

SUNSHINE COAST REGIONAL DISTRICT

BYLAW NO. 711

A bylaw to adopt an Official Community Plan for the Twin Creeks Plan Area
within Electoral Area F.

The Board of Directors of the Sunshine Coast Regional District, in open meeting assembled, enacts as follows:

PART A – CITATION

1. This bylaw may be cited as the *Twin Creeks Official Community Plan Bylaw No. 711, 2018*.

PART B – APPLICATION

2. This bylaw is applicable to land within the boundaries of the Twin Creeks Official Community Plan area, as shown on Maps 1-4 of Appendix A, attached to and forming part of this bylaw.

PART C – ORGANIZATION

3. The Twin Creeks Official Community Plan is comprised of Appendix A, attached to and forming a part of this bylaw, includes the following parts:
 1. Introduction
 2. Setting the Stage
 3. Land Use Designations
 4. Development Permit Areas
 5. Glossary of Terms

PART D – SEVERABILITY

4. If any section, subsection, sentence, clause or phrase of this bylaw is held to be invalid by a court of competent jurisdiction, that section, subsection, sentence, clause or phrase, as the case may be, will be severed and the validity of the remaining portions of the bylaw will not be affected.

PART E – REPEAL

5. The Twin Creeks Official Community Plan Bylaw No. 545, 2004 and all amendments thereafter are hereby repealed.

PART F – ADOPTION

READ A FIRST TIME this	11 TH	DAY OF JANUARY ,	2018
PURSUANT TO SECTION 475 OF THE <i>LOCAL GOVERNMENT ACT</i> CONSULTATION REQUIREMENTS CONSIDERED this	####	DAY OF MONTH ,	YEAR
READ A SECOND TIME this	####	DAY OF MONTH ,	YEAR
CONSIDERED IN CONJUNCTION WITH THE SUNSHINE COAST REGIONAL DISTRICT FINANCIAL PLAN AND WASTE MANAGEMENT PLANS this	####	DAY OF MONTH ,	YEAR
PUBLIC HEARING HELD PURSUANT TO THE <i>LOCAL GOVERNMENT ACT</i> this	####	DAY OF MONTH ,	YEAR
READ A THIRD TIME this	####	DAY OF MONTH ,	YEAR
APPROVED PURSUANT TO SECTION 52 OF THE <i>TRANSPORTATION ACT</i> this	####	DAY OF MONTH ,	YEAR
ADOPTED this	####	DAY OF MONTH ,	YEAR

Corporate Officer

Chair

APPENDIX A

Twin Creeks Official Community Plan Bylaw No. 711, 2018



Witherby Point. Photo by Jim Green

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PART ONE: INTRODUCTION

Acknowledgements

- 1 Sunshine Coast Regional District (SCRD) sincerely appreciates the time and valuable contribution made by community members, the Board, and staff. The Twin Creeks Official Community Plan (OCP) was prepared during the elected term of Ian Winn, Director for Electoral Area F – West Howe Sound and his Alternate Director Kate-Louise Stamford. A review committee was established to assist in guiding the public engagement process and providing insight into the vision, goals, objectives and policies which shape this Plan.

Twin Creeks Official Community Plan Review Committee

Jordan Cosulich	David Rafael, SCRD Senior Planner, Chair
Jim Green	Ken Sneddon
Mark Hiltz	Lesley-Ann Staats, SCRD Planner
Andy Koberwitz	Hugh Willson
Rob Linden	Lisa Wilcox, Skwxwú7mesh Nation
Jon McRae	Chief Bill Williams, Skwxwú7mesh Nation
	Director Ian Winn, Member Ex Officio

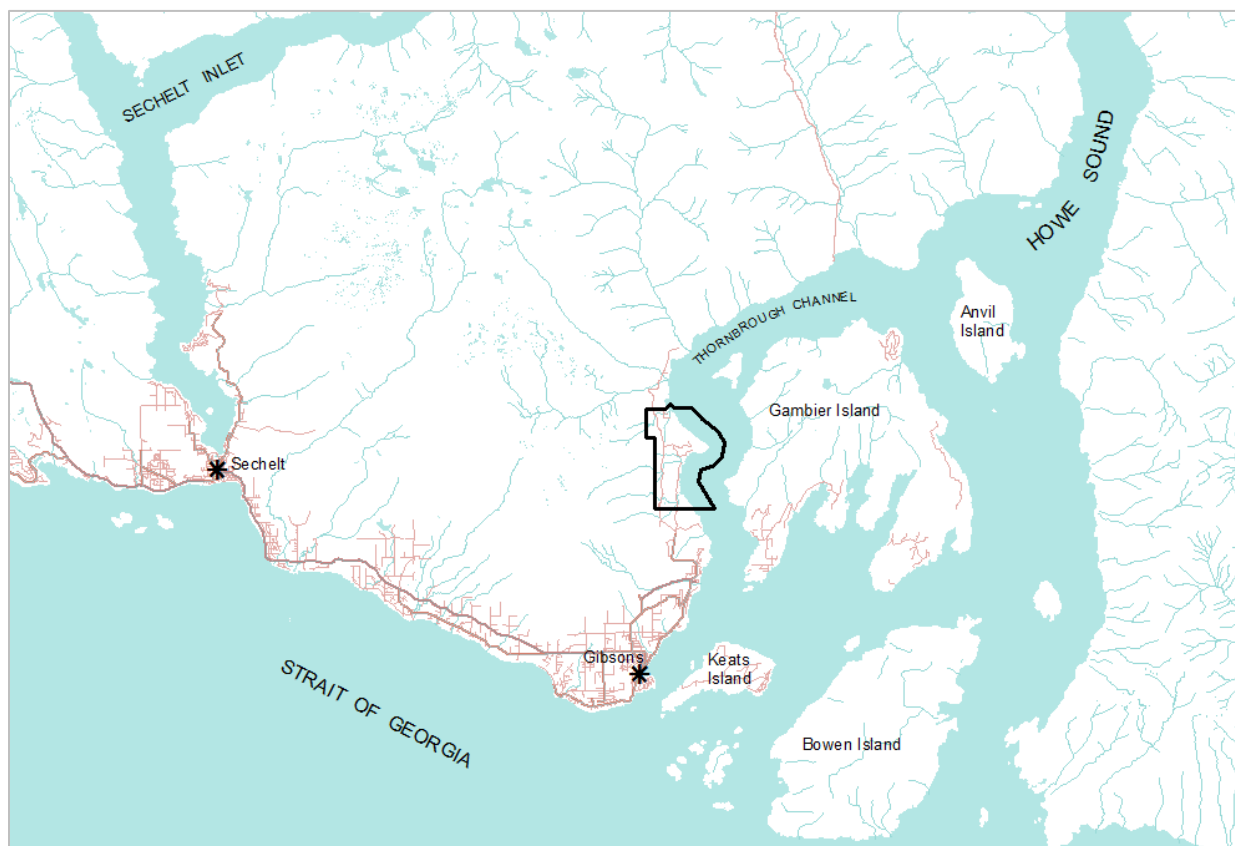
The review committee and SCRD acknowledge the earlier work completed on the original OCP which provided a foundation for this Plan.

Bylaw Adoption

- 2 Twin Creeks Official Community Plan Bylaw No. 711, 2017
 - ⇒ Insert Signed Bylaw here

Twin Creeks Community: The Plan Area

- 3** The Twin Creeks area is a coastal community approximately 10 km north of the Town of Gibsons and approximately 2 km south of the Howe Sound Pulp and Paper Mill at Port Mellon. It extends south to the boundary of the West Howe Sound Official Community Plan area, north to the Hillside – Port Mellon Industrial Area Official Community Plan area, west along the slopes of Mount Elphinstone to include land within the Sechelt Provincial Forest, and east to incorporate part of Thornbrough Channel in Howe Sound.



SCRD acknowledges and respects that the Plan area lies within the territory of the Skwxwú7mesh (Squamish) Nation.

The Plan area is approximately 1054 hectares in size. The land portion is approximately 594 hectares and the marine portion covers approximately 460 hectares of the area over the water, which extends approximately 750 metres from the shoreline.

Twin Creeks is defined by its well-established forest-related industry, its waterfront industrial land, and its proximity to the industrial area of Hillside to the north.

The primary uses in the area are in the forestry and industrial sectors, with few residential properties and less than 20 residents. At the time the Plan was written, there were less than 20 landowners and the majority of the land was owned by 5 property owners.

What is an Official Community Plan?

- 4** An Official Community Plan (OCP) represents a vision for the future of the community and provides a framework to guide growth and decisions about the use and management of land and water resources. An OCP describes how and where forestry, industrial activity, residential and commercial types of development will occur; it guides the provision of necessary transportation and utility infrastructure; and provides policies concerning environmental, economic and community health and well-being.

The purpose and content of an OCP are formally outlined in the [Local Government Act](#) of British Columbia as "...a statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan, respecting the purposes of local government."

The [Local Government Act](#) requires local governments to provide consultation throughout the development of the plan and outlines the adoption procedure for the bylaw respecting the OCP.

Once adopted as a bylaw, an OCP becomes "official" and all future land use decisions made by the Regional District must be consistent with the objectives and policies outlined in the OCP. It is important to note that an OCP is strictly a policy document. In order for an OCP to be effective, several tools are required to implement an OCP's policies and objectives. This includes the use of regulations or guidelines such as those contained in a zoning bylaw, development permits, capital expenditures planning, development cost charges and subdivision control. After adoption, all bylaws enacted or works undertaken by the Regional District, must be consistent with the OCP.

While it provides guidance and an amount of certainty for the community and investors, an OCP is not intended to be a static document. It is a living document and should respond to new, unanticipated conditions and circumstances. As such, following careful consideration by the Regional District Board, policies and land use designations in an OCP may be revised through the adoption of an amending bylaw following the provisions outlined within the [Local Government Act](#), including public consultation. OCP's are typically reviewed periodically to assess whether the goals, objectives and policy directions remain valid.

Organization of the Plan

- 5** The Twin Creeks OCP, referred to simply as the 'Plan', is organized around the vision and goals. It includes text and corresponding maps. The following maps are included:

- Map 1 – Land Use Designations
- Map 2 – Development Permit Areas
- Map 3 – Transportation Networks and Recreation
- Map 4 – Aggregates

This Plan identifies a vision, goals, objectives, and policies. The vision is the ideal future state we aspire to achieve. The goals are the desired outcomes once the Plan is fully implemented. Objectives are the changes that must take place to realize the goals. Objectives outline what is

important to the residents and landowners in the Plan area. Policies are the actions that relate directly to achieving the goals and objectives of the Plan. Policies provide specific direction to the Board, the community, and provincial and federal agencies on the future land and surface-of-water surface use in the Plan area.

The Plan is divided into Five Parts:

Part 1 provides the context, background, vision, and goals for the OCP.

Part 2 provides the broad framework for the OCP.

Part 3 covers the land use designations. Each designation contains an overview and information on existing conditions, as well as opportunities and challenges, objectives, and policies.

Part 4 includes the Development Permit Areas.

Part 5 provides definitions.

Vision

- 6** The vision of this Plan is the ideal future state we aspire to achieve.

A coastal community with a mix of industrial, forestry, rural, residential, agricultural, and recreational uses in close proximity;

where natural assets and cultural heritage are highly valued;

and a future where local and diversified economic opportunities are abundant.

Goals

- 7** The goals are the desired outcomes once this Plan is fully implemented.
1. A vibrant and diversified economy.
 2. A sustainable forestry industry.
 3. A healthy natural environment.
 4. Enhanced collaboration with the Squamish (Skwxwú7mesh) Nation and other jurisdictions.
 5. A sustainable mix of land and marine uses.

PART TWO: SETTING THE STAGE

The Planning Process

- 8** This plan is based on the community's values, concerns, and wishes. A Twin Creeks OCP Review Committee composed of nine residents, two Planners, one Director, and two members of the Skwxwú7mesh Nation guided the process and provided input into the draft materials. The Committee met eight times over a year to determine what changes needed to be made to the original Plan, which provided a foundation for this Plan. This Plan builds on the work of the original Twin Creeks OCP that was created with the assistance of a public advisory group.

The successful implementation of this Plan is dependent on the collaboration of individuals, organizations, First Nations, and government bodies. Working together, the results of our collaborative efforts will build a strong, sustainable future for the residents that live, work and play around the Twin Creeks area.

Regional Context Statement

- 9** As a community within the Sunshine Coast Regional District, the Twin Creeks plan area works to achieve regional objectives identified in the [Regional Sustainability Plan "We Envision"](#) and the [Community Energy and Emissions Plan](#).

The Plan area is entirely within the Skwxwú7mesh Nation's territory. SCRDC is committed to working with Skwxwú7mesh Nation to protect cultural and archaeological resources within the Twin Creeks OCP area.

Skwxwú7mesh Nation

- 10** The Skwxwú7mesh Nation has focused most of their attention on portions of their territory that is outside of SCRDC's jurisdiction. The Xay Temíxw (Sacred Land) Land Use Plan does not contain specific policies or designations for the Plan area.

Skwxwú7mesh Nation Objectives

1. SCRDC will work with the Skwxwú7mesh Nation to ensure that its heritage is protected under the [Heritage Conservation Act](#) and through cooperation on the Provincial land use and planning processes.
2. Encourage early and ongoing engagement with the Skwxwú7mesh Nation for any proposals to amend land use policies in the Twin Creeks OCP.

Skwxwú7mesh Nation Policies

1. Advise applicants and developers to contact the Skwxwú7mesh Nation early in the application process for consideration of a development.
2. SCRDC will refer applications to amend the Twin Creeks OCP and the Zoning Bylaw to the Skwxwú7mesh Nation for comment.

3. SCRD will collaborate with applicants and the Skwxwú7mesh Nation to work towards resolving issues before the SCRD Board considers adopting amendments.
4. SCRD will collaborate with the Skwxwú7mesh Nation in land and marine planning for Howe Sound.

Climate Change and Greenhouse Gas Emission Reduction Targets

- 11** In 2007, the Province passed the [Greenhouse Gas Reductions Target Act](#). The Act establishes targets for the province as a whole: to reduce Greenhouse Gas (GHG) emissions by at least 33% below 2007 levels by 2020 and reduce GHG emissions by 80% in relation to 2007 by 2050.

BC's [Local Government Act](#) requires all OCPs to set targets for GHG emission reduction, as well as policies and actions to achieve the targets.

In 2009, SCRD partnered with local governments on the Sunshine Coast to develop the [Community Energy and Emissions Plan](#) (CEEP) to determine the source and amount of GHG's emitted on the Sunshine Coast. The GHG emission sectors that apply to the Twin Creeks Plan area are Industry, Transportation, Forestry, Rural, Residential, Commercial, and Solid Waste.

As is to be expected in rural communities where the private automobile is the primary mode of transportation, transportation has the highest sector output of GHG emissions (about 65 %) across the Sunshine Coast, followed closely by land use patterns. For the Twin Creeks Plan area, focusing actions and initiatives towards transportation and industrial land use will support the biggest emissions reductions.

Climate Change and Greenhouse Gas Emission Reduction Objectives

The climate change and energy objectives of the OCP are as follows:

1. Reduce greenhouse gas emissions.
2. Increase awareness of the risks of climate change and encourage measures to reduce risks.
3. Integrate considerations related to climate change and energy into relevant procedures, processes, and decision-making by encouraging:
 - a. monitoring and managing community energy consumption and generation;
 - b. climate change adaptation planning to reduce future impacts on public health, property and the natural environment;
 - c. conservation of water and energy;
 - d. waste reduction and diversion; and
 - e. increasing the energy efficiency of existing and new buildings.
4. Enhance partnerships with federal, provincial, regional and local governments, other public agencies, the Skwxwú7mesh Nation, community organizations, and businesses for the efficient and effective coordination of climate change and energy resiliency plans,

policies and initiatives including greenhouse gas reporting and risk and vulnerability assessment of local climate change impacts.

Climate Change and Greenhouse Gas Emission Reduction Policies

The climate change and energy policies of the OCP are as follows:

1. Continue to work towards a target of 32% reduction in greenhouse gas emissions by 2030 and 39% by 2050, as set out in the Community Energy and Emissions Plan.
2. Support renewable energy and low carbon fuel development proposals and business activities that can sequester carbon or reuse materials.
3. Support development proposals with a district energy system.
4. Protect seagrasses and tidal marshes for sequestering and storing carbon from the atmosphere and oceans.
5. Encourage the development of Waste Management Plans for new commercial and industrial development.

Sustainable Economic Development

12 This Plan supports sustainable economic development activities provided environmental integrity is not compromised. Twin Creeks is suitably located for the resource, industrial, and commercial uses, which are economic generators on the Sunshine Coast. The Plan promotes compatibility between various land uses in adjacent areas. To support economic development, the Plan aims to capitalize on the unique qualities of the area including:

1. Opportunities to develop waterfront industrial lands;
2. Physical attributes that are suitable for a possible transportation transfer point for moving between land and water;
3. Location which is somewhat removed from the more densely developed residential parts of the Sunshine Coast;
4. Accessibility to markets by deep water vessels;
5. A well-established forest-related industry;
6. Proximity to Hillside and Port Mellon industrial area, which provides an opportunity to link into the industrial area to the north.

Temporary Use Permits

13 A Temporary Use Permit (TUP) is a useful tool to allow activities that are not permitted under zoning, to support a development, or test an activity for a temporary term. It may help demonstrate an activity's compatibility with an area and provide support for a rezoning application. Local governments may issue a TUP for periods of up to 3 years, which can be renewed once before a new permit is required. An opportunity for public comment is a legislated requirement before the TUP can be issued. A TUP can set out conditions for each application.

The Plan area is designated as a Temporary Use Permit area for forestry, industrial or commercial uses.

Temporary Use Permit Objective

1. Recognize that Temporary Use Permits for forestry, industrial and commercial use can support economic activity.

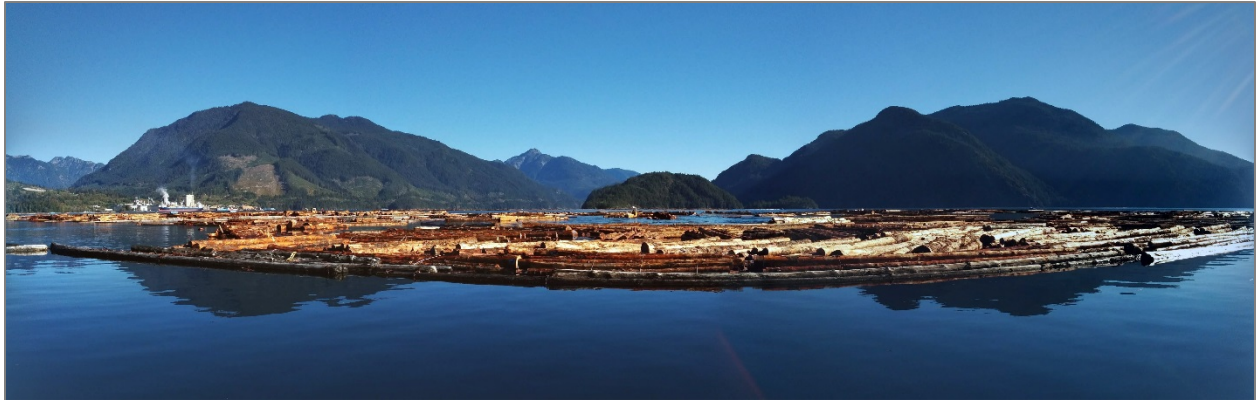
Temporary Use Permit Policies

1. A Temporary Use Permit for forestry, industrial or commercial uses may be supported subject to the following criteria:
 - a. No permanent structures shall be constructed in conjunction with a temporary use.
 - b. All Temporary Use Permit applications must conform to the requirements of Provincial and Federal agencies.
 - c. A report completed by a qualified professional(s) shall determine measures to be met to protect the environment, biodiversity, and Species and Ecosystems at Risk.
 - d. Financial security may be required to ensure that temporary structures are removed upon expiration of a permit and that the land is restored to a satisfactory condition if it has been altered.
 - e. A natural vegetative buffer or berm of 300 metres in width shall be maintained between an asphalt batch plant operation and any dwelling not located on the subject parcel.
 - f. Temporary Use Permits shall not be supported for uses such as storage of toxic waste including PCBs, chromium manufacturing and similar high-impact chemical plants, and fish/animal processing plants.

PART THREE: LAND USE DESIGNATIONS

- 14** Land use designations are shown on the Land Use Designations map (Map 1).

Industrial



- 15** The Plan recognizes Twin Creek's historic role as a major industrial center and also looks to diversify the industrial land base with new uses that increase local employment and supports the local economy. It is currently comprised of about 100 hectares of land in three separate areas near the mouths of Ouillet Creek, Twin Creeks, and Bear Creek.

The Industrial land use designation is intended to accommodate industrial development and employment centres. The designation is intended to remain flexible for future industrial and commercial land uses. There is support for expanding industrial areas, especially in the Forestry land use designation that, over time, may no longer be required for forestry.

While the present activity is primarily forestry-related industries, the Plan supports a variety of industrial uses. Challenges in expanding the industrial land base include lack of community water and sewage services, topography, road networks, and several relatively narrow parcels. Consolidation of small parcels may provide more industrial opportunities.

Industrial Objectives

1. Provide adequate, serviced industrial land supply.
2. Encourage a flexible and wide variety of industrial uses within the Industrial designation.
3. Recognize the needs of natural resource activities and acknowledge that forestry and extraction activities are important economic contributors to the local economy.
4. Recognize the importance of the Twin Creeks Area to accommodate future industrial growth in West Howe Sound and as a possible future transportation hub with respect to the transfer of goods and associated storage.
5. Recognize that economic development needs to respond to the changing global and regional economy.
6. Protect industrial lands from conflicting rural-residential land uses.

7. Establish sufficient land areas for the development of a diversified economy and employment base to serve local, Canadian and international markets.
8. Protect natural environmental features such as watercourses or habitat areas within industrial areas.
9. Ensure that economic activity is compatible with the surrounding area to minimize conflicts between industry, resource activities and other uses.

Industrial Policies

1. Uses in the Industrial designation include processing, industry, manufacturing and assembly operations, storage, warehousing, and distribution.
2. Prohibited uses that result in significant negative impacts to air or water quality include:
 - a. storage or disposal of hazardous, contaminated, biomedical and toxic waste including PCBs;
 - b. chromium manufacturing and similar high impact chemical plants;
 - c. petrochemical refining and bulk storage, not including auxiliary storage required for industrial operations;
 - d. explosives/ammunition manufacturing; and
 - e. metal smelting/electroplating.
3. General retail uses will only be permitted within the Industrial designation when they are needed to provide services to area employees.
4. Support auxiliary retail sales for industrial uses.
5. Waterfront lots adjacent to an Industrial designation are designated for marine-dependent industrial uses.
6. Industrial businesses are encouraged to use available technology to reduce/eliminate noise, odours, and other emissions.
7. Support may be given to developing an eco-industrial network to build efficiencies in energy, resource use, and waste management.
8. SCRD may consider the rezoning of partial or entire parcels for refuse disposal uses subject to a comprehensive environmental review.
9. SCRD may consider the rezoning of partial or entire parcels for biodiesel and battery manufacturing uses subject to a comprehensive environmental review.
10. SCRD may consider the rezoning of partial or entire parcels in the Forestry designation to provide new or expanded industrial uses subject to:
11. A comprehensive study demonstrating that the Forestry designation is no longer required;

- a. A conceptual plan demonstrating that the development is compatible with surrounding properties, with consideration of impacts such as noise, buffering, on-site stormwater/drainage management and impacts of light;
 - b. A comprehensive traffic study identifying the potential impacts of increased vehicle volumes, needed improvements to the existing road network to accommodate an increase in traffic and improvements to the road network to access the site. All traffic studies shall be referred to the Province;
 - c. A report completed by a qualified professional(s) determining measures to protect the environment, biodiversity, and Species and Ecosystems at Risk;
 - d. A report completed by a qualified professional(s) determining measures to protect development from natural hazards including sea level rise;
 - e. A report completed by a qualified professional(s) determining adequate water supply and a sewage disposal area is available for the proposed development;
 - f. Federal and provincial authorities support the proposal; and
 - g. Environmental compensation, if required, should be provided locally.
12. SCRD may consider rezoning of lands in this designation to allow development of a new marine terminal/deep sea dock with associated upland storage subject to SCRD and other interested agencies having an opportunity to review a conceptual development plan and understand the scope of studies and public consultation that should be provided as part of any rezoning application, including consideration of the following studies or reports:
- a. A comprehensive traffic study identifying the potential impacts of increased vehicle volumes, needed improvements to the existing road network to accommodate an increase in traffic and improvements to the road network to access the site. All traffic studies shall be referred to the Province;
 - b. A report completed by a qualified professional(s) determining measures to protect the environment, biodiversity, and Species and Ecosystems at Risk;
 - c. A report completed by a qualified professional(s) determining measures to protect development from natural hazards including sea level rise;
 - d. A report completed by a qualified professional(s) determining adequate water supply and a sewage disposal area is available for the proposed development;
 - e. Federal and provincial authorities (such as Fisheries and Oceans Canada) support the proposal; and
 - f. Environmental compensation, if required, should be provided locally.

Sand and Gravel Extraction

- 16** The management of mineral resources falls primarily under provincial jurisdiction, such as sand and gravel extraction. However, processing activities such as crushing, sorting and cleaning, are subject to local government zoning regulations.

The Provincial Government, through the *Sunshine Coast Aggregate Potential Mapping Project (2002)*, identified the parts of the Plan area with primary, secondary and tertiary aggregate potential, as shown on Map 4 – Aggregates. This is the first approximation of aggregate potential and is not a substitution for independent exploration and assessment. It is meant to delineate areas that possess characteristics that are conducive to hosting natural aggregate deposits.

Sand and Gravel Objectives

1. Protect known viable resources from development that may render the resource unviable or inaccessible.
2. Minimize conflicts between extraction activities and adjacent land uses.
3. Minimize the impact of extraction and processing activities on the natural environment and natural assets.
4. Encourage site rehabilitation and reclamation of mined landscapes for subsequent productive use and environmental and aesthetic values.
5. Protect water quality to sustain environmental integrity and domestic consumption.

Sand and Gravel Policies

1. Applications for zoning bylaw amendments or Temporary Use Permits to allow aggregate processing and Provincial referrals for aggregate extraction shall be considered subject to:
 - a. A strategy to address impacts of the aggregate extraction proposal:
 - i. on the site and on adjacent parcels;
 - ii. on existing land uses in the area, with an emphasis on existing on-site industrial activity; and
 - iii. the potential for relocation and returning the site to future industrial use;
2. A report completed by a qualified professional(s) determining the feasibility of removing the resource, including impacts of transport by road or barge;
3. A report completed by a qualified professional(s) determining measures to protect the environment, biodiversity, and Species and Ecosystems at Risk, and environmental compensation, if required, should be provided locally;
4. An assessment completed by a qualified professional(s) determining natural hazard protection measures to address sea level rise and flooding; and

5. A site remediation plan to return the site to a usable state (such as for industrial development or revegetation for forestry).
6. Proposed mining operations that drain into residential areas where domestic water licences are on creeks in the drainage area shall:
 - a. Define a management strategy for proposed mining operations to protect drinking water; and
 - b. Implement Best Management Practices with the goal of achieving zero turbidity, sediment and pathogen input into nearby creeks or streams.

Marine Water

- 17** The Marine Water designations include the foreshore and surface of the water in Thornbrough Channel, Howe Sound, which extends 750 metres seaward from the shoreline's natural boundary. There are two marine water designations: Industrial Marine and General Marine.

Deep marine water in the area has the potential to support deepwater vessel transportation, which is located adjacent to the industrial uplands. This provides an opportunity for industrial growth in the Plan area. Challenges include balancing the various marine uses such as industry, recreation, and sustenance foraging.

SCRD supports partnering with the Skwxwú7mesh Nation in developing a Marine Use Plan for Howe Sound. Overall, Howe Sound has seen environmental improvements as some heavy industries (such as the Britannia Mine) have closed and reclamation efforts have taken effect.

Trails BC has developed a Sea to Sky Marine Trail in Howe Sound to support active recreation such as kayaking and stand-up-paddle boarding. Despite the area being home to active log dumps/sorts, the trail route passes through the Twin Creeks area.

Marine seagrasses, such as eelgrass beds, are sensitive, near-shore habitats that provide food and shelter for a wide range of marine species. These coastal marine ecosystems sequester and store carbon from the atmosphere and oceans. Development on the foreshore should be designed to protect marine foreshore health.

Industrial Marine

- 18** Industrial marine uses contribute to the economic diversity of the Sunshine Coast community. This designation includes the foreshore and surface of the water in Howe Sound, as well as Provincial tenures that are currently being used for industrial activities.

The majority of the foreshore in Thornbrough Channel is licensed for uses related to timber harvesting and processing activities. Provincial tenures have been issued for uses that require a transfer of goods, including storage, between water and land.

The intent of this designation is to recognize its use for log booming and storage and other marine transportation purposes.

Industrial Marine Objectives

1. Retain Industrial Marine areas.
2. Recognize that Industrial Marine areas are vital to resource and industrial activities that take place on the adjacent upland properties.
3. Recognize that Industrial Marine areas pose certain hazards to recreational users and that the general public should take extra care when using these waters.
4. Include the consideration of the industrial nature of the Twin Creeks area in the Skwú7mesh Nation Marine Use Plan.

Industrial Marine Policies

1. Uses in the Industrial Marine designation shall include:
 - a. log booming and sorting including the storage and maintenance of log booming and sorting equipment;
 - b. transfer and storage of forestry and industry related goods;
 - c. marine ways;
 - d. moorage of marine transportation vessels; and
 - e. boat ramp for launching and removing marine craft.
2. Prohibited uses include marine aquaculture.
3. Provincial tenure expansion referrals for marine industrial uses shall be located within the Industrial Marine designation.
4. Support for zoning bylaw amendments may be considered to allow a commercial or industrial marina, marine terminal and services, or deep sea dock subject to:
 - a. A comprehensive report prepared to address impacts of the marina/marine terminal/deep-sea dock on existing industrial uses, such as log sorting and booming, with consideration of impacts such as noise, buffering, and impacts of light;
 - b. A comprehensive marine assessment completed by a qualified professional(s) that supports the proposal and identifies measures to protect or compensate for impacts to the seabed, seagrasses, marine environment, marine biodiversity, and Species and Ecosystems at Risk;
 - c. Environmental compensation, if required, should be provided locally;
 - d. A comprehensive traffic study identifying the potential impacts of increased vehicle volumes, needed improvements to the existing road network to accommodate an increase in traffic and improvements to the road network to access the site. All traffic studies shall be referred to the Province;
 - e. A report completed by a qualified professional(s) to determining measures to protect development from natural hazards including sea level rise and flooding;

- f. A report completed by a qualified professional(s) determining adequate water supply and sewage disposal is available for the proposed development;
 - g. Federal and provincial authorities (such as Fisheries and Oceans Canada) support the proposal.
- 5. Provincial tenure referrals for marine development shall include a marine assessment completed by a qualified professional(s) that supports the proposal and identifies measures to protect or compensate for impacts to the seabed, seagrasses, and marine environment.
- 6. Upon request, SCRD will work with the Skwxwú7mesh Nation on the development of its Marine Use Plan to include reference to the marine industrial considerations of the Twin Creeks area.
- 7. Support may be provided to fill or dredge the foreshore for the purpose of providing additional industrial use, subject to:
 - a. A strategy addressing the impacts of foreshore fill on existing adjacent uses;
 - b. A comprehensive marine assessment completed by a qualified professional(s) that supports the proposal and identifies measures to protect or compensate for impacts to the seabed, seagrasses, marine environment, marine biodiversity, and Species and Ecosystems at Risk;
 - c. Environmental compensation, if required, should be provided locally.
 - d. An assessment completed by a qualified professional(s) determining natural hazard protection measures to address sea level rise and flooding;
 - e. A report completed by a qualified professional(s) determining adequate water supply and sewage disposal is identified in the proposal;
 - f. Federal and provincial authorities are provided with an opportunity to comment on the proposal.

General Marine

- 19** The General Marine designation is land and water that is important for public use for foreshore and marine-based recreation and foraging, and marine transportation.

The General Marine designation includes the foreshore and surface of the water in Howe Sound along the Witherby Point properties. The foreshore and water fronting Witherby Beach Road and Rusty Scupper Road is not currently under tenure and is identified for public use.

General Marine Objectives

1. Protect the foreshore and marine environment.
2. Establish areas for public use that is compatible with surrounding industrial uses.
3. Protect marine safety.

4. Maintain public access to the foreshore and marine waters, especially at the end of Rusty Scupper Road.

General Marine Policies

1. The general marine designation shall include the following uses:
 - a. a residential private mooring facility
 - b. a shared residential private moorage facility
 - c. a public boat ramp for launching and removal of marine craft
 - d. a park
2. Shared residential private moorages are supported to reduce the cumulative impacts of numerous moorages along the shoreline, even where an upland residential use is not established.
3. Prohibited uses include the installation and use of marine ways.
4. Moorage structures shall be designed to:
 - a. maintain public use of and access to foreshore areas
 - b. protect aquatic habitats such as eelgrass beds and sponge reefs
 - c. preserve the natural environment
5. Activities that prevent public access to the water at the end of Rusty Scupper Road will not be supported.
6. Provincial tenure referrals for marine development shall include a marine assessment completed by a qualified professional(s) that supports the proposal and identifies measures to protect or compensate for impacts to the seabed, seagrasses, and marine environment.

Forestry

- 20** The majority of land in the Plan area is used for forestry and forestry-related activities and is the primary location on the Sunshine Coast for log sorting. Forestry contributes to the economic viability of the region and provides employment opportunities for Sunshine Coast residents. The management of forestry biomass materials provide a challenge but is also a resource for future economic opportunity.

The Forestry land use designation is identified to protect the land base for sustainable forest management practices. Sustainable forest management practices balance economic benefits with community values and environmental protection.

Forestry designated land is also used for recreation and harvesting of non-timber forest products including fruits, nuts, vegetables, medicinal plants, barks and fibres, mushroom products, and game animals. This designation includes privately managed forest lands and Provincial forest lands.

Privately managed forest lands are regulated by the [Private Managed Forest Land Act](#) which protects the landowners' right to harvest and use the land for forest management activities.

Forestry on provincial land is regulated by the [Forest and Range Practices Act](#) and the Province has jurisdiction over provincial land use. Most provincial forest lands in the Plan area is under tenure for timber-harvesting and forest management activities.

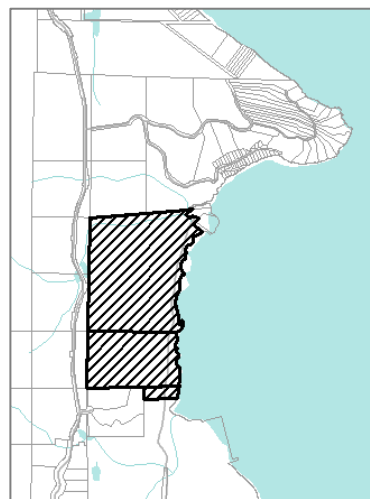
Woodlots that combine private-managed forest land and provincial land have the opportunity to increase an annual allowable cut, which increases the economic viability of the industry.

Forestry Objectives

1. Acknowledge that a sustainable forest industry is an important economic contributor to the local economy.
2. Ensure forest lands are managed on a sustainable yield basis.
3. Protect forest lands and the natural resource land base for its resource value and renewable resource potential.
4. Recognize opportunities for multiple uses of land that do not reduce its primary forestry use.
5. Retain large land holdings for its forestry-related economic value.
6. Protect water quality to sustain environmental integrity and domestic consumption.
7. Protect riparian zones, fish habitat, and species and ecosystems at risk.
8. Maintain public use of provincial land for recreational use and enjoyment.

Forestry Policies

1. Uses for Forestry designated land shall include forest management activities such as growing and harvesting timber and other forest products, forest-based outdoor recreation, restoration and enhancement of the natural environment, and integrated resource management.
2. Auxiliary uses may include log booming, sorting and storage of timber harvested on the same parcel, wood processing of timber harvested on the same parcel, in the forms of sawmills, shake mills and wood chippers, and a dwelling.
3. Compatible land uses that do not reduce its primary forestry use include agriculture, forest or wilderness recreation, outdoor natural science education or research, and non-timber harvesting.
4. Outdoor recreation is permitted on Forestry designated lands unless there are hazards or the need has been identified to protect environmentally sensitive features.



5. The minimum parcel size of newly subdivided lots shall be 100 hectares in order to minimize the potential for fragmentation and alienation of land from the working forest land base.
6. Support for a bylaw amendment may be considered to allow industrial use and 4-hectare minimum parcel sizes on District Lots 1405, 1439, and 1440, (shown on left Figure) subject to a comprehensive study completed by a qualified professional(s) demonstrating that forestry is no longer viable.
7. Forest stewardship plans and operation plans should be shared with SCRD and community groups well in advance of proposed harvest dates to obtain community feedback on proposed operations.
8. Forest management activities shall:
 - a. Maintain or improve freshwater quality within the drainage system of watercourses, lakes or wetlands;
 - b. Protect the visual integrity and aesthetic appeal of the Plan area;
 - c. Protect riparian zones, fish habitat, and species and ecosystems at risk;
 - d. Determine the sustainable yield for timber harvesting;
 - e. Manage soil erosion and sediment runoff from properties downstream.
9. Forest management activities that drain into residential areas where domestic water licences are on creeks in the drainage area shall:
 - a. Define a management strategy for proposed forestry operations to protect drinking water; and
 - b. Implement forest practices and Best Management Practices with the goal of achieving zero turbidity, sediment and pathogen input into nearby creeks or streams.

Rural Residential

- 21** According to the [Local Government Act](#), an Official Community Plan must contain statements and land use designations to indicate the location, amount, type and density of residential development to meet anticipated needs for a period of at least 5 years.

The Plan area has very few full-time residents. It contains some residential development in the Witherby Road/Witherby Beach Road area and Latona Road/Port Mellon Highway area. Many residential properties were vacant at the time this Plan was adopted. Developing vacant properties will provide housing that contributes to the 5-year supply and second dwellings may provide additional options for affordable, rental, and workers' housing needs.

Residential and other types of urban development uses are encouraged to locate nearer to existing commercial, institutional and recreational facilities and where services are already available. Within the West Howe Sound Electoral Area, significant contributions to the housing

supply are set out in the West Howe Sound OCP. For this reason, the Twin Creeks area is not anticipated to provide a significant contribution to SCRD's overall housing supply.

There may be scope to incorporate new residential as part of mixed-use development and the focus should be on providing housing for workers within Twin Creeks or the Hillside/Port Mellon area. Another form of housing that may be provided within Twin Creeks is caretaker/watchman accommodation auxiliary to industrial development.

Lands within the Rural Residential designation typically have an independent water supply and wastewater is treated and disposed of on-site through ground disposal septic systems. Some properties within the Rural Residential designation are provided with domestic water from surface or groundwater sources.

Challenges in developing in the Rural Residential area is the lack of a community domestic water system or community sewage system. The expansion of a community water or sewer service in the Plan area is not anticipated.

The area is not within an SCRD fire protection area, nor the refuse collection service area.

Rural Residential Objectives

1. Maintain the low-density, rural character of the Rural Residential designation.
2. Support home occupations and auxiliary small-scale employment opportunities that are compatible in scale with rural residential development.
3. Minimize residential conflicts between rural residential development and industrial, forestry, silviculture and resource extraction activities.
4. Encourage a range of housing types and opportunities to address affordable, rental, and worker's housing needs.
5. Protect residential development from hydrological and geotechnical hazards.
6. Protect the supply and quality of groundwater and surface water for domestic consumption and use.
7. Support the consolidation of small parcels on DL 1637.

Rural Residential Policies

1. Uses in the Rural Residential designated land includes residential, home occupations and small-scale commercial, industrial, and agricultural uses.
2. Affordable, rental, and workers' housing needs shall be implemented through zoning allowing a variety of low-density housing types including auxiliary dwellings, secondary suites, mobile homes, temporary accommodation, bed and breakfasts and short-term rentals, subject to parcel sizes and limitations.
3. A minimum parcel size of 4 hectares for subdivision shall be maintained to discourage an increase in residential density in the Plan area.
4. Support the consolidation of small parcels in DL 1637 to a 2000 m² minimum to allow each parcel to be serviced with on-site domestic water and sewage treatment.

5. Community water or community sewer systems managed by SCRD for DL 1637 is not supported.
6. Support measures to minimize impacts from adjacent industrial and resource development on the Rural Residential designated land.
7. Establish buffer zones between rural residential development and industrial, forestry, silviculture and resource extraction activities to minimize conflicts.

Rural-Industrial

22 The Rural-Industrial land is intended to be a buffer between the heavy industrial and rural residential lands. The Rural Industrial designated lands support light industrial uses as well as residential uses.

This land use designation provides opportunities for workers to live on site and expand industrial businesses on site. Challenges in the area include the lack of services such as domestic water, sewage treatment, mobile phone reception, and fire protection.

Rural-Industrial Objectives

1. Support an integrated residential community based primarily on enhancing the industrial nature/culture of the surrounding lands.
2. Provide a buffer between Industrial and Residential uses.
3. Encourage light industrial uses with a provision to provide workers housing in the form of sleeping units.
4. Recognize opportunities for small-scale industrial activities as home occupations.

Rural-Industrial Policies

1. Uses in the Rural-Industrial designation include light industry, agriculture, forestry, low-impact recreation, and residential uses.
2. The maximum number of dwellings is two per parcel to limit residential density in a light industrial area.
3. The average size of newly subdivided parcels in the Rural-Industrial designation shall be 4 hectares with a minimum 2-hectare parcel size.
4. Support innovative development proposals that maximizes land for industrial use.
5. Support for bylaw amendments may be considered to increase the Rural Industrial land base subject to:
 - a. Measures to prevent conflicts between residential and non-residential uses such as screening and locating dwellings away from industrial uses within the parcel;
 - b. A provision for housing for workers in the local Twin Creeks and Hillside area, secured by a legal agreement;

- c. A covenant registered on title noting the primary use of the surrounding area as non-residential with elevated noise levels; and
- d. Sewage disposal and water supply accepted by SCRD and Provincial authorities.

Agriculture

23 The Agriculture land use designation is identified to protect and enhance the agricultural land base and to provide food security and employment. There are approximately 35 hectares of land in the Agricultural Land Reserve (ALR) which includes District Lot 3498 and a portion of District Lot 1463. The ALR has approximately a 12% slope from north to south, however, there are flat areas in the southern portion of District Lot 3498 below Witherby Beach Road. Cut Creek flows along the west side of the ALR.

The [Agricultural Land Commission Act](#) and regulations establish activities that are permitted in the ALR and identify those that a local government may regulate or exclude. The Agricultural Land Commission regulations identify farm uses, which includes timber production, harvesting, silviculture and forest protection.

Agriculture Objectives

1. Preserve land in the Agricultural Land Reserve.
2. Maintain a secure and a productive land base for agricultural uses.
3. Encourage farming on agricultural land.

Agriculture Policies

1. Uses in the Agriculture designation include those set out in the [Agricultural Land Commission Act](#) and SCRD may introduce regulations or exclude specific activities.
2. SCRD does not support the exclusion of lands from the Agricultural Land Reserve except where it is determined by the Agricultural Land Commission that it supports an exchange for other lands of similar size and better agricultural quality to be added to the Agricultural Land Reserve.
3. In order to allow for a broad range of agricultural operations, the minimum size of newly subdivided lots shall be four hectares.
4. SCRD supports agricultural development proposals that promote food production and supply throughout the Plan area.
5. SCRD supports Industrial-agricultural uses in this area, including medical marihuana production facilities, breweries and agricultural product processing. The uses must be approved by the Agricultural Land Commission.

Parks and Recreation

- 24** There are currently no parks located within the Plan area. There is one beach access located at the end of Rusty Scupper Road, as shown on Map 3. No additional parks are proposed in the Plan area.

Marine trails exist around Bowen Island and along the coast of the Plan area. Marine trail users should use caution when recreating near industrial marine areas for safety.

Parks and Recreation Objectives

1. Acknowledge marine recreation uses, such as the Sea to Sky Marine Trail, are in close proximity to industrial activities in the Twin Creeks area.

Parks and Recreation Policy

2. Respond to referrals and work with trail groups to ensure recreation areas accommodate the industrial nature of the Twin Creeks area to ensure public safety.
3. Support the development of a public trail on DL 1736 on SCRD's Statutory Right of Way to provide a beach access.

Transportation

- 25** The transportation network is shown on Map 3.

Port Mellon Highway runs through the Plan area linking Hillside/Port Mellon on the north to the rest of the Coast on the south. It is used heavily by large, heavy vehicles and can suffer regular damage.

Some sections of the Port Mellon Highway have been widened on the shoulders to accommodate logging trucks. There are peak use periods linked to the business hours as staff come and go, however, traffic volumes in this area are generally low.

Not all road dedications line up with roads used in the Plan area due to topography.

As development along this section results in increased traffic volumes, developers should contribute to upgrading the roadway in the vicinity of their developments, based on required Traffic Impact Study findings and recommendations.

There are few access roads from the Highway into the properties towards the ocean due to the area's topography and the lack of recent subdivision activity that would allow the Province to require dedication of rights-of-way and development of roads within them. The road network needs to be improved to better serve the land uses within the Plan area.

The Plan area is not serviced by public transit, nor is there infrastructure for alternative transportation such as a park and ride or bicycle infrastructure.

The 2014 Transit Future Plan for the Sunshine Coast supports exploring car or van-pool services in Port Mellon in support of Howe Sound Pulp and Paper and Hillside Industrial Park

commuters (in the short-term) and targeted transit service to Port Mellon and Hillside Industrial Park (as a long-term implementation priority).

Transportation Objectives

1. Work cooperatively with the Province to plan a road system that effectively serves existing and future industrial and commercial uses, including forestry-related activities located inside and outside the Plan area.
2. Encourage the location of transportation rights-of-way on lands where feasible to minimize the disruption on forestry uses.
3. Promote improvements to street signage, highway dedication, and safe transportation routes in the Plan area.
4. Encourage clean energy transportation initiatives.

Transportation Policies

1. A detailed road network study should be undertaken to confirm future road requirements to serve the land uses within the Plan area.
2. Collaborate with the Province to acquire the necessary rights-of-way or road widening as land is subdivided or developed along the designated transportation routes, and redeveloping/developing the road as warranted by use and safety factors.
3. Support highway dedication providing public access to District Lots 1405, 1439 and 1440.
4. Support maintenance and upgrades to the Port Mellon Highway as a priority to improve traffic safety and efficiency.
5. Support clean energy transportation initiatives and alternatives to the private automobile such as increasing access to public transit, electrical vehicle charging infrastructure, active transportation corridors for walking and cycling commuters, and park and rides.
6. Collaborate with the Province to address transportation safety issues specifically related to:
 - a. undersized culverts under Port Mellon Highway;
 - b. deposition of sand and gravel in culverts under Port Mellon Highway;
 - c. possible susceptibility of the bridge over Twin Creek to damage from erosion or impact; and
 - d. public health and safety issues related to the highway crossings of Bear Creek, Twin Creek and Middle Ouillet Creek.

Utilities and Services

- 26** Utilities include hard infrastructures such as community water and wastewater systems, hydro infrastructure, telephone and cellular infrastructure, natural gas supply lines, and fibre optics.

These services are essential to community development. The main transmission corridor that serves the Sunshine Coast runs along the western boundary of the Plan area, mainly through the Provincial land.

The main natural gas line runs through Hillside/Port Mellon to the north and turns inland away from the Twin Creeks area, thus, not servicing the Plan area.

Neither community water supply, sewage disposal, refuse collection, nor fire protection is provided by SCRD in the Plan area.

There is an intermittent cellular reception in some areas of the Plan area and no cellular reception in other areas. This proves a challenge for those who live, work and/or play in the area.

Utilities and Services Objectives

1. Maintain environmental qualities and aesthetics by utilizing common utility corridors.
2. Promote the expansion of utilities and services in the Plan area including water supply, fire protection, high-speed internet, cellular phone service, and other technological improvements.
3. Support the development of renewable and green energy production.
4. Promote fire protection.
5. Encourage the location of utility rights-of-way on lands where feasible to minimize the disruption on forestry uses.

Utilities and Services Policies

1. New utility infrastructure is permitted throughout the Plan area subject to impact assessment requirements and community consultation.
2. Support the expansion of utilities and services in the Plan area including water supply, natural gas services, fire protection, high-speed internet, cellular phone service, and other technological improvements.
3. Support the expansion of natural gas to service the industrial designations in the Plan area.
4. To reduce the threat of property damage and spread of wildfires, property and business owners are encouraged to carefully manage vegetation near buildings and structures and coordinate fire protection on a volunteer basis.
5. Require sewage disposal and water supply for proposed developments as acceptable to SCRD and Provincial authorities.

Institutional Uses

- 27** There are no schools or other public institutional uses in the Plan area. The area is not suitable for institutional because it is not located near any dense residential areas and is primarily an industrial and resource area.

PART FOUR: DEVELOPMENT PERMIT AREAS

28 Development Permit Areas (DPA) outline restrictions on the use of land in each area.

Geotechnical Hazard DPA's, designated under section 488(1)(b) of the [Local Government Act](#), are identified for the protection of development from hazardous conditions. Environmentally Sensitive DPA's, designated under section 488(1)(a) of the [Local Government Act](#), are identified for the protection of the natural environment, its ecosystems and biological diversity. The following DPA's are mapped:

Geotechnical Hazard Development Permit Areas

1A – Coastal Flooding: sea level rise and coastal flooding

1B – Slope Hazards: landslide and rock falls, erosion and instability of oceanfront slopes

1C – Creek Hazards: flooding, debris flow, and slope instability

Environmental Protection Development Permit Areas

2 – Riparian Areas

29 A development permit is required on all lands identified in Development Permit Areas on Map 2 for the following activities:

1. Subdivision as defined in the [Land Title Act](#) and [Strata Property Act](#);
2. Building permits;
3. Land alteration, which includes, but is not limited to, the removal and deposition of soils and aggregates, paving, removal of trees, and the installation of septic fields; and
4. Building on the foreshore, which includes, but is not limited to, docks and mooring facilities.

Geotechnical Report Requirements

30 The following outlines requirements for geotechnical reports.

1. Development or alteration of land within geotechnical hazard areas as identified on Map 2 shall require a geotechnical report, prepared by a BC registered professional engineer with experience in geotechnical engineering and preferably also with experience in hydraulic engineering.
2. The report shall include an analysis of the land located within the development permit area as well as an analysis of the proposed developments including, but not limited to, building footprint, septic field and land alteration, including tree removal.
3. The geotechnical report will determine the conditions and requirements of the Development Permit and shall certify that the land may be used safely for the use intended.

4. The geotechnical report shall include the signature and seal of a BC registered professional engineer with experience in geotechnical engineering.
5. The geotechnical report shall take into consideration provincial requirements and the *Guidelines for Legislated Landslide for Proposed Residential Development in BC*, from APEGBC, 2010.
6. The report shall include additional field definitions and requirements outlined in specific hazard zones below.

Development Permit Exemptions

31 A development permit is not required for:

1. A proposed construction that involves a structural change, addition, or renovation to existing conforming or lawfully non-conforming buildings or structures, provided that the footprint of the building or structure is not expanded and provided that it does not involve any alteration of land.
2. The planting of native trees, shrubs, or groundcovers for the purpose of enhancing the habitat values and/or soil stability within the DPA.
3. The removal of invasive plants provided there is replanting of native vegetation in its place.
4. A subdivision or rezoning application, where an existing or proposed covenant with reference plan based on a qualified professional's review of the subject DPA, is registered on title or its registration secured by a solicitor's undertaking.
5. Construction commencing on a property within two years of an issued development permit.
6. Construction commencing on a property with a covenant registered on title which outlines development limitations regarding the Development Permit Area.
7. Emergency procedures to prevent, control, or reduce erosion, or other immediate threats to life and property provided they are undertaken in accordance with the provincial [Canada Water Act](#), [Canada Wildlife Act](#), and the [Fisheries Act](#), and are reported to the Regional District.
8. Lands subject to the [Forestry Act](#), [Forest and Range Practices Act](#) or [Private Managed Forest Land Act](#); and

In addition to the list above, a geotechnical hazard development permit is not required for:

9. "Low Importance" structures or buildings that represent a low direct or indirect hazard to human life in the event of failure, including low human-occupancy buildings, where it can be shown that collapse is not likely to cause injury or other serious consequences.
10. The removal of up to 2 trees over 20 centimetres, measured at 1.5 metres in height, or 10 square metres of vegetated area per calendar year per lot, provided there is replanting of 4 trees or re-vegetation of the same amount of clearing.

11. Sundeck additions or other projecting features of non-habitable portions of a building within Development Permit Area 1A (Coastal Flooding).

Geotechnical Hazard Development Permit Areas

- 32** In 2015, Kerr Wood Leidel Associates Ltd. Consulting Engineers (KWL) conducted an inventory of hazardous lands within the Plan area and provided recommendations on the safe use of these lands.

Coastal Flooding – Development Permit Area 1A

- 33** Coastal flooding includes flooding of lower-lying coastal terrain, which may arise as a result of astronomic tides, storm surges, wave run-up, and sea level rise.

Provincial Guidelines prepared by Ausenco Sandwell in 2011 establish the flood control guidelines.

The Coastal Hazard DPA extends from:

1. the ocean to eight metres Canadian Geodetic Datum; and
2. 15 metres seaward

Objectives

1. Minimize the risk to people and property from coastal flood hazards such as astronomic tides, storm surges, wind and wave run up and set up, and sea level rise.
2. Develop safely and minimize the impacts on or near coastal flood zones.
3. Reduce coastal flood hazards to people and property by carefully managing development and construction practices on or near coastal lands.

Guidelines to Address Objectives

1. A geotechnical report, prepared by a BC registered professional engineer with experience in geotechnical engineering and preferably also with experience in hydraulic engineering, shall include an analysis of the coastal flood hazard including:
 - a. An estimation of coastal flood levels for the expected life of the development;
 - b. An outline of all protective measures required to achieve the Flood Construction Level (e.g. engineered fill or foundations or coastal bank protection or building envelope design);
 - c. For development on areas on properties below 8 metres Canadian Geodetic Datum (CGD) a coastal flood hazard assessment must include estimation of coastal flood levels, consideration of future sea level rise and wave run-up effects as outlined in Provincial Guidelines; and
 - d. Mitigation measures.

Slope Hazards – Development Permit Area 1B

- 34** Slope hazards include slope failure, landslides, rock falls and erosion and instability of oceanfront slopes. Hazards may arise as a result of coastal erosion (e.g. undermining of the toe), poor or mismanaged drainage, gradual weakening, or seismic shaking. This DPA encompasses areas in the Plan where slope hazards have the highest probability to occur.

The potential for open slope failures in the Plan area was identified where there are areas of moderately steep and steep terrain. Potential landslide impact areas were estimated for slopes of 10 metres in height or greater. Impact areas were estimated based on the landslide travel angle details. Open slope crests are mapped where initiation of a landslide may occur.

Slope hazards may occur in other areas not identified in the DPA as a result of changes in land use, land disturbance, or extreme precipitation events.

Seismic-initiated slope hazard (earthquake) areas are not identified as DPA's and need to be considered under current guidelines for assessment of slope hazards developed by APEGBC.

The Coastal Hazard DPA extends from:

1. the future estimated natural boundary to a horizontal distance of at least 3 times the height of the bluff
2. Slopes of 10 metres in height or greater
3. Bluffs higher than 10 metres

Objectives

1. Minimize the risk to people and property from slope hazards such as slope failure/landslide, rock falls, wind and wave run up and set up, coastal erosion (e.g. undermining of the toe), poor or mismanaged drainage, gradual weakening, and seismic shaking.
2. Develop safely and minimize the impacts on or near steep or coastal slopes or bluffs.
3. Reduce slope hazards to people and property by carefully managing development and construction practices on or near steep slopes and high bluffs.

Guidelines to Address Objectives

1. A geotechnical report, prepared by a BC registered professional engineer or professional geoscientist with experience in geotechnical engineering, shall include an analysis of the slope hazard, and as appropriate for the site:
 - a. A landslide risk assessment.
 - b. Slope profiles with documentation of the limits of slope instability. Consideration shall be given to the limits and types of instability and changes in stability that may be induced by forest clearing. The down-slope impact of forest clearing and land development shall also be considered. Slope stability assessments shall consider potential coastal erosion under conditions of future sea level rise.

- c. A detailed stability assessment indicating foreseeable slope failure modes and limiting factors of safety, and stability during seismic events.
- d. An assessment of shallow groundwater conditions and the anticipated effects of septic systems and footing drains on local slope stability.
- e. A recommendation of required setbacks based on slope height, erosion susceptibility, and stability from the crest of steep slopes and/or toes of steep slopes, and a demonstration of suitability for the proposed use.
- f. Appropriate land use mitigation measures, such as restrictions on tree cutting, surface drainage, filling and excavation.
- g. If required, the definition of the site-specific rock-fall shadow area, including an indication of the appropriate buffer zone and required protective works.

Creek Hazards – Development Permit Area 1C

35 Creek hazards include flooding, debris floods, debris flow, and slope instability associated with ravine sidewalls. There are three categories within this DPA: creek corridor, ravines, and floodplain. Creeks in the Plan area were examined by the KWL consulting engineers; each creek contains its own set of potential hazards.

Alluvial fans or low channel confinement areas are either current or former deposition zones that provide opportunities for channel avulsions (significant erosion) to occur.

Most Creek Hazard DPA's are also within the Riparian Areas DPA's.

The Creek Hazard DPA is located within:

1. Streams and creeks
2. 30 metres from the streamside natural boundary
3. 30 metres from ravine crests
4. Alluvial fans or areas of low channel confinement, typically at the mouth of a creek

**A Creek Hazard development permit is not required for sundeck additions or other projecting features of non-habitable portions of a building within the Creek Hazards DPA.*

Objectives

1. Minimize the risk to people and property from creek hazards such as flooding, debris floods, debris flow, and slope instability associated with ravine sidewalls.
2. Develop safely and minimize the impacts on or near creek corridors.
3. Reduce creek corridor, ravine and flood hazards to people and property by carefully managing development and construction practices on or near coastal lands.

Guidelines to Address Objectives

1. A geotechnical report, prepared by a BC registered professional engineer or professional geoscientist with experience in geotechnical engineering and preferably also with experience in hydraulic engineering, shall include an analysis of the creek hazard, and as appropriate for the site:
 - a. Flood and debris flow hazard assessments shall include a survey of the natural boundary of the creek, and the degree of confinement (e.g. typical cross-sections) and shall consider upstream channels and floodways, debris dams, culverts, sources of debris (channels and eroded banks) and related hydrologic features.
 - b. The analysis shall include an estimate of the 200-year return period peak flow and corresponding flood elevation.
 - c. Consideration shall be given to the potential for overbank flooding due to blockages in the creek, such as at upstream road crossings, or areas where debris accumulates.
 - d. A recommendation of required setbacks from the ravine crests and/or toes of a ravine or other steep slopes, and a demonstration of suitability for the proposed use.
 - e. Appropriate land use mitigation measures such as recommendations relating to construction design requirements for the development, on-site stormwater drainage management and other appropriate land use recommendations.

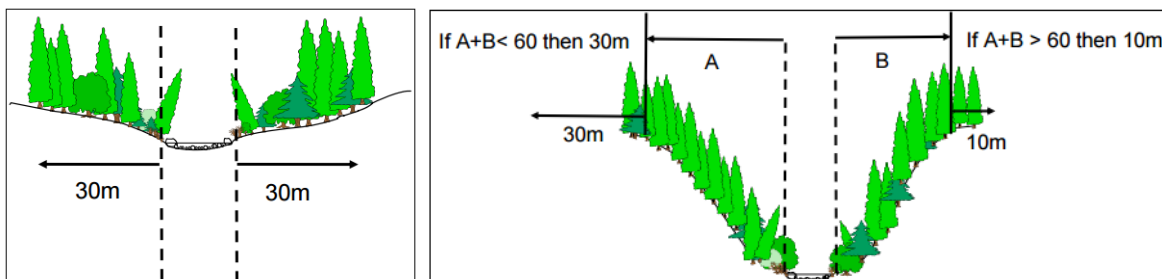
Environmentally Sensitive Development Permit Area

Riparian Areas – Development Permit Area 2

36 Riparian areas link water to land. They border streams, lakes, and wetlands. The blend of the streambed, water, trees, shrubs and grasses in a riparian area provides fish habitat and directly influences it. Riparian Assessment Areas apply to streams, tributaries, wetlands and lakes connected to fish and fish habitat pursuant to the Provincial [Riparian Areas Regulation](#). There is a 30-metre assessment area along watercourses, which must be considered by a Qualified Environmental Professional prior to land alteration and development.

The Riparian Areas DPA is located within:

1. All mapped and un-mapped streams, tributaries, wetlands and lakes connected to fish and fish habitat;
2. 30 metres from the natural boundary of a stream/lake;
3. for a ravine less than 60 metres wide, a strip on both sides of the stream measured from the natural boundary to a point that is 30 metres beyond the top of the ravine bank; and
4. for a ravine 60 metres wide or greater, a strip on both sides of the stream measured from the natural boundary to a point that is 10 metres beyond the top of the ravine bank;



Objectives

1. To protect fish and fish habitat.
2. To protect features, functions and conditions that are vital for maintaining stream health and productivity, including:
 - a. Sources of large organic debris, such as fallen trees and tree roots;
 - b. Areas for stream channel migration;
 - c. Vegetative cover to help moderate water temperature;
 - d. Provision of food, nutrients and organic matter to the stream;
 - e. Streambank stabilization; and
 - f. Buffers for streams from excessive silt and surface run-off pollution.

Guidelines to Address Objectives

1. Development or alteration of land within riparian areas as identified on Map 2 shall require a report, prepared by a qualified environmental professional with experience in assessing impacts on fish habitat, preferably with knowledge of federal and provincial guidelines for the protection of freshwater/marine environments which will include:
 - a. An analysis of the proposed development including, but not limited to, building footprint, septic field and land alteration, including vegetation and tree removal.
 - b. The determined Streamside Protection and Enhancement Area (SPEA) with an associated map.
 - c. Conditions, recommendations and mitigation measures to protect the SPEA.
 - d. The signature of the qualified environmental professional.

PART FIVE: GLOSSARY OF TERMS

37 The following is a list of definitions:

“Canadian geodetic datum” also known as the Canadian Geodetic Vertical Datum 2013 (CGVD2013) means the coastal mean sea level for North America, defined by the equipotential surface ($W0=62636856,0m2s?2$).

“low importance structures or buildings” means low human-occupancy buildings or structures less than 10 square metres in floor area including minor storage buildings that represent low direct or indirect hazard to human life in the event of failure.

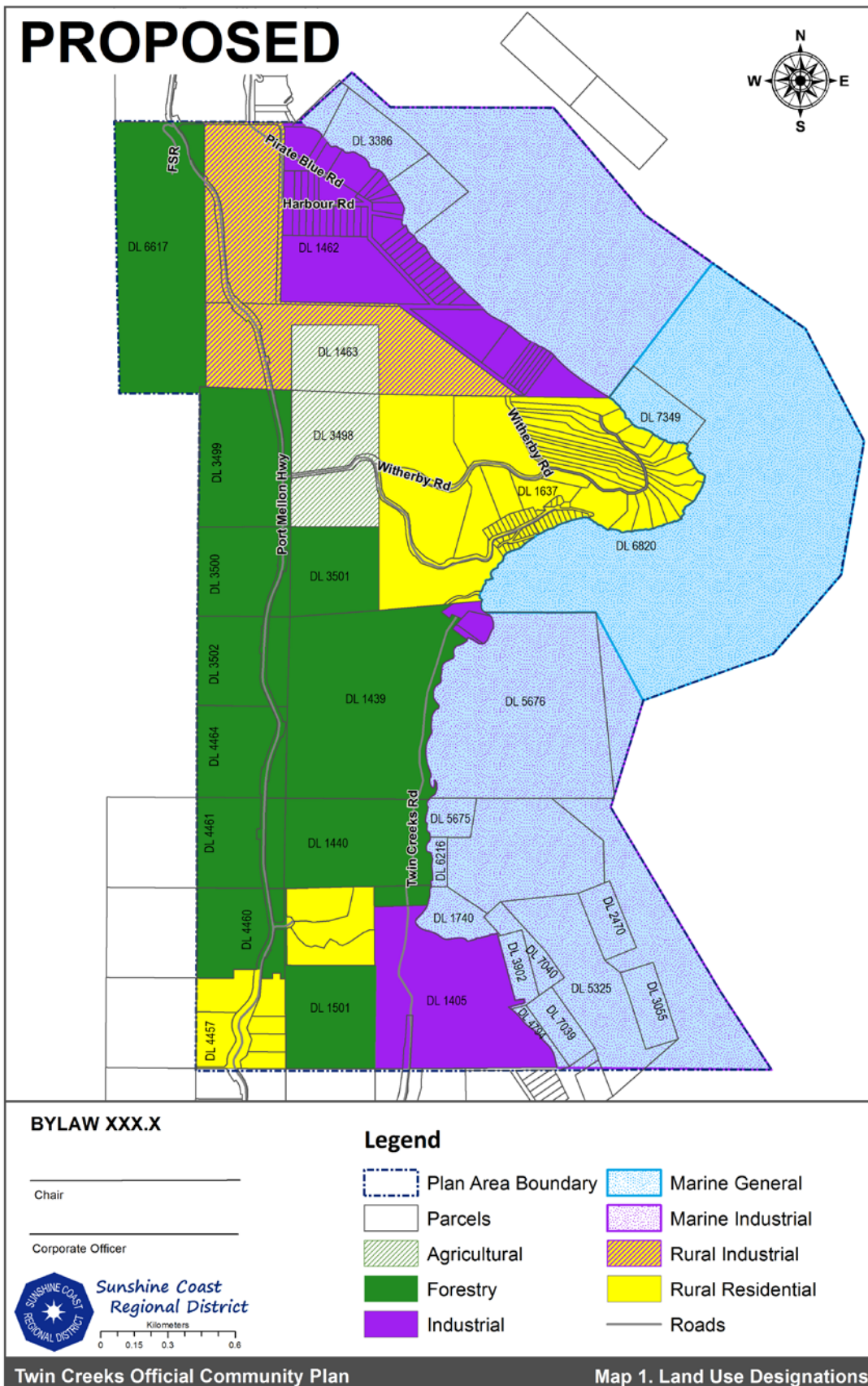
“qualified environmental professional” means an applied scientist or technologist, acting alone or together with another qualified environmental professional, if

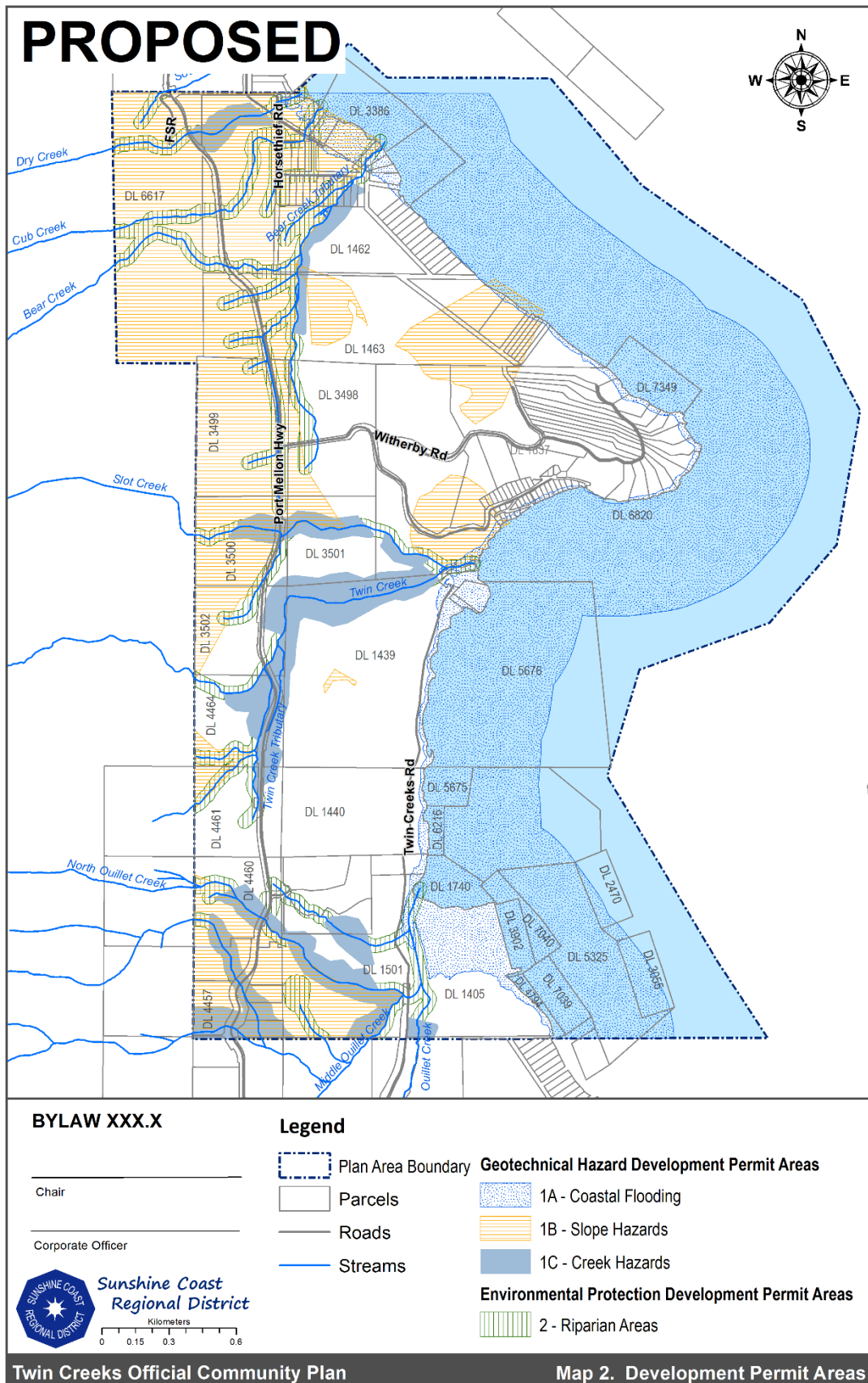
1. the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association,
2. the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and
3. the individual is acting within that individual's area of expertise;

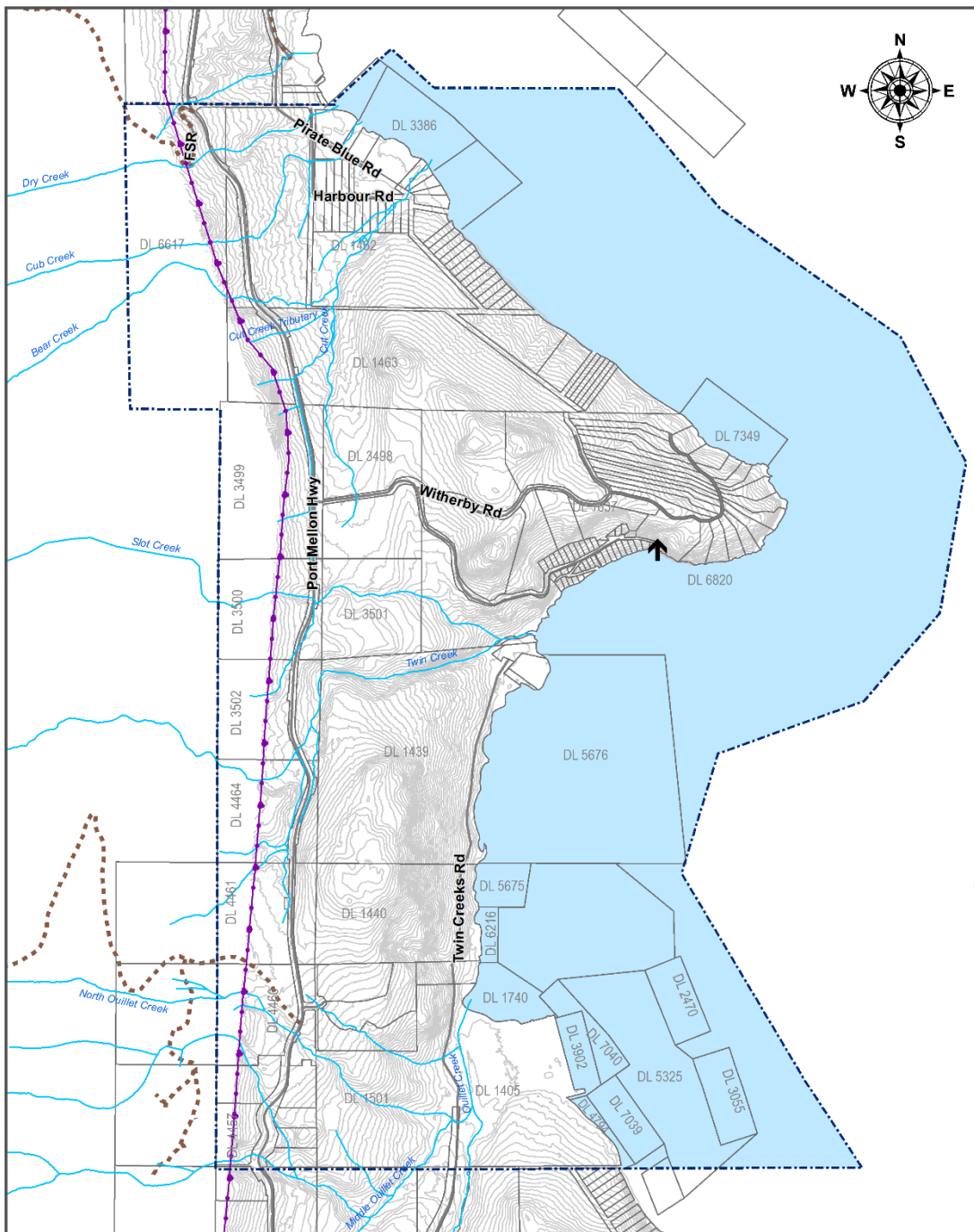
“qualified professional” means an individual who can demonstrate expertise in the relevant subject matter that is to be exercised, if the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association.

“streamside protection and enhancement area” means an area

1. adjacent to a stream that links aquatic to terrestrial ecosystems and includes both existing and potential riparian vegetation and existing and potential adjacent upland vegetation that exerts an influence on the stream, and
2. the size of which is determined according to this regulation on the basis of an assessment report provided by a qualified environmental professional in respect of a development proposal, and
3. vegetation must be considered to be "potential" if there is a reasonable ability for regeneration either with assistance through enhancement or naturally, but an area covered by a permanent structure must be considered to be incapable of supporting potential vegetation.







BYLAW XXX.X

Legend

Chair
Corporate Officer

Plan Area Boundary
Parcels
Roads
Forestry Roads

Beach Access
Hydro Transmission Lines
Contours 5m



Sunshine Coast
Regional District

Kilometers
0 0.15 0.3 0.6

