.1.1.D with the figure in Attachment B of this addendum.
- **Section 5.1.3.1 DESIGN CRITERIA, Setbacks (page 5-23 of the 2021 KCSWDM)** – Add the following sentence at the end of the paragraph that begins “Setbacks to tract/easement lines for vaults...”:

Where vaults are permitted within required setbacks, pursuant to SDC 21.04.030(T), the maximum height of exposed vault walls shall be 6 feet measured from the lowest exposed elevation of the vault. An exception to this shall exist where the exposed vault wall is a building foundation wall which shall be limited to the maximum height for structures of the underlying zoning district. Building setbacks for any vault wall exposure shall be minimum 10-ft and shall provide landscape screening with native plantings consistent with SDC 21.06.020(C)(4).

CHAPTER 6 – Water Quality Design

The City of Sammamish has added supplemental information and made minor changes to Chapter 6 of the 2021 KCSWDM, as described below. Apart from this information, project proponents should refer to the county document for guidance on water quality design.

Supplemental Information

The City of Sammamish adopts the BMPs and water quality treatment menus in the 2021 KCSWDM. Special treatment requirements for runoff draining to impaired waterbodies are addressed in Chapter 1. An exception to the 2021 KCSWDM is the treatment requirement for runoff discharging to lakes designated to receive a higher level of total phosphorus removal. The Sensitive Lake Protection Menu in the 2021 KCSWDM has a treatment goal of 50 percent reduction of annual average total phosphorus (TP), assuming typical pollutant concentrations in urban runoff. Lake management plans and studies have determined that Beaver Lake and Pine Lake require higher levels of phosphorus removal to protect the lakes from eutrophication brought about by development. Within these areas, a treatment goal of 80 percent reduction of TP is required. Areas requiring the higher level of TP reduction are shown on the Water Quality Treatment Application map accompanying this Addendum. Proponents for projects within these areas shall work with the City to determine the appropriate measures to be taken to achieve the 80 percent TP reduction goal. Note that a drainage adjustment is not required for AKART for 80% phosphorus treatment on Pine and Beaver Lakes in accordance with SDC 21.03.020.AA.6.

Changes to 2021 KCSWDM

- **Section 6.4.1.2 DESIGN CRITERIA, Figure 6.4.1.B Waterfowl Sign (page 6-85 of the 2021 KCSWDM)** — This section does not apply. City of Sammamish does not require this signage.
- **Section 6.5.1 GENERAL REQUIREMENTS FOR FILTRATION FACILITIES, Presettling Requirements (page 6-105)** - The City of Sammamish allows bioretention to be used for pretreatment. The bioretention system shall be designed per the requirements in the 2019 Stormwater Management Manual for Western Washington (Ecology Manual).
- **Section 6.5.3.2 DESIGN CRITERIA, Access Requirements (page 6-125)** – Add the following under at the end of the sentence that begins “A minimum of 24 square feet of ventilation grate...:

The maximum ventilation area is 20% of the sandbed surface area.

DEFINITIONS

The City of Sammamish has made the following changes to the Definitions Section of the 2021 KCSWDM. Project proponents should refer to the county document for other definitions.

Term (page)	Action
<p>Critical aquifer recharge area (p 5 of KCSWDM Definitions)</p>	<p><i>Replace as follows (from SDC 21.04.040):</i></p> <p>Critical aquifer recharge areas (CARAs) means those areas in the City of Sammamish with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(3). CARAs have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of groundwater resources or contribute significantly to the replenishment of groundwater. CARAs shall be classified based on the following criteria:</p> <ol style="list-style-type: none"> (1) Class 1 CARAs include those areas located within the mapped one- or five-year capture zone of a wellhead protection area. (2) Class 2 CARAs include those areas located within the mapped 10-year capture zone of a wellhead protection area. (3) Class 3 CARAs include those areas outside wellhead protection areas that are identified as high aquifer recharge potential areas based on characteristics of surficial geology and soil types. (Ord. O2005-193 § 2)
<p>Erosion hazard area</p> <p>(p 9 of KCSWDM Definitions)</p>	<p><i>Replace as follows (from SDC 21.04.040):</i></p> <p>Erosion hazard areas mean those areas in the City underlain by soils that are subject to severe erosion when disturbed. Such soils include, but are not limited to, those classified as having a severe or very severe erosion hazard according to the USDA Soil Conservation Service, the 1973 King County Soils Survey or any subsequent revisions or addition by or to these sources. These soils include the following when they occur on slopes 15 percent or steeper:</p> <ol style="list-style-type: none"> (1) The Alderwood gravely sandy loam (AgD); (2) The Alderwood and Kitsap soils (AkF); (3) The Beausite gravely sandy loam (BeD and BeF); (4) The Everett gravelly sandy loam (EvD); (5) The Kitsap silt loam (KpD); (6) The Ovall gravely loam (OvD and OvF); (7) The Ragnar fine sandy loam (RaD); and (8) The Ragnar-Indianola Association (RdE). (Ord. O2005-193 § 2; Ord. O2003-132 § 10)
<p>Flood hazard area</p> <p>(p 1-10 of KCSWDM Definitions)</p>	<p><i>Replace as follows (per SDC 21.04.040):</i></p> <p>Flood hazard areas means those areas in the City of Sammamish subject to inundation by the base flood and those areas subject to risk from channel relocation or stream meander including, but not limited to, streams, lakes, wetlands, and closed depressions. (Ord. O2003-132 § 10)</p>

Term (page)	Action
<p>Frequently Flooded Area</p> <p>SDC 21.03.020(W)(3)</p>	<p>Add new definition as follows (from SDC 21.03.020(W)(3)):</p> <p>(1) Frequently flooded areas include all areas of special flood hazards within the jurisdiction of the City of Sammamish.</p> <p>(a) The areas of special flood hazard are identified by the Federal Insurance Administration in a scientific and engineering report entitled "the Flood Insurance Study for King County," as amended, as stated in SMC 15.10.060. The flood insurance study is on file at Sammamish City Hall. The best available information for flood hazard area identification as outlined in SMC 15.10.130(2) shall be the basis for regulation until a new FIRM is issued that incorporates the data utilized under SMC 15.10.130(2).</p> <p>(b) The director may use additional flood information that is more restrictive or detailed than that provided in the Flood Insurance Study conducted by the Federal Emergency Management Agency (FEMA) to designate frequently flooded areas, including data on channel migration, historical data, high water marks, photographs of past flooding, location of restrictive floodways, maps showing future build-out conditions, maps that show riparian habitat areas, or similar information.</p> <p>(2) Development in frequently flooded areas shall be subject to the provisions in Chapter 15.10 SMC. (Ord. O2005-193 § 1; Ord. O99-29 § 1)</p>
<p>Landslide Hazard Area (page 15 of KCSWDM Definitions)</p>	<p>Replace as follows (per SDC 21.04.040):</p> <p>Landslide hazard areas mean those areas in the City of Sammamish potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, groundwater, or other factors. Landslide hazard areas include the following:</p> <p>(1) Areas of historic failures, such as:(a) Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;</p> <p>(b) Areas designated as quaternary slumps, earthflows, mudflows, or landslides on maps published by the U.S. Geological Survey or Department of Natural Resources;</p> <p>(2) Areas that have shown movement during the Holocene epoch, from 10,000 years ago to the present, or which are underlain by mass wastage debris from that epoch;</p> <p>(3) Any area with all three of the following characteristics:</p> <p>(a) Slopes steeper than 15 percent; and</p> <p>(b) Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and</p> <p>(c) Springs or groundwater seepage;</p> <p>(4) Areas with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief;</p> <p>(5) Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;</p> <p>(6) Slopes having gradients steeper than 80 percent subject to rock fall during</p>

Term (page)	Action
	seismic shaking; (7) Areas potentially unstable because of rapid stream incision, stream bank erosion or undercutting by wave action; and (8) Landslide hazard areas do not include those areas composed of slopes greater than 40 percent that were created from a previously non-landslide hazard area through legal grading activity and that are confirmed to be stable by a qualified professional. (Ord. O2005-193 § 2; Ord. O2003-132 § 10)
<i>Landslide Hazard Drainage Area</i> <i>(page 15 of KCSWDM Definitions)</i>	<i>Replace as follows:</i> “Landslide hazard drainage area” is a critical drainage area and are areas where overland flows pose a significant threat to health and safety because of their close proximity to a landslide hazard area as defined by SDC 21.04.040. Mapped Landslide hazard drainage areas are approximate. Public Works may determine that areas not mapped as Landslide hazard drainage areas may meet this definition.

APPENDICES

The City of Sammamish has made the following changes to the Appendices section of the 2021 KCSWDM. Project proponents should refer to the county appendices where referenced below.

Appendix A: Maintenance Requirements for Flow Control, Conveyance, and WQ Facilities – The City of Sammamish has made no changes, and Appendix A applies in its entirety to the City of Sammamish.

Appendix B: Master Drainage Plan Objective, Criteria and Components, and Review Process – This appendix does not apply within the City of Sammamish.

Appendix C: Simplified Drainage Requirements – This is a separately bound document included with the KCSWDM. This appendix applies in its entirety to the City of Sammamish, with one modification, as follows:

- Where “yard drain or catch basin” are required as a component in a flow control BMP in Appendix C, the City of Sammamish requires a Type 1 Catch Basin. For example, refer to page C-41 for sketch showing a “Small catch basin or yard drain” for a 10-foot Dispersion Trench. This must be a Type 1 Catch Basin. See Sammamish Public Works Standards for design details.

Appendix C provides guidance for many of the low impact development (LID) techniques referenced in the City of Sammamish LID Ordinance.

Appendix D: Construction Stormwater Pollution Prevention (CSWPP) Standards – This is a separately bound document included with the KCSWDM and this appendix applies in its entirety to the City of Sammamish.

REFERENCE

Table Ref-1 identifies which reference sections in the 2021 KCSWDM apply and those that do not apply to the City of Sammamish. Table Ref-2 lists additional City of Sammamish references that apply.

Table Ref-1. Applicability of KCSWDM References to projects in the City of Sammamish

No.	Description	Action
1	KCC 9.04 Surface Water Runoff Policy	This reference document applies. The King County surface water runoff policy, as adopted by reference in Chapter 9.04 KCC as adopted by SDC 21.03.050.
2	Adopted Critical Drainage Areas	This reference document shall be deleted in entirety. Project proponents should refer to City codes, ordinances, and sensitive areas maps for description and requirements within sensitive areas.
3	Other Adopted Area Specific Drainage Requirements	This reference document shall be deleted in entirety. Project proponents should refer to City codes, ordinances, and sensitive areas maps for description and requirements within sensitive areas. The project proponent shall also work with the City on additional requirements that may apply to their project.
4	Other Drainage Related Regulations and Guidelines A. Grading Code Soil Amendment Standard B. Clearing & Grading Seasonal Limitations C. Landscape Management Plan Guidelines D. Shared Facility Maintenance Responsibility and Guidance	 A. Applicable. Replace with SDC 21.03.070. B. Applicable. Replace with SDC 21.03.070 and SDC 21.03.020(W)(1). C. Applicable. D. Applicable.
5	Wetland Hydrology Protection Guidelines	These guidelines apply.

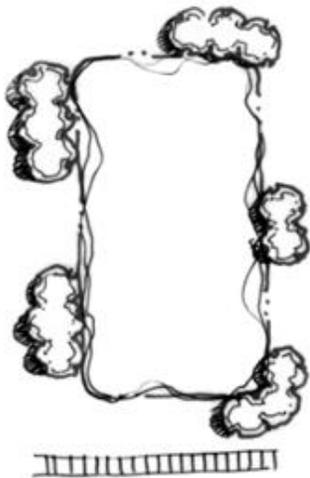
No.	Description	Action
6	<p>Hydrologic/Hydraulic Design Methods</p> <p>A. Infiltration Rate Test B. Pond Geometry Equations C. Introduction to Level Pool Routing D. Supplemental Modeling Guidelines</p>	<p>This reference section is applicable.</p>
7	<p>Engineering Plan Support</p> <p>A. King County Standard Map Symbols B. Standard Plan Notes and Example Construction Sequence C. Storm Filter Facility Access and Cartridge Configuration</p>	<p>A. Applicable. B. Applicable. Replace with City’s standard plan notes. Contact City for most current version of notes. C. Applicable.</p>
8	<p>Forms and Worksheets</p> <p>A. TIR Worksheet B. Offsite Analysis Drainage System Table C. Water Quality Facility Sizing Worksheets D. Flow Control and Water Quality Facility Summary Sheet and Sketch E. CSWPPP Worksheet Forms F. Adjustment Application Form and Process Guidelines G. Dedication and Indemnification Clause H. Bond Quantities Worksheet I. Maintenance and Defect Agreement J. Declaration of Covenant K. Drainage Release Covenant L. Drainage Easement M. Flow Control BMP Covenant (see replacement form name below). N. Impervious Surface Limit Covenant O. Clearing Limit Covenant P. River Protection Easement Q. Leachable Metals Covenant</p>	<p>A. Applicable. B. Applicable. C. Applicable. D. Applicable, include with City of Sammamish (COS) sketch. See City sketch requirements as a supplement. E. Applicable. F. Applicable, replace with COS updated form. G. Applicable, replace with COS updated form. H. Applicable. I. Applicable, replace with COS updated form. J. Applicable, replace with COS updated form. K. Applicable, replace with COS updated form. L. Applicable, replace with COS updated form. M. Applicable, replace with COS updated form. N. Applicable, replace with COS updated form. O. Applicable, replace with COS updated form. P. Applicable, replace with COS updated form. Q. Applicable, replace with COS updated form.</p>

No.	Description	Action
9	Interim Changes to Requirements A. Blanket Adjustments B. Administrative Changes	A. Not applicable. The City will adopt King County blanket adjustments on a case-by-case basis. B. Applicable.
10	King County Identified Water Quality Problems	Not applicable.
11	Materials A. (VACANT) B. (VACANT) C. Bioretention Soil Media Standard Specifications D. (VACANT) E. Roofing Erodible or Leachable Materials	A. Not applicable. B. Not applicable. C. Applicable. D. Not applicable. E. Applicable.
12	(VACANT)	Not applicable
13	(VACANT)	Not applicable
14	Supplemental Approved Facilities A. Approved Proprietary Facilities B. Approved Public Domain Facilities	A. Applicable. B. Applicable.

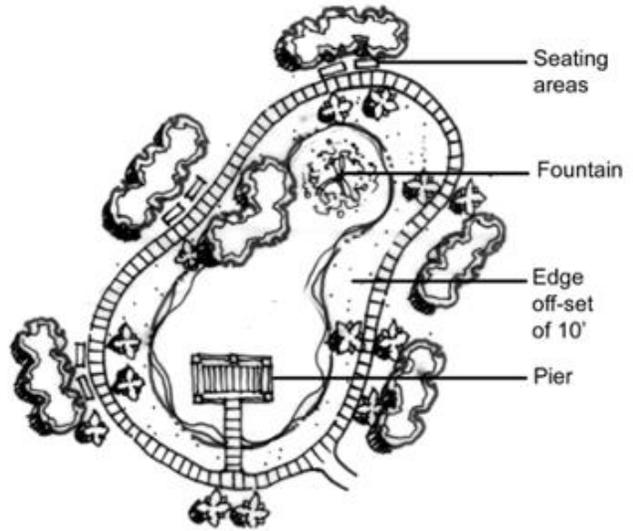
Table Ref-2. City of Sammamish References

No.	Description
1	Area-Specific Drainage Requirements A. Flow Control Applications Map B. Water Quality Applications Map C. Landslide Hazard Drainage Areas Map D. Erosion Hazard Near Sensitive Water Bodies E. Critical Drainage Area Map

Attachment A: Stormwater Pond Design Intent



POOR POND DESIGN



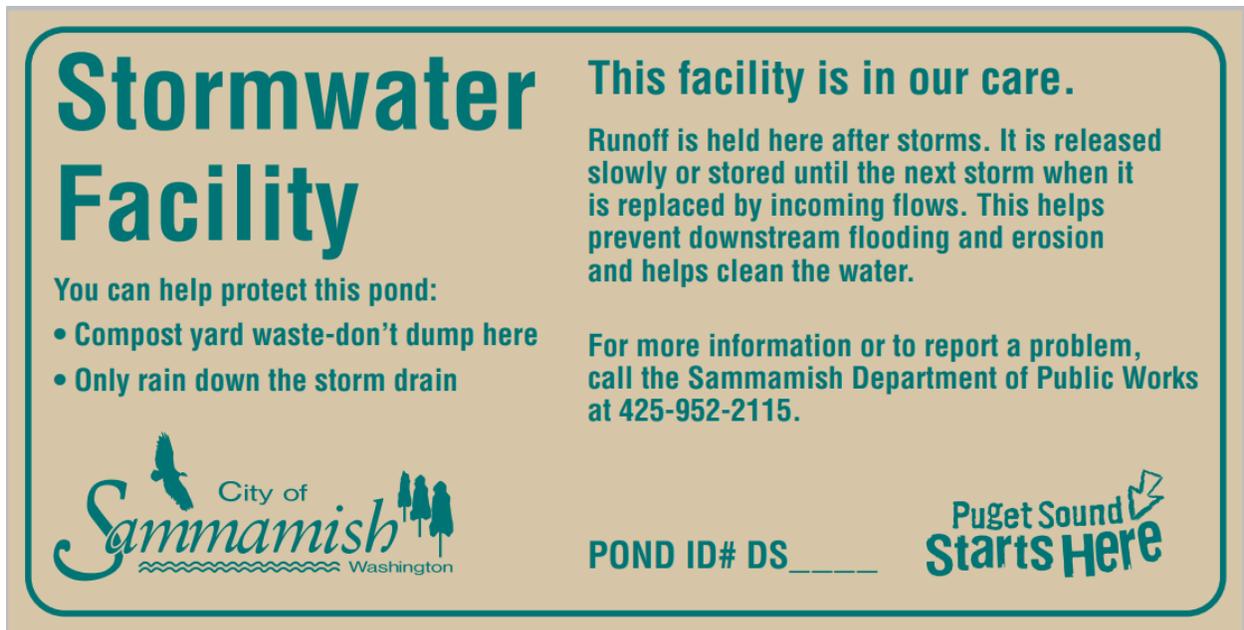
GOOD POND DESIGN

Attachment B: Stormwater Facility Signage

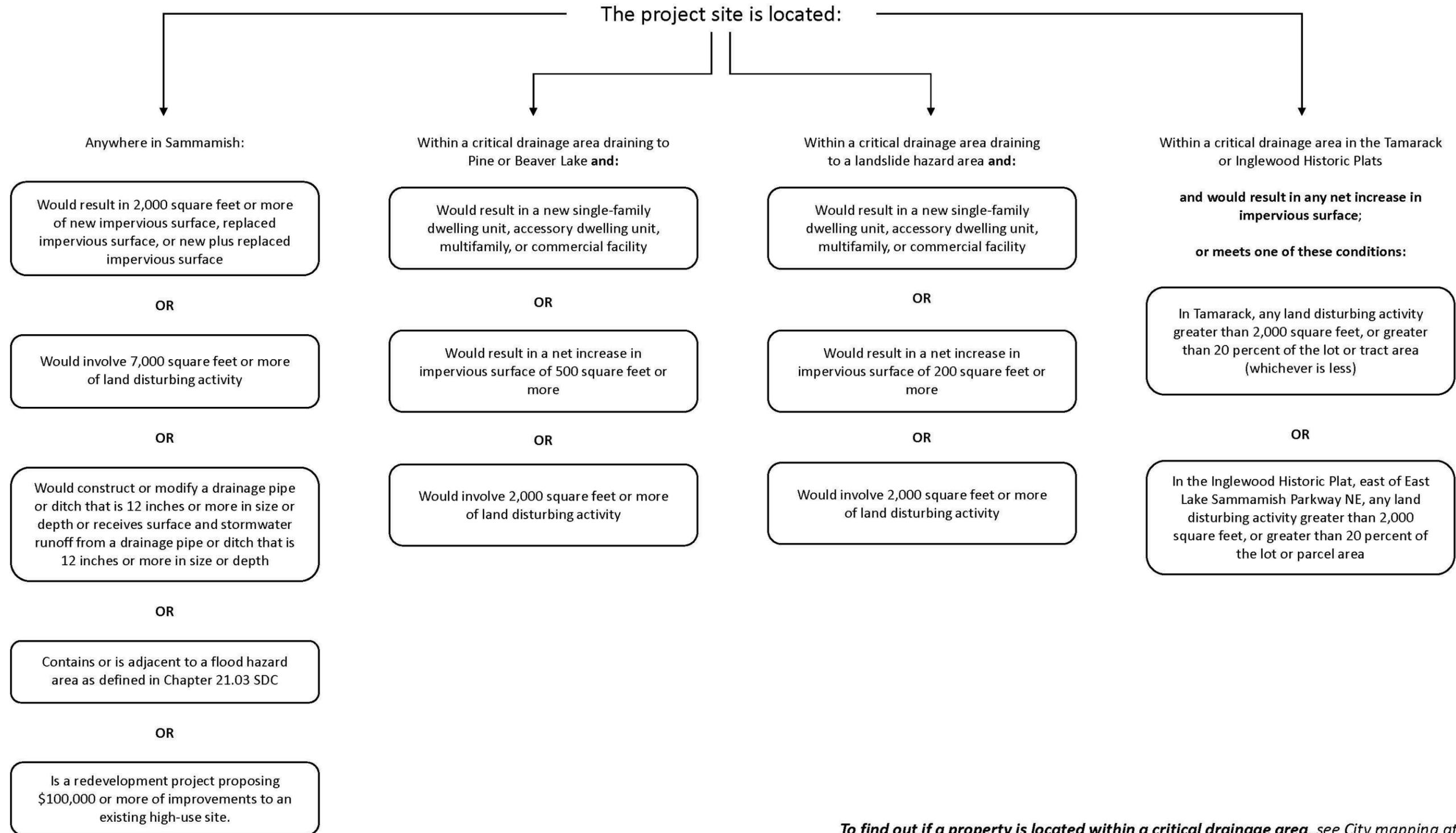
Stormwater facility sign purchase process

The sign can be ordered independently (detail on the city website and specs below).
<http://www.sammamish.us/departments/publicworks/StormWaterManagement.aspx>

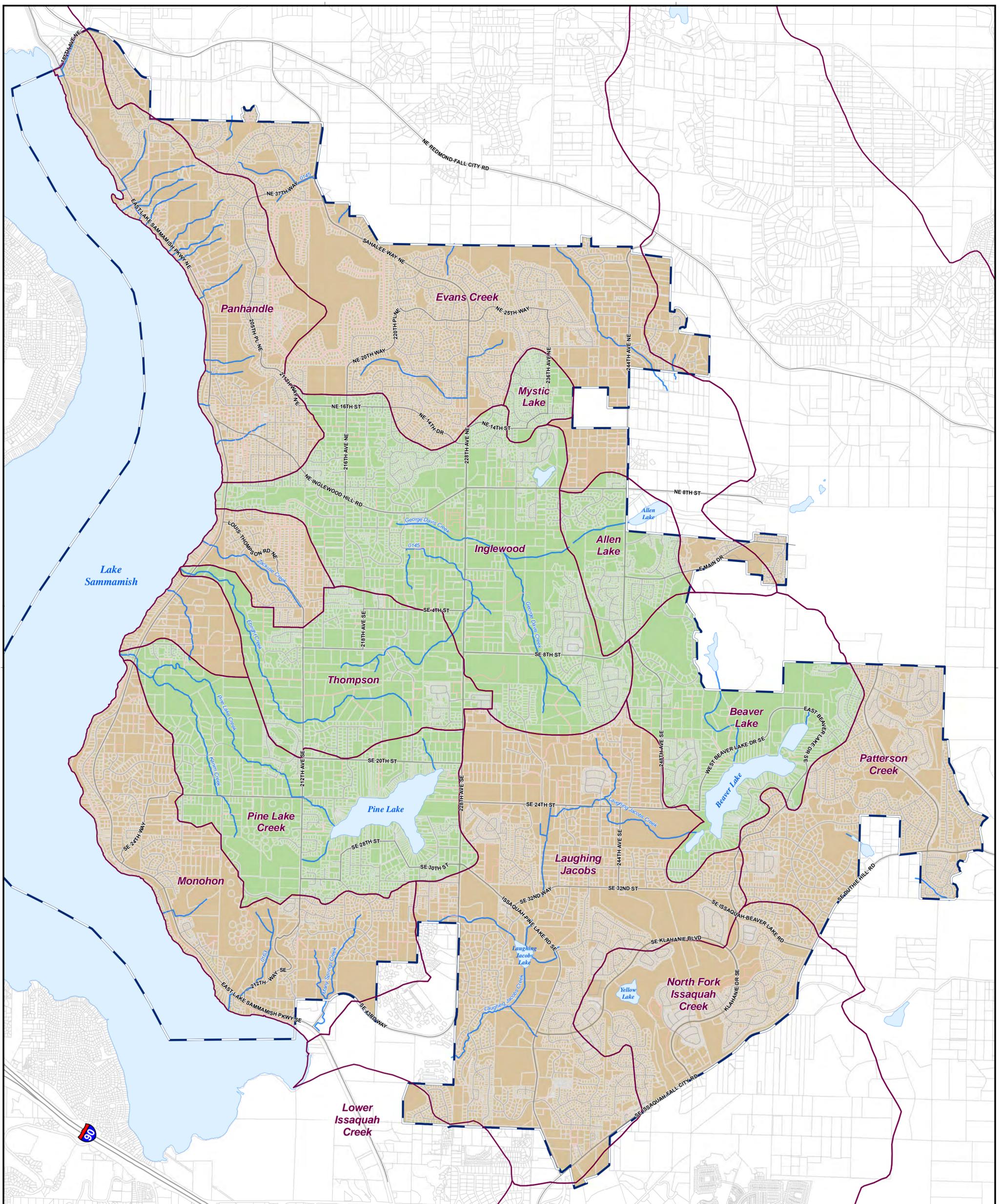
- Border ¼” thickness and ¼” from edge
- Main title 3” text
- City logo approx. 6” x 16”
- Subtitle 1.25” text
- Text .89” text
- Pond ID 1” text
- PSSH logo 3.25” x 7”
- All text and images are 1” inside border



Attachment C: Drainage Review Flow Chart
When is drainage review required?



To find out if a property is located within a critical drainage area, see City mapping at: sammamish.us/government/departments/public-works/maps-and-gis-data/



- Conservation Flow Control (Level 2)
- Flood Problem Flow Control (Level 3)
- Drainage Basins
- Sammamish City Limits
- Streets - Public
- Streets - Private



Basin boundaries expressed on this map are approximate, and will need to be verified during the Downstream Analysis to determine the approximate flow control standard.

0 1,000 2,000 3,000 4,000 5,000 6,000 Feet

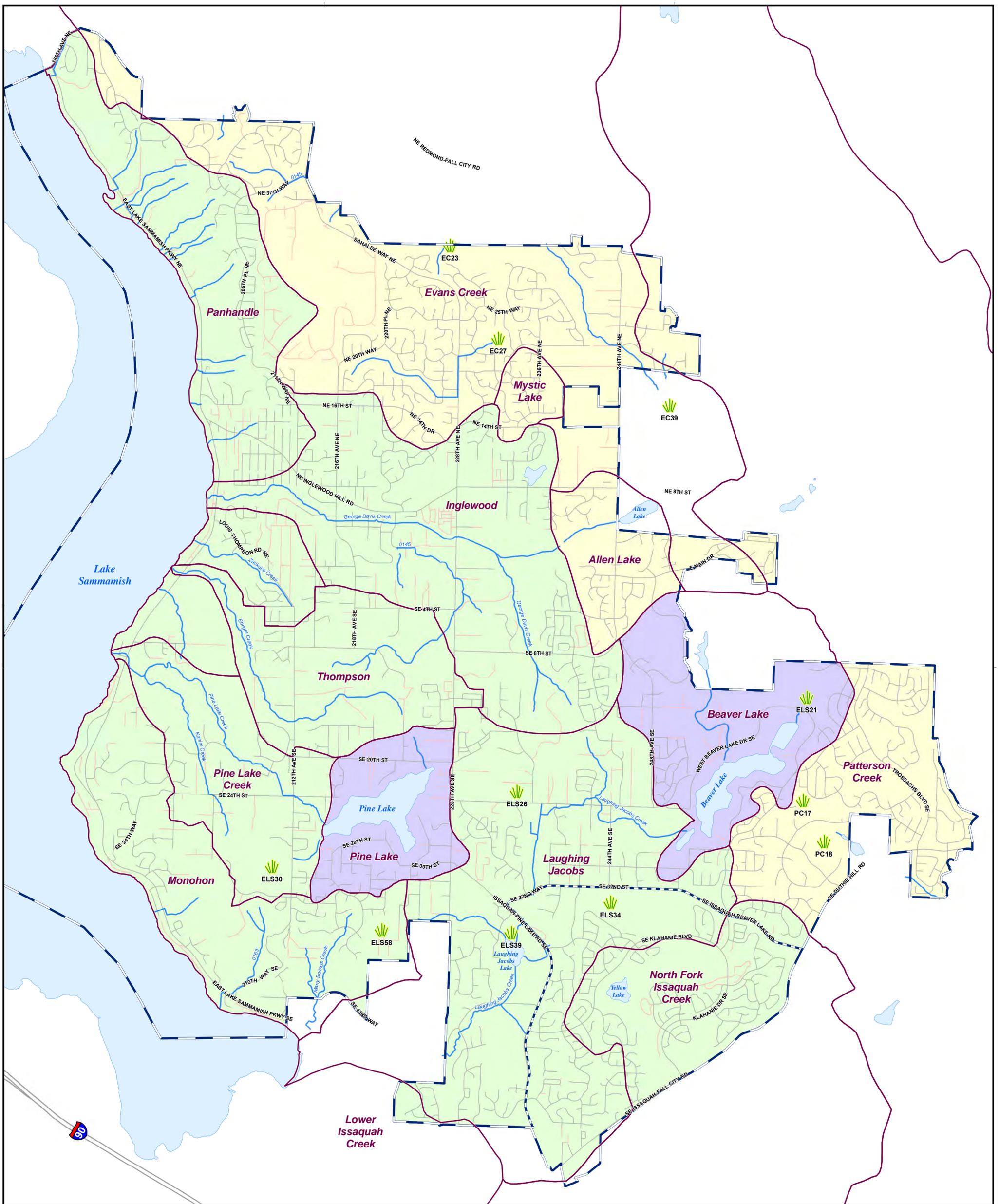
0 0.25 0.5 0.75 1 Miles

Flow Control Map



The information included on this map has been compiled from a variety of sources and is subject to change without notice.

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- Basic Water Quality Treatment Areas
- Sensitive Lake Treatment Areas
- Critical Drainage Areas: Sensitive Lake plus 80% Phosphorus Removal
- Drainage Basins
- Identified Sphagnum Bog Wetlands
- Sammamish City Limits
- Streets - Public
- Streets - Private



Basin boundaries expressed on this map are approximate, and will need to be verified during the Downstream Analysis to determine the approximate water quality standards.

0 1,000 2,000 3,000 4,000 5,000 6,000 Feet

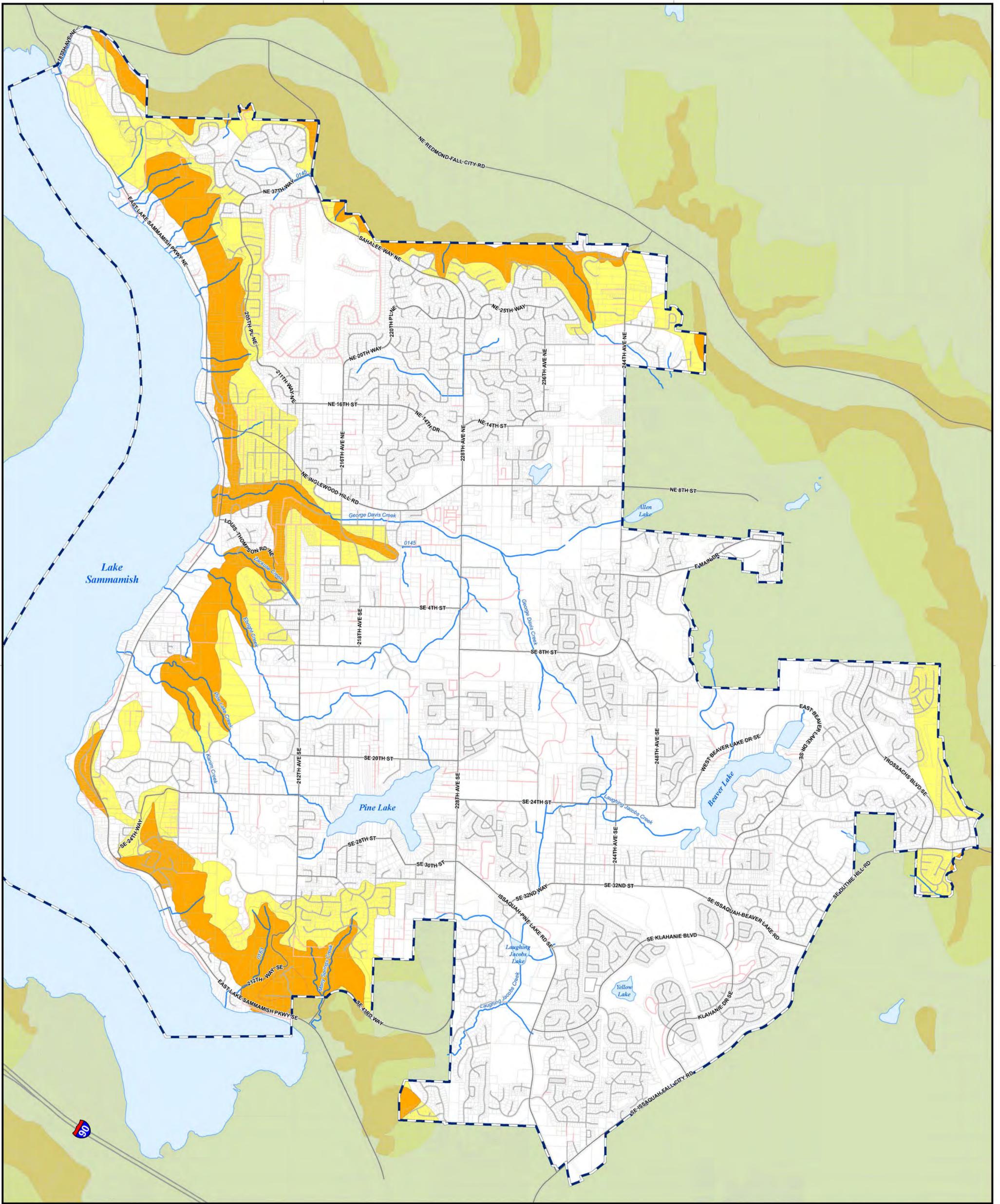
0 0.25 0.5 0.75 1 Miles

Water Quality Map

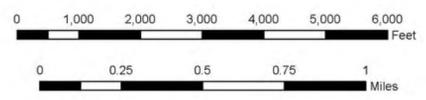


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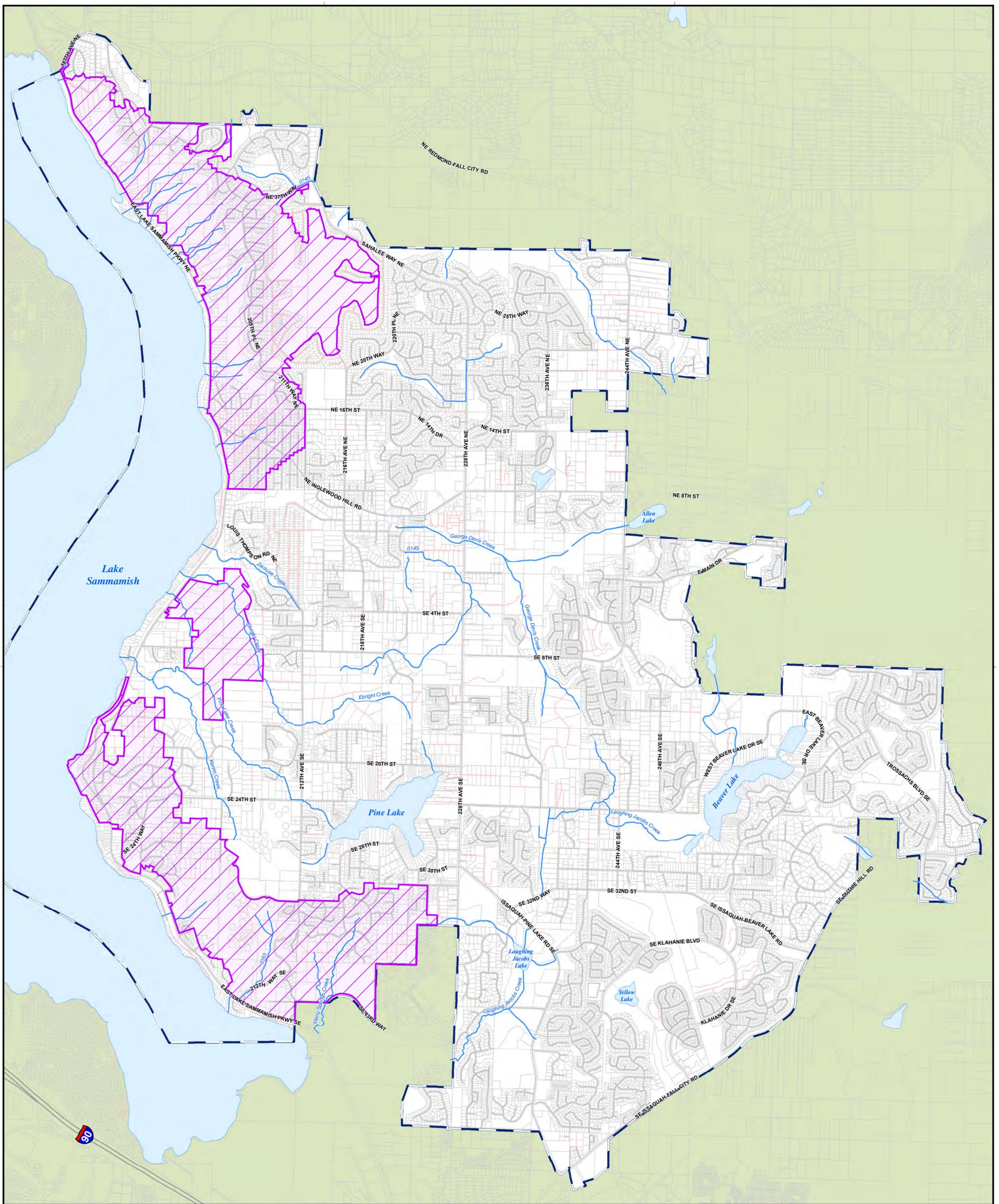
- Landslide Hazard Area
- Landslide Hazard Drainage
- Sammamish City Limits
- Streets - Public
- Streets - Private



Landslide Drainage Hazards Map



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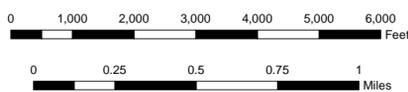


 Erosion Hazards Near Sensitive Water Bodies

-  Sammamish City Limits
-  Streets - Public
-  Streets - Private



Basin boundaries expressed on this map are approximate, and will need to be verified during the Downstream Analysis to determine the approximate flow control standard.



Erosion Hazards Near Sensitive Water Bodies



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