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Gibsons Foreshore and Seawalk Improvements

Gibsons Wharf to Armours Beach

June 16, 2016

Public Information Meeting

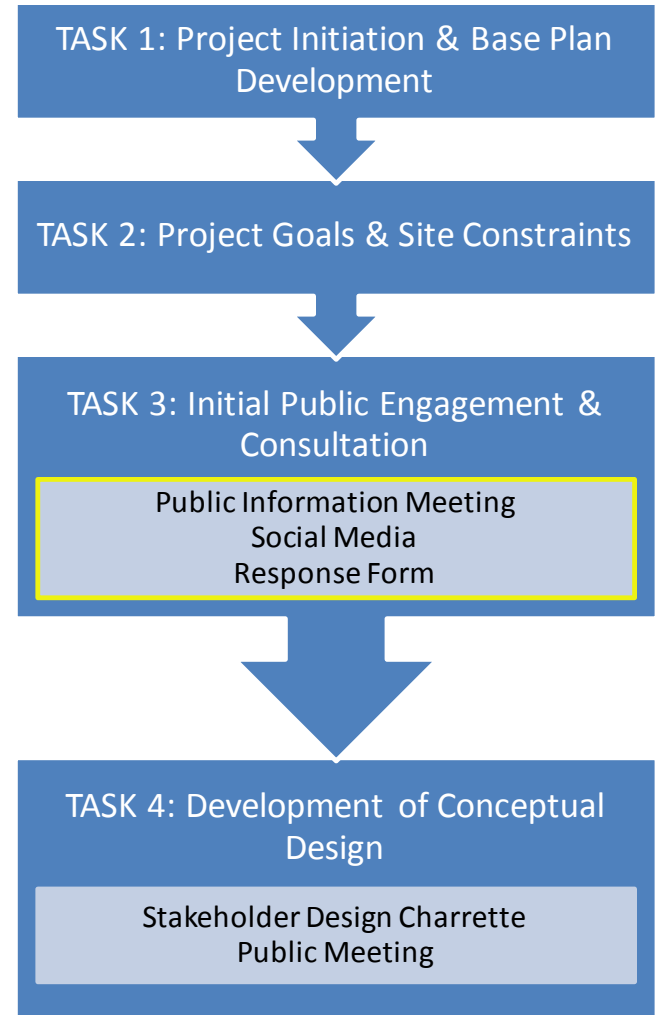
1. **Information Panels:** on display for review
2. **Questions:** project team members available for discussion
3. **Presentation:** 20 minute project overview
 - Project team introductions
 - Meeting objectives
 - Study area
 - Foreshore (history, today)
 - Technical constraints (design, environmental, regulatory)
 - Foreshore in the future
 - Reference projects
 - Next steps
4. **Feedback:** questionnaire



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The Project Team

- Town of Gibsons
- Kerr Wood Leidal Associates
 - Lanarc (Landscape Architecture)
 - Moonstone Enterprises (Eelgrass)
 - Pelagic Technologies (Marine Contracting)



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The objectives of this public information session are to:

- Introduce the Gibsons Foreshore and Seawalk Improvement project (between Gibsons Wharf and Armours Beach)
- Present background information
- Collect preliminary feedback from the public about site improvements



Photo #1442 courtesy of the Sunshine Coast Museum & Archives



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Study Area

From Gibsons Wharf to Armours Beach

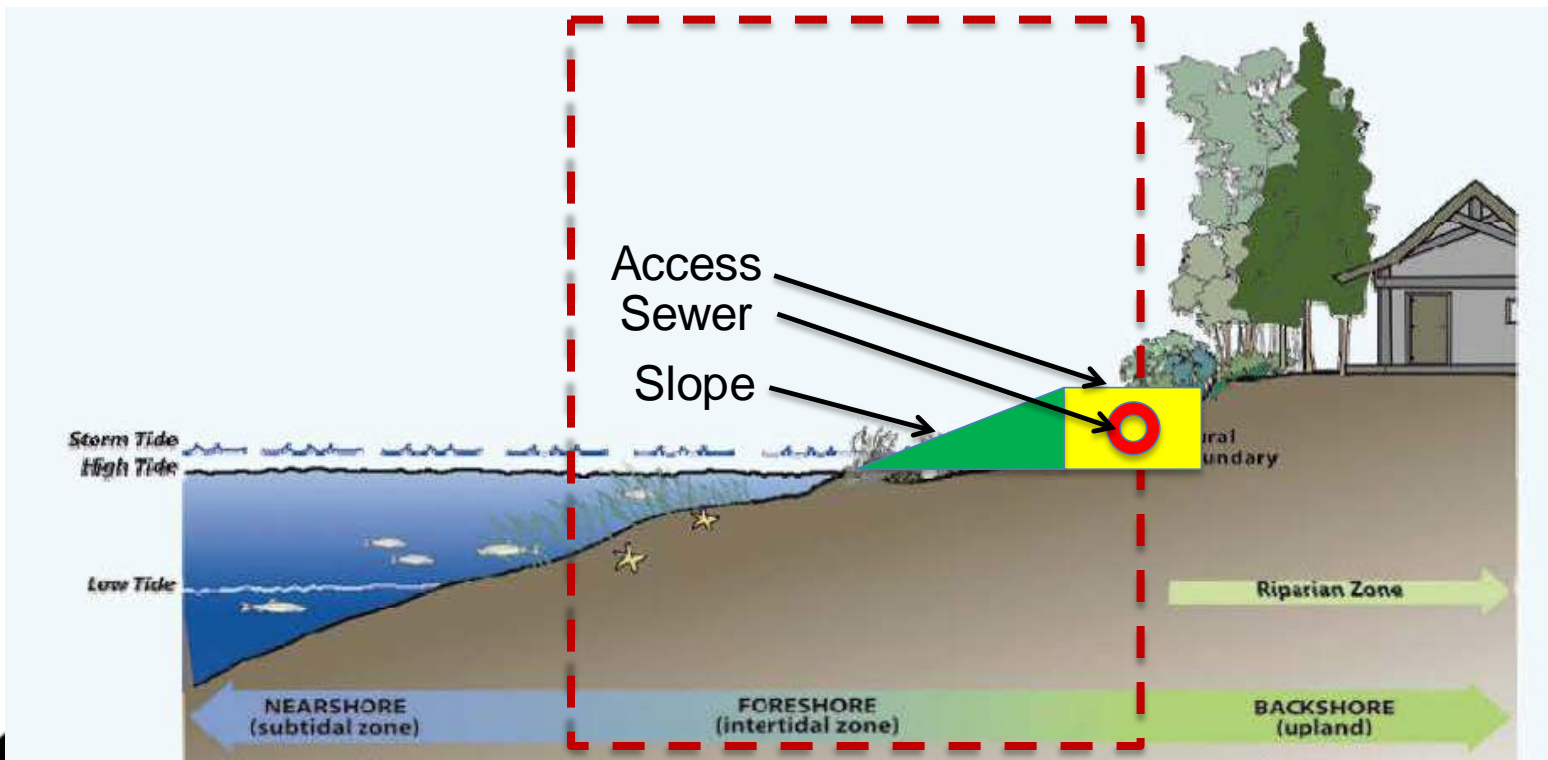
Key locations along foreshore seawalk	
1	Location of eelgrass beds
2	Armours Beach
3	Armours Beach protected swimming area
4	Vacant property
5	Cole's Marina
6	Cole's Access
7	Proposed Seaglass phase 1 site
8	Gamma's Pub
9	Wharf

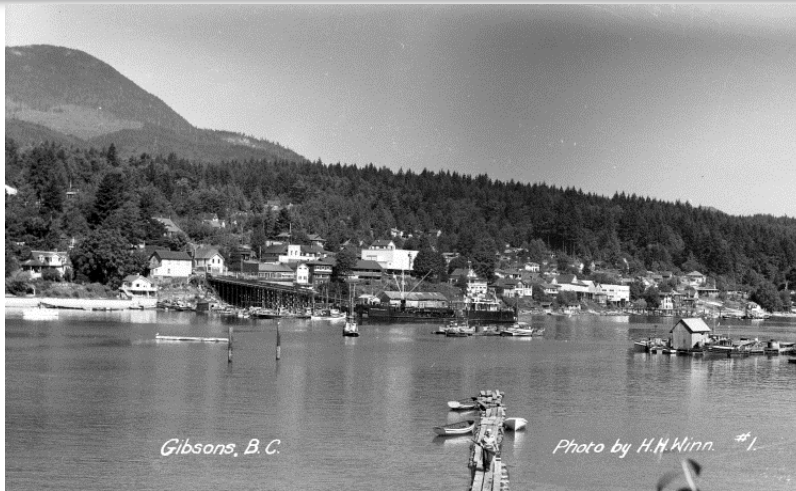


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Foreshore

“generally refers to the area between the natural boundary of the ocean and the lowest tides”





Lower Gibsons with Tanker at Wharf

(visible: Ballentine Block, Methodist church, Hill's Marine Shop, Marina House & other buildings along waterfront to Armour's Beach, c1950)



Wharf at Gibsons Landing

(visible: large crowd waiting for the ferry with some waterfront buildings, c1952)



Waterfront and Shoreline Buildings

(visible: immediately East of the Wharf looking towards Armour's Beach and Soames Hill, c1950)



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Photos (#2211, 423, 541)
Courtesy of the Sunshine
Coast Museum & Archives

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Ecosystem Services for a Range of Uses

- Part of the marine ecosystem (fish and eelgrass)
- Infrastructure servicing corridor (sanitary sewer)
- Public recreation trail (oceanfront walkway)



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Foreshore Today

Photo Tour

Wharf – Southern End of Study Area



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Foreshore Today

Photo Tour

Access/Seawalk – Looking South to Wharf



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Foreshore Today

Photo Tour

Access along properties



Foreshore Today

Photo Tour

Typical foreshore



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IN

Foreshore Today

Photo Tour

Cole's Access



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Foreshore Today

Photo Tour

Cole's Old Marine Railway



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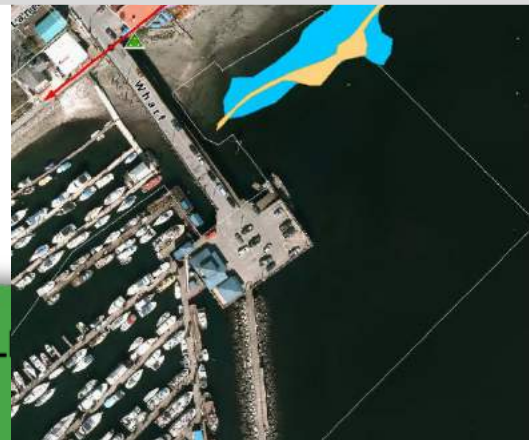
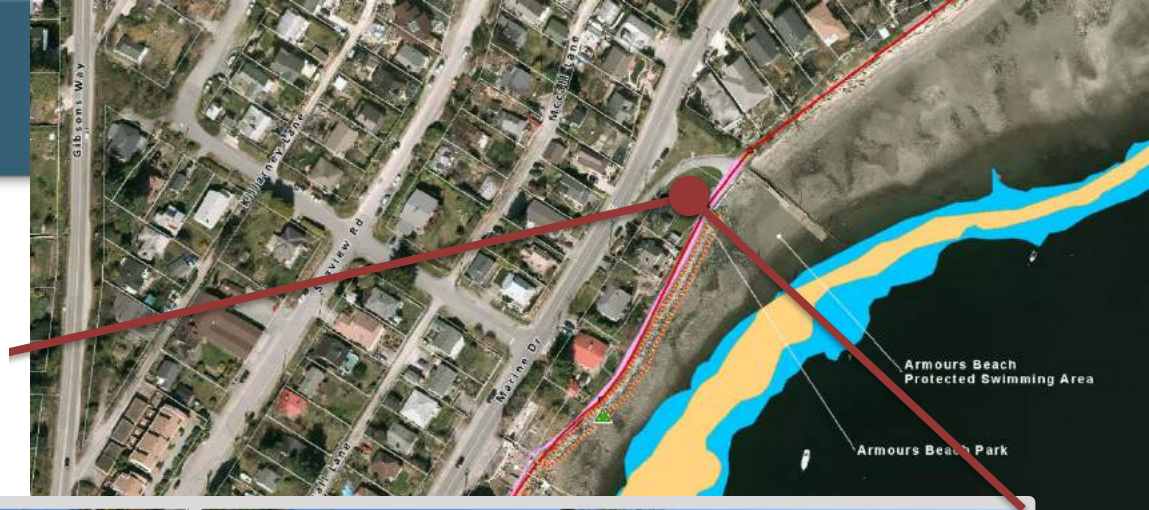


IN

Foreshore Today

Photo Tour

Armours Beach – Park and Seawalk

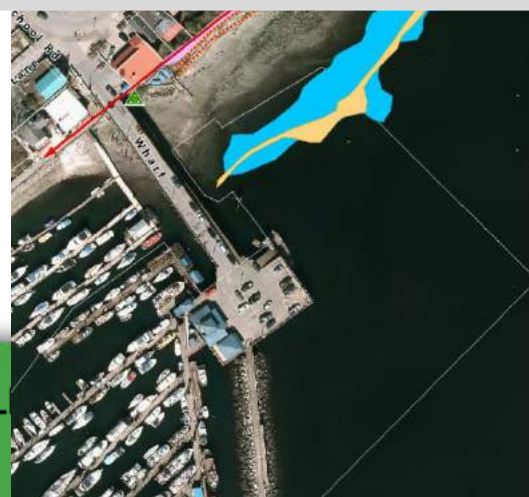


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Foreshore Today

Photo Tour

Armours Beach



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Foreshore Today

Photo Tour

Foreshore – Northern End
of Study Area



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IN

Foreshore Today

Environmental Protection

Eelgrass



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- Protection of Eelgrass, introduce moorage buoys outside Eelgrass areas (water lease review 2012)
- Armours Beach Park Improvements (2013-2015)
 - small washroom
 - natural area
 - extend beach swimming
 - interpretive signage



Cole's Access Improvements (2015)

- Partnership
 - Houston Landscapes (offered services in-kind)
 - Parks Department
 - Sunshine Coast Wildlife Project
- Removed invasive species
- Constructed a seating area and plantings
- Cole's trail connection planned being considered for 2016



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Environmental Sustainability Goals

- Preserve the natural assets, natural beauty and the environmentally sensitive areas of the Town
- Preserve and protect the environmental integrity and natural beauty of the foreshore and harbour and the pristine quality of our waters

Servicing and Infrastructure Objectives

- Recognize and value the contribution of natural assets to provide valuable services to the community
- Operate and maintain effective and reliable municipal infrastructure supported by healthy natural assets based on a cost effective long term approach



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Policies

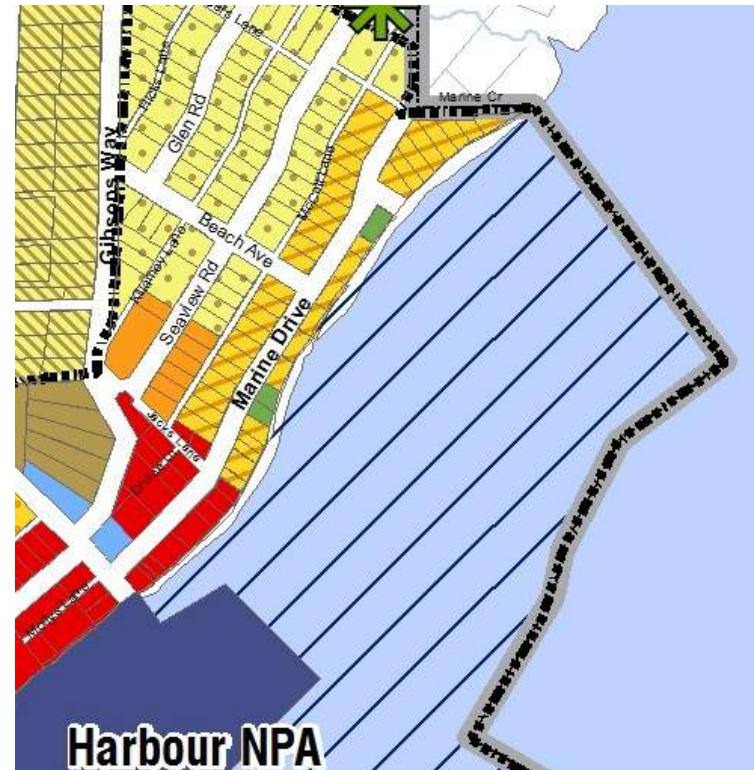
- Minimize risks to life and property from natural hazards and disasters such as floods, erosion and slides
- Maintain public access to natural areas, the shoreline, and the characteristic viewscales of the Town
- Lands that have unstable slopes, poor soil permeability, subject to flooding... shall generally be designated as greenbelt
- Ensure that deleterious substances (including sewage and other toxic materials) are not deposited into freshwater or marine aquatic environments



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Official Community Plan

- Land Use Plan
- Low Geotechnical Hazard
- Marine Shore
- Gibsons Landing Area
- Lower Gibsons Sub Area



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EcoAsset Strategy

- Added to the OCP in 2015
- Objectives:
 - Managing risk
 - Saving costs
 - Maintaining a healthy ecosystem
 - Managing the asset
- The foreshore is an important eco-asset
 - Provides a vital seawall to protect the waterfront from storm surges, sea level rise and erosion

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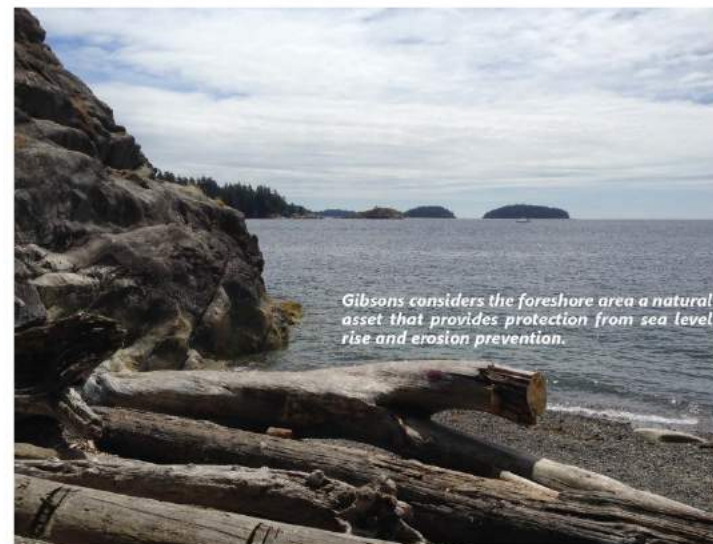
Towards An Eco-Asset Strategy

GIBSONS' FORESHORE

The Town has another important eco-asset in the foreshore of Lower Gibsons, where much of the commerce is located. The foreshore provides a vital seawall to protect the waterfront from more storm surges and sea level rise, both of which are the ongoing and now unavoidable consequences of climate change.

Natural assets help the Town of Gibsons realize its objective of having fewer assets; they also provide services to the Town at a fraction of the cost of an engineered alternative, and with proper maintenance, they can do so in perpetuity.

Engineered alternatives would be required if the foreshore became degraded, with associated capital and operating costs that likely far exceed what is required to keep the foreshore in good health. A foreshore condition assessment, completed in August 2014 by an engineering firm, provides a basis for a long-term master plan for the redevelopment of the foreshore to ensure the shoreline, associated infrastructure, and adjoining development is properly protected from an anticipated sea level rise of about one metre around the Town of Gibsons by the year 2100. This analysis will also provide a basis for long-term stewardship and for formally deeming the foreshore to be an asset within the Town management framework.



Gibsons considers the foreshore area a natural asset that provides protection from sea level rise and erosion prevention.



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Strategic Plan 2016 Objectives

Harbour Enhancement

- Developing a Gibsons Harbour Economic Strategic Plan
- **Enhancing the Harbour Seawalk**
- Helping to Secure a Reliable Passenger Ferry Service
- **Making Armours Beach a Family-Friendly Recreation Site**
- Restoring Fish Habitat in our Creeks and Harbour



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Green Shores Approach for Coastal Development

- A tool for developing the shore while protecting natural shorelines and habitats
- Guiding principles:
 - Preserving the integrity or connectivity of shoreline processes
 - Maintaining or enhancing habitat diversity and function
 - Minimizing or reducing pollutants to the environment
 - Reducing cumulative impacts to the shoreline environment



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Engineering

Objective: assess the condition of town infrastructure within the marine shoreline area

Relevant Outcomes:

- Exposed sewer pipe repaired in June, 2014
- Walkway is almost inundated at large high tide (storm surge, wave set/run-up, and sea level rise would magnify this)
- Allowance for sea level rise of 0.5 m by 2050 and 1.0 m by 2100
- Infrastructure repair work prioritized
- Beach environment considerations identified for protection works/redevelopment
- Shoreline design concepts presented



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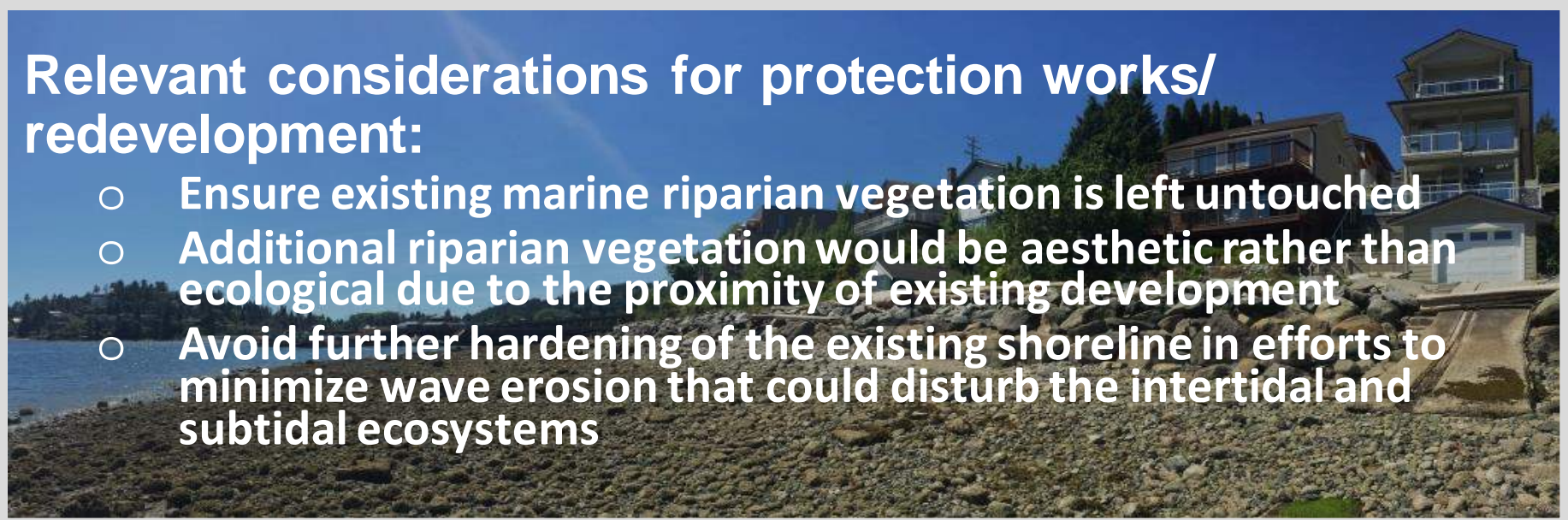
Beach Environment

Three valued ecosystem components identified:

1. Marine riparian vegetation within the backshore area
2. Presence of intertidal flora and fauna within the foreshore area
3. Presence of eelgrass within the nearshore area

Relevant considerations for protection works/ redevelopment:

- Ensure existing marine riparian vegetation is left untouched
- Additional riparian vegetation would be aesthetic rather than ecological due to the proximity of existing development
- Avoid further hardening of the existing shoreline in efforts to minimize wave erosion that could disturb the intertidal and subtidal ecosystems

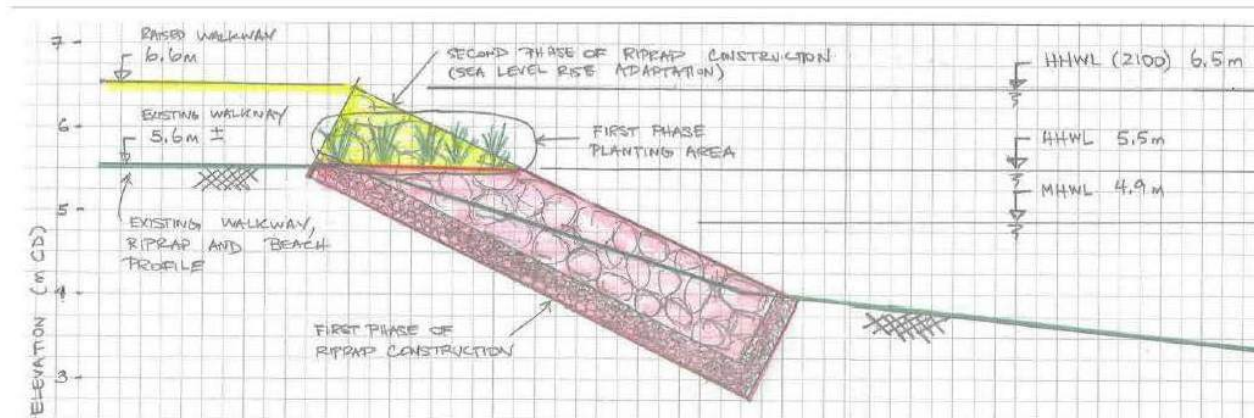


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High-level Shoreline Concept

- Possible riprap erosion protection in three phases (immediate; 2020; beyond – based on observed sea level rise)
- Intended to address:
 - Potential areas of concern from previous shoreline hardening
 - Changes in erosion that can be expected due to sea level rise

Design Concept for Adaptable Rip Rap Protection (2014)



Sanitary Sewer

- Fixed alignment of sanitary sewer in access road
- May require eventual replacement or relocating

Access (Maintenance and Seawalk)

- Riprap protecting the walkway and sewer pipe below is largely intact but needs upgrade for access
- Small section in front of Cole's Marina to be upgraded

Armours Beach

- Lock-block retaining wall to be replaced with green shores approach
- Beach area access to be integrated to new foreshore approach



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Design Constraints

- Sanitary sewer
- Access
(maintenance and seawalk)
- Armours Beach



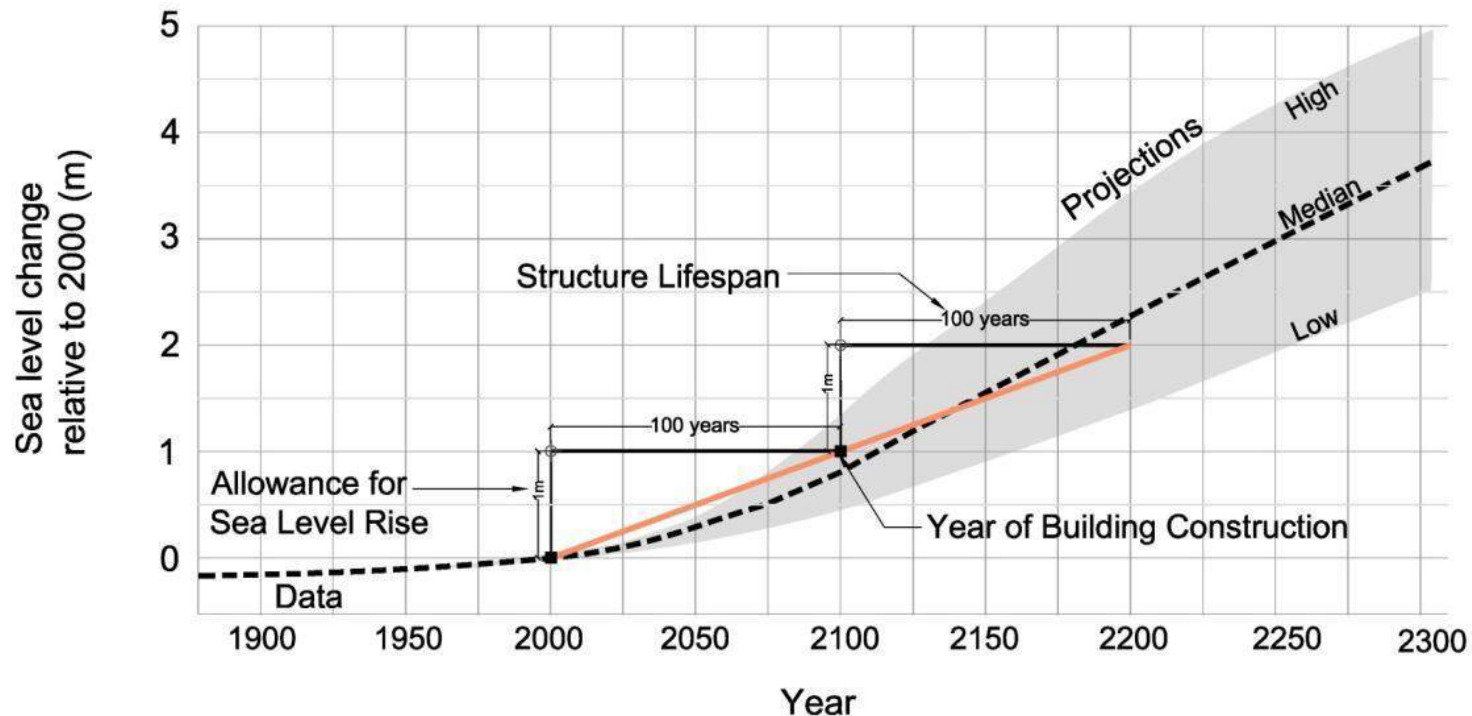
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Physical: Beach slope and size of material (sand, gravel, cobble) are critical design constraints

Climate Change: Possible storm surge increases

Estimated sea level rise of 0.5 m by 2050 and 1.0 m by 2100

Likely to bring larger waves and more energy landward



Eelgrass

“Meadows of the ocean”

- Stabilize shoreline substrates and moderate shoreline wave action
 - Serve as a refuge area for marine life, nurseries and feeding areas, and marine corridors
-
- The harbor in Gibsons was the recipient of eelgrass transplants in the mid 1980's
 - Mapping began in 2005 (to determine the size and location) and then was updated in 2013
 - The eelgrass bed has expanded since 2005, especially along the NW shoreline



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Coastal Shore Jurisdiction in BC

	Local Government - municipal, regional	Provincial Government	Federal Government	First Nations
Backshore	Plan and regulate land use through OCPs, zoning, development permits, etc.	Issue tenures (permit, licence of occupation, lease or grant) and sale of provincial Crown lands	Fish habitat ⁴ protection, including shoreline/ riparian vegetation and timing windows ⁵	Planning and regulation in Reserve lands; may be negotiating Treaty rights elsewhere
Foreshore	Land use planning & regulation extends into foreshore that lies within LG boundary	Issue tenures over all foreshores	Fish and fish habitat protection Protect public navigation	Same as above
Nearshore	Land use planning and regulation extends into nearshore areas that lie within LG boundary	Issue tenures over all nearshore areas in inland seas	Fish and fish habitat protection Protect public navigation	Same as above



- Will build on the Foreshore Condition Assessment
- In alignment with the Eco Asset Strategy
- Conceptual Design to be developed:
 - Based on community input
 - To improve the environmental quality of the foreshore
 - To ensure the reliable long term provision of sanitary sewer service
 - To accommodate recreational use over the service road



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Reference Projects

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- Trail Bay Concept (Sechelt)
- Parksville Beach (Parksville)
- Jericho Park (Vancouver)



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Following this Public Information Meeting, next steps in the project include:

- ✓ Mini-charrette with agencies and local community representatives (October)
- ✓ Conceptual design options with high level cost estimates
- ✓ Sketches, plan and cross-sections for preferred alternative
- ✓ Public meeting to present final results
- ✓ Design and construction (planned for 2017 and beyond)



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Questionnaire

- Please fill out before you leave
- An online version will be available for those who weren't able to attend today

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CELEBRATING 40 YEARS

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QUESTIONNAIRE

Gibsons Foreshore and Seawalk Improvements Project

Thank you for attending the Public Information Meeting. We hope you enjoyed the session today and have a better understanding of the work underway.

This questionnaire is intended to gather your input as we develop a conceptual design for the foreshore area between Gibsons Wharf and Armours Beach. The feedback you provide will inform design options for improvements within the study area.

Background and Current Uses

1. Who are you? (circle one)

- I am a resident of Gibsons (within the Town boundary)
- I am a business owner in Gibsons (within the Town boundary)
- I am a resident or business owner nearby to Gibsons (outside the Town boundary)
- I am a visitor to Gibsons

2. What is your age? (circle one)

- Under 15 years old
- 15-24 years old
- 25-44 years old
- 45-64 years old
- 65 years or older

3. Please describe the frequency of your visits for each location below, between Gibsons Wharf and Armours Beach, and the activities you participate in while there (see the study area map).

a. Seawalk: _____ times/month


b. Armours Beach: _____ times/month

c. Cole's Access: _____ times/month

d. Marine Recreation: _____ times/month

e. Other: _____ times/month

Study Area



Key locations along foreshore seawalk

1	Location of wireless beds
2	Armours Beach
3	Armours Beach protected swimming area
4	Vacant property
5	Cole's Marina
6	Cole's Access
7	Proposed Seaglass phase 1 site
8	Gamma's Pub
9	Wharf

Accountability • Collaboration • Excellence • Innovation

180x25 Burnaby Armours Leidal 02005-29992100-21992122-024110-Meeting June 16 Public Information Meeting 2015-06-12 Final
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Questions?



Thank you!



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