

Squamish MBC Maintenance, Dredging and Funding Strategy Development

WORKING GROUP MEETING ONE - MINUTES

October 13, 2022 9:00 AM-12:00 PM (In Person/Hybrid MS Teams)

In Person Meeting Location: Municipal Hall, Council Chambers, 37955 Second Avenue Squamish

Attendees:

Project Team/Staff (6)

- Sarah McJannet (SM), DoS Planner
- David Roulston (DS), DoS Municipal Engineer
- Kate Mulligan, (KM) DoS Economic Development Officer
- Chris Wyckham, (CW) DoS Director of Engineering
- Lesley Douglas (LD), DoS Senior Environmental Specialist
- Daniel Leonard, (DL), Westmar Consulting

Working Group Members (16)

- Lucas Berube (LP), Director of Development Bosa Properties
- Tim Lane, (TM) Squamish Yacht Club
- Nick Knight (NK), Squamish Terminals
- Catherine Lea Smith, Squamish Harbour Authority
- John Zuk, Vancouver Pile Driving Ltd (JZ)
- Richard Avedon-Savage, (RS) Squamish Paddle Club
- Carlos Zavarce, (CZ) Matthews West
- Trevor Chelswick, Squamish Needs a Boat Ramp Committee
- Rebecca McCleery, (RM) Tourism Squamish
- Carl Halvorson, (CH) Squamish Environment Society
- Kerry Neil, (KN) Exec Director for Squamish Downtown Business Improvement Association
- David Crewson, (DC) Canadian Coastal Sailing
- Caroline Lamont, (CL) Development Manager Bethel Corp
- Maxime LePine, (ML) Squamish Forestry
- Duane Fluet, Co-owner of Ocean Marine
- Allan Barr, West-Barr Contracting

Regrets: Edith Tobe, Squamish River Watershed Society; Squamish Streamkeepers representative; Brandon Baker, Chamber of Commerce, Mike Sheehan, Royal Canadian Marine Search and Rescue

- Welcome, land and water acknowledgments
- Round table introductions
- SM led presentation that included discussion/question breaks as follows:
 - Background Policy
 - Project Focus and Study Area
 - Project Stages and Key Tasks
 - Working Group and Terms of Reference
 - Meeting Expectations and Working Group Commitments
 - Baseline Information
 - Marine Gateway
 - MBC Uses
 - Navigation Channel delineation
 - Historic Dredging
 - Current Situation Review
 - *Question about gravel from Stawamus River: It is a clean gravel, and is it suitable for re-use?*
 - DR: Potentially, however, once it touches salt water, it would be considered to have saltwater contamination and be subject to regulations.
 - Navigation Channel Elevations
 - Canadian Hydrographic Survey completed bathymetric survey in 2020. Westmar has been reviewing all user vessels that use channel. -2.6 m (Chart Datum or CD) would provide access for most vessels, most of the time.
 - *Question about what is meant by most vessels most of the time? What is a typical keel/depth?*
 - DL: Analysis was based on actual vessels inventory moored in the channel and commercial vessels accessing the channel (see channel design memo). Beyond depth, dredge area is also a factor, the deeper we go, the larger the area and greater environmental impacts.
 - DR: If we look at dredge depth of -3.2m CD, it would nearly double the dredge volume and costs (to achieve 100% vessel navigability).
 - *Question: Given there are more users in areas further south in the channel, would it make sense to dredge deeper south of the future pedestrian bridge?* There is a contractor that uses the existing boat launch to transport mobile homes, need place to launch. There are access components to consider
 - Comment that Site B may be used for future loading area into the water.
 - Suggestion that coastal processes should be evaluated to inform dredge slopes. Side slopes have implications on total dredge volume and adjacent water lots.
 - *Question about what we know about sedimentation rates? Where are the problem areas? How many years between dredging?*

- DL: We have looked at future long-term maintenance as well and not just the first dredge. There are permitting considerations and an imperative to do follow up maintenance. If maintenance dredging is conducted within 5 years, it doesn't trigger same initial permitting and habitat compensation requirements. It is easier if maintenance dredging is conducted within 5 years.
 - It was observed that channel depth has stayed pretty constant at -1.1m CD, however the channel width has been reducing. Logs have broken free from log booms and blocked the navigable channel at times. This poses a safety issue especially in emergency situations or in inclement weather.
 - *Question: Is there typical keel depth? Is boat with keel the target?*
 - SM: This information is in the Navigation Concept Channel Design memo which includes an inventory of vessels entering the area. Some sail boats have 2.7m keel clearance (includes 1' buffer for under keel clearance).
 - It was noted that the 2013 dredge (~\$100,000 cost) has been beneficial as a stop gap measure.
- Dredge Areas
 - Sediment Sampling and Disposal Options
 - DR – Disposal options are: 1) disposal on sea or 2) disposal on land. Could take following forms: 1) raise existing land, 2) create land or 3) habitat enhancement. All areas have elevated levels of copper. 2 areas have mercury and hydrocarbons. Disposal at sea likely possible for areas free of mercury/hydrocarbons. Mercury/hydrocarbon contaminated sediment goes to certified landfill. Looking into potential for habitat compensation berm/marsh planting at mouth of Stawamus.
 - Comment that marsh planting has very specific material gradation requirements, so may be suitable to reuse dredge materials for habitat compensation
 - For Sirocco development site, they will be required to dispose on land for leveling dredge on Sirocco water lot due to sediment contamination test results.
 - *Question: Where are the problem areas for sediment contamination within the channel?*
 - DR – Project team will follow up with specific areas.
 - *Question: Is there potential to create berm/basin near the mouth of the Stawamus to capture/contain sediment before it enters the navigation channel?* It could also facilitate future dredging with an excavator.
 - *Question: is there geotechnical testing of dredge material to determine suitability for land use?*
 - DR – Project team will confirm and advise.

- Regulatory Requirements
 - DL - Triggers for more extensive permitting reviews have changed, in discussion with DFO. Coastal municipalities are challenged with too little water in navigation channels and too much water (i.e flooding) with climate change in coming years. There may be a shift to more regional environmental assessments to avoid them for each individual project. Triggers for Environmental Assessment are 1000m or 2 hectares. Cut slope and dredge area gets bigger if we go deeper. There is potential to undercut dike, which must be avoided.

- Costs and Funding Options
 - DL - Costs based on educated guesses (refer to slide). Land raising could be beneficial. Funding options limited to mechanisms in the Local Government Act. Looking at next 25 years, how do we find funding for initial and coming years?
 - DR - District has conducted asset management plan that determined costs to maintain current infrastructure, and there is a major funding gap. We are working on a long term financial plan to determine how to address. District already has pressure to maintain what we have. Need to prioritize community needs and the assets that the District needs to manage. District funding for dredging is a Council decision but there are many competing priorities.
 - *Question/comment: Why is funding the responsibility of the municipality? Commercial entities and users should be paying.*
 - DR - It is not a foregone conclusion that the District will fund. Determine who/how funding is secured is a key item to resolve in this strategy.
 - SM - Provided clarification – dredge volumes identified are within the defined navigation channel firstly. Noted that upland owners are looking at dredging for their redevelopment projects and in-water works. E.g. in front of Sirocco. Strategy will be acknowledging secondary areas that are anticipated to require dredging and respecting a funding strategy, there are likely opportunities and synergies for coordinating dredging works in the channel.

- Key Questions / Comments
 - The project should identify consequence to inaction – if we do not act the area will continue to infill. May become impassable due to width, potential barge traffic would be constrained by width.
 - SM - Concern noted; also Transport Canada is being engaged as part of the plan development.
 - *RE: considerations for cost, is there opportunity to share mobilization costs between different parties?*
 - DL - Responded that we have considered this. Mobilization costs are generally low in comparison to actual dredging costs.
 - *What dredging method are cost estimates based on?*
 - DL – Clam shell is required for environmental reasons.

- DR - Dredge material was disposed on land at Site B in 2013
 - Comment that Clam Shell is way to go, should dredge upstream of the pedestrian bridge before it goes in, will provide cost savings with ability to use larger scow. The smaller opening of the bridge (55ft) will limit what equipment can be used to dredge upstream in future. Will require smaller barge and two tugs.
 - DR – Is this a big cost multiplier?
 - Yes approximately 20% increase.
 - Timing of Pedestrian Bridge is subject to DFO approval; hopeful for resolution next year, but that goes into next Fisheries Window. August 2023 start date if approved.
 - *What other areas have been considered for sea disposal (suggested considering north end of Cattermole)?*
 - DL – The project team hasn't looked into specifics. Watts Point is the main area historically used but we may not be able to use again. There are new First Nations consultation requirements that may impact disposal at sea.
 - –Note that Point Grey might be possible as well
 - *Question to Site B lease holders: What dredge works have been part of Site B operations and what is considered for future?*
 - There has been ongoing maintenance, have dredged along most of their waterfront. There are geographic challenges, infill from river they have to manage. Channel in front of them is okay but may need to dredge in next 5 years.
 - –In sand flat areas at low tides storms will shift a lot of material. A lot can change in bad conditions including low tides and heavy winds/waves.
 - Comment that areas to dispose material need to be identified sooner rather than later
 - SM – The District is wanting to get better picture for habitat preservation opportunities to support this project.
 - DR - Asked Working Group members to advise of opportunities for disposal on land
 - Comment that dredge material has to be cleaned and dried, making it an expensive option. More costly than just purchasing imported fill.
 - DL - 15 million cubic meters are needed for Roberts Bank Terminal 2 container project in Lower Mainland which is huge and may be future option.
 - SM - Identifying preferred specific disposal options will be in working group meeting 2.
- Next Steps: Establishing Foundations and Guiding Principles
 - SM - Presented on guiding principles established in Marine Action Strategy and asked for the group's thoughts on additional principles for the dredging program
 - Suggestion made to rephrase environment protection principle; note made that visitors like to see the mixture of industry with nature.

- Regarding habitat compensation under Fisheries requirements:
 - DL affirmed that prior to dredging, consultants required to assess habitat value; the middle of the channel is relatively low value, while the sides of channel with intertidal marsh are higher value. Rough scale of anticipated habitat compensation is \$500K. Could consider habitat banking for habitat compensation projects.
 - LD – Habitat banking is reasonably new but is a good investment and opportunity.
- *Question: What is vision statement for MBC?* This is really important as there are trade-offs for this work and the preservation of what is there now. It will require compromise.
- SM - [Marine Action Strategy](#) included a vision statement addressing goals for connectedness, vibrant working waterfront, accessible, mix of use, enjoyment, community access.

Part 2: Vision and Guiding Principles

MASt Vision

Squamish supports and celebrates its connection to the ocean, as a source of life, vitality, culture and identity - sustaining our coastal communities across generations. Shared marine resources are responsibly stewarded and enhanced so natural systems in Howe Sound thrive, in tandem with industry, economy, tourism + recreational opportunities that depend on a healthy marine ecosystem, and access for all.



The MASt Vision articulates and affirms a desired future for Squamish to inspire and guide collective community efforts in the local marine realm.

- *Question: Does Squamish Nation have a vision for MBC?*
 - SM – Noted cultural importance of MBC including historic villages within the watershed, and along delta front, historic sites throughout; safe access from Sta7mes is also a big priority for Squamish Nation Skwxwú7mesh Úxwumixw. They have articulated many goals within their [Strategic Plan](#). Relating to this work, goals include priority of protecting reserve lands from erosion, and supporting environmental restoration programs, and fisheries and marine habitats important to Skwxwú7mesh Úxwumixw way of life and values. There is potential for restoration of marshlands at mouth of Sta7mes River and modifications that can improve river function and out flow.

- Comment that a founding principle should be creating a group to share governance/leadership within the MBC.
- *Question: Have there been Archaeological finds in the MBC?*
 - SM – There are protected archeological resources within the channel. For the dredge area specifically, advance assessment hasn't been covered with Nation yet but this has been flagged as a critical consideration by the Nation. Some communities have done archeological overview assessments; Sechelt has done an extended assessment for shoreline area. Acknowledgement that this work adds big cost and time factor.
 - Squamish Terminals has developed management plan and protocol (as required under the Heritage Act).
- Dredging options matrix
 - SM- Discussed the sample options matrix; asked whether would this work going forward? Thoughts for input?
 - DR – Some identified options may be hybrids, eg. Option to dredge to deeper depths at different spots
 - Suggestion to add time line and priority criteria
 - Suggestion to include opportunity costs or risks with each option
 - *Question: include disposal method associated with each option?*
 - LD – suggestion to include compensation and restoration details for options, as well as annual costs for monitoring and maintenance of works, phasing
 - DR – Suggested including phasing with options to consider. Could consider stop gaps again if unable to secure full funding. Should consider how we could phase work depending on funding.
 - KM – Add alignment with Foundations and Guiding Principles to the matrix.
- Example of Benefit and Impact Areas – Environment and Social/Culture
- Potential Economic Benefits
 - KM – Suggestion that foundations and guiding principles reference enabling future economic vision; this strategy is an opportunity to address that. Kate also noted marine impact study as part of the sector impact assessment program is budgeted for completion in 2024.
- Last Round of Questions and Comments:
 - *Question: Channel changes in width from 30m up to 68m. Can it all be reduced to 30m?*
 - Comment that different boats need different turning widths. Need wider areas to allow turn around.
 - DL - Transport Canada has guidelines for channel widths; reference PIANC guidelines
 - *Question about sedimentation rates around the Squamish Delta, and whether any risk for commercial operators; what other risks may come up to delay or cancel this process. Any risk to what has been developed so far from external influences?*

- SM - Will bring new council up to speed and will get feedback from new council as well.
- DR - Does not see risk to ongoing working group. Funding will be the biggest sticking point when presenting the strategy for council endorsement. Fisheries permitting will be a challenge when it comes to actual dredging.
- SM - Expressed proper engagement will be crucial, government and community combined. Open house or survey that could be presented to broader community.
- *Question: Is there any funding available for samplings?*
 - DR - We have samples from 2013 and these have been reliable for preliminary strategy development.
- *Question: Can District share results, hot spots etc?*
 - DR - No issue to share this information
- *Question: Any geotechnical information from pedestrian bridge?*
 - For MBC bridge project there is lots of sampling; will identify any overlapping areas. Not seeing any issue with sharing data (will be confirmed and will get back to everyone).
 - SM – District’s intention is to ‘crowd source’ sampling data wherever available.
- *Question: Where will people park who want to access the water way?*
 - SM - Research is still ongoing for parking in the area.
- SM – We will be adding more dates for next Working Group meeting in mid to late November. Will send updated doodle poll for everyone. Thank you!