

# 1.0 GUIDANCE DOCUMENT FOR QUALIFIED PROFESSIONALS

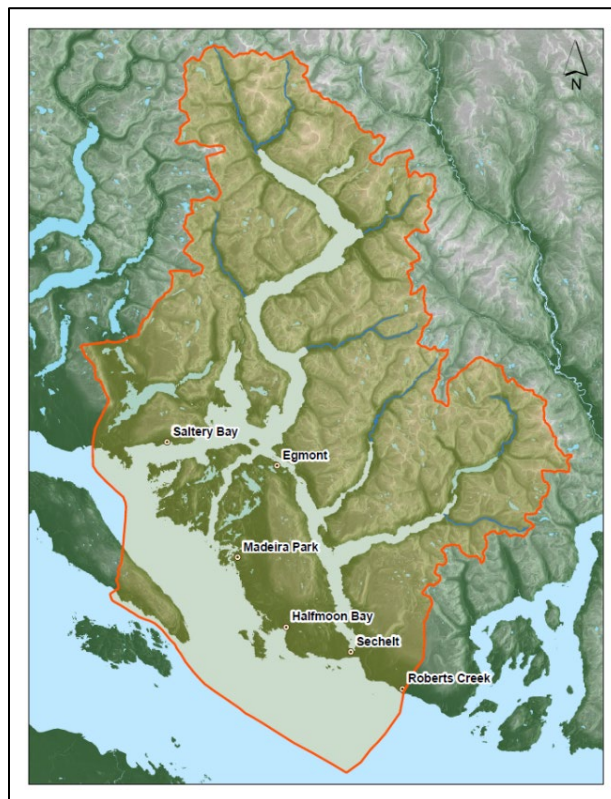
## Docks in the shíshálh Nation swiya

### Survey Protocols for Environmental & Archaeological Professionals

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#### I. INTRODUCTION

The shíshálh Nation swiya (world, birthplace, lands, “Territory”) is located in the southwest corner of what is now referred to as British Columbia. It extends from xwésám (Roberts Creek) in the southeast to the height of land located north of xénichen (head of Queen’s Reach, Jervis Inlet) in the north, kwékwenis (Lang Bay) to the west and spílksen (Texada Island) to the south. This area comprises approximately 514,000 hectares.



In 2018, the Province of British Columbia and shíshálh Nation signed the Foundation Agreement. The Foundation Agreement establishes a Shared Decision-Making Process (“SDM”) by which tenure applications are collaboratively reviewed and assessed. Applications for dock tenures within the swiya are reviewed using criteria that has been collaboratively developed to help ensure long-term protection of the environment and cultural heritage. For applicants, dock design should align with the applicable (Marine or Freshwater) Dock Construction and Maintenance Guidelines – Best Management Practices (“BMPs”) attached as Appendix A and Appendix B. A Preliminary

Archaeological Field Reconnaissance (“PAFR”) survey must accompany new and replacement tenure applications. An Environmental Review must accompany new tenure applications and replacement applications where a significant rebuild of the structure is occurring or dock footprint is changing. All assessments must be conducted by the appropriate Qualified Professional.

An appropriate Qualified Professional (“QP”) is an applied scientist or technologist, acting alone or together with another QP. They must be 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. The QP’s area of expertise must be related to the assessment and portions of the report that they are responsible for, in respect of the development proposal that is being assessed. The individual is considered a QP only for that portion of the assessment that is within their area of expertise.

This companion document outlines the survey protocols that QPs must follow to ensure survey methods and deliverables are consistent across tenure applications in the swiya.

## **II. ARCHAEOLOGICAL ASSESSMENT**

All tenure applicants must submit a Preliminary Archaeological Field Reconnaissance (PAFR) survey of the foreshore area of the tenure area. Surveys should cover anywhere that ground disturbance is slated to occur. It is recommended that surveys account for the upland area associated with dock development (i.e. access points in the riparian area). This survey must assess the archaeological potential of the landscape, locate and record any surficial heritage properties, and make recommendations for appropriate mitigation to ensure the protection of heritage properties and compliance with the Provincial *Heritage Conservation Act* (HCA) and shíshálh Nation Heritage Policy.

In cases where a PAFR has been previously conducted to the standards outlined below, the applicant may submit this report for review by the Working Group. If the report is deemed sufficient (timely, relevant, etc.), applicants will not be required to commission a new survey.

### **2.1 Preliminary Archaeological Field Reconnaissance**

QPs must assess the foreshore area of the proposed dock tenure area and anywhere that ground disturbance is slated to occur within the application area. It is recommended that QPs also survey the upland area associated with dock development (i.e. access points in riparian area). Surveys should determine if there are archaeological properties present, assess archaeological potential, and identify whether there is need for further archaeological assessment in the form of an Archaeological Impact Assessment (AIA) or mitigation for dock construction activities. The PAFR must produce the following information:

1. Identify surficial archaeological sites;
2. Make predictions about the archaeological potential of the survey area;
3. Determine potential impacts that may be caused by the proposed developments; and
4. Make recommendations for additional archaeological work where it may be necessary for the development to proceed in compliance with the Provincial *Heritage*

*Conservation Act* and recommendations for mitigation in situations where proposed docks overlap archaeological sites.

## 2.2 Methodology

PAFRs must be completed by a Provincially designated Field Director (BC Archaeology Branch - Ministry of Forests, Lands, Natural Resource Operations and Rural Development) in good standing as a Registered Professional Consulting Archaeologist (RPCA). The Archaeologist must have experience in the identification of coastal archaeological features, such as clam gardens, fish traps, fish weirs, shell midden, and intertidal-worn lithics. Experience working with shíshálh Nation in the *swiya* is preferred.

The QP must conduct a dedicated surface survey of the foreshore area of the tenure area. The QP must focus on areas which will be impacted by the dock, construction and ongoing use/access.

**PAFR surveys must be conducted at low tide to ensure adequate visibility and access to the intertidal zone. The QP must record tide height at the time of survey.**

The QP must record their findings during the survey, which includes obtaining georeferenced locations/boundaries of the study area and of any archaeological features identified. The following must be geospatially recorded and provided as maps layered on aerial imagery:

- Boundaries of the surveyed area;
- Any archaeological features identified, and the boundaries of any previously unrecorded archaeological sites;
- Any Areas of Potential (AOPs) identified;
- The locations of nearby previously recorded archaeological sites mapped in proximity to the survey area.

## 2.3 Report

The QP must provide the dock tenure applicant with a report detailing the methods and results of their survey. The report must include photos taken during the survey and maps delineating the boundaries of areas as indicated in Section 2.2. The QP must provide their professional opinion regarding dock placement, the extent and nature of potential impact(s), any proposed mitigation, and their recommendations for further archaeological assessment needed if the project is to proceed as planned. As such, the Applicant must provide the QP with detailed dock designs and site plans in advance of the survey.

Recommended mitigation measures must be incorporated into the applicant's Management Plan to ensure no adverse impacts to heritage properties.

Applicants and QPs are encouraged to review the shíshálh Nation Heritage Policy and the Provincial *Heritage Conservation Act* in detail in advance of survey.

### III. ENVIRONMENTAL ASSESSMENT

An environmental review is required to determine whether the proposed dock or dock footprint (i.e. area impacted by dock shading and use) may adversely impact Habitat, where “Habitat” means habitat that is important for:

- (a) sustaining a subsistence, commercial, or recreational fishery, or
- (b) any species at risk (e.g. terrestrial or aquatic red and blue-listed species, those designated by the Committee on the Status of Endangered Wildlife in Canada, or species listed under Schedule 1 of the Federal Species at Risk Act (SARA)), or
- (c) its relative rareness, productivity, or sensitivity (e.g. eelgrass meadows, kelp forests, foreshore salt marsh vegetation, herring spawning habitat, and potential forage fish spawning beach habitat); or
- (d) sustaining area biodiversity and the recovery of native coastal flora in the marine riparian area.

In freshwater contexts, structures must be compliant with Riparian Area Regulations under the Provincial *Fish Protection Act*.

Examples of marine Habitat include eelgrass meadows, kelp forests, foreshore salt marsh vegetation, herring spawning habitat, and potential forage fish spawning beach habitat. Examples of freshwater Habitat include shallow littoral zones, marshes and spawning or egg-laying beaches and wetlands.

Environmental surveys should describe general habitat conditions, and note any other areas or species of concern, within the entire tenure area and dock footprint.

Marine environmental reviews should determine if the proposed dock, construction and ongoing use activities will adversely impact potential shellfish and/or forage fish habitat, mud flats, tidal estuaries, sedge or salt grass flats, and fish-bearing streams. The marine environmental review should also consider impacts on area biodiversity and the potential impacts of the proposed dock, construction and ongoing use activities within the tenure area on the recovery of native flora in the marine riparian area.

In cases where a relevant assessment has been previously conducted to the standards outlined below, the applicant may submit this report for review by the Working Group. If the report is deemed sufficient (timely, relevant, etc.), applicants will not be required to commission a new one.

#### 3.1 Methodology

Environmental surveys must be completed by a Qualified Environmental Professional (“QEP”), including Registered Professional Biologists (RPBio) or Registered Biological Technicians (CRBT), in good standing with the BC College of Applied Biology. The QEP must have experience conducting shoreline, intertidal and subtidal marine and freshwater habitat surveys and riparian assessments. Experience working with shíshálh Nation in the swiya is preferred.

The QEP must conduct a detailed transect survey that locates and records habitat and aquatic wildlife within the entire dock footprint and tenure area. Surveys should use a combination of methodologies, including desktop assessment.

QEPs should confirm trees with heron and raptor nests will not be impacted by dock construction and ongoing use activities. See *Wildlife Act*.

Relocation or significant rebuilding of a dock must be done in consultation a QEP. The QEP must confirm that the move will reduce or eliminate impacts to marine habitats and provide professional sign off on the change.

### 3.1.1 Transect Survey

In both marine and freshwater environments, transect surveys must be completed. Marine surveys should include descriptions of the intertidal and shallow subtidal benthic composition and general floral and faunal communities that are present within the entire dock footprint and tenure area. Environmental reviews in freshwater environments must also complete a transect survey, with descriptions of relevant habitat features (i.e. spawning beaches, shallow littoral zones and marshes, painted turtle egg-laying habitat, etc.)

The following transect methodology should apply:

- Transects must extend perpendicular to the shoreline to a maximum depth of 10 m at low tide, **or** to the extent of the tenure area, beginning from the mean high-water mark.
- One transect must extend along the center line of the proposed dock.
- Additional transects should be placed at a frequency/distance that supports a detailed survey and confidence in the defined/described habitat (e.g. every 5-25 m based on site-specific conditions). Transects should run parallel to the center transect, dependent on location and topography, along the applicant's property line, up to the proposed tenure boundary.
- Coordinates should be obtained at the start of the transect, with a compass bearing representing the direction of transect surveyed. **Transects must be mapped in the final report.**

QEPs should conduct a qualitative shellfish and forage fish habitat assessment along the shoreline, where accessible, on either side of the center point of the dock to the tenure boundary.

Transects may be surveyed using subsurface divers, snorkel methods, drop camera (if water visibility is high enough), or on foot dependent on topography during summer low tides.

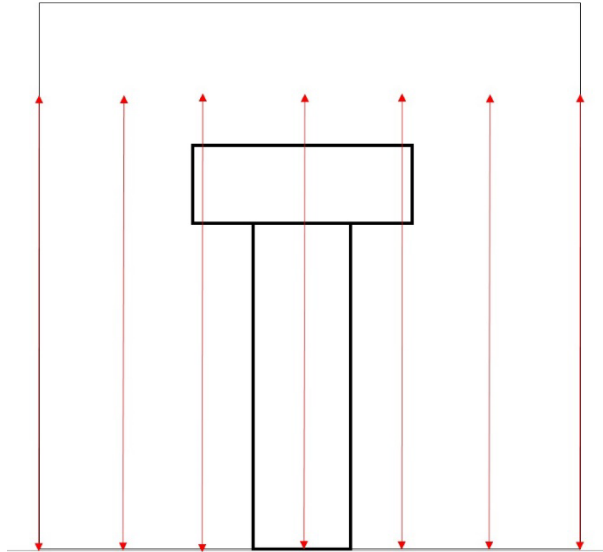


Illustration of transect survey, occurring at a regular frequency and extending perpendicular to the shoreline to a maximum depth of 10 m at low tide (or to the extent of the tenure area) beginning from the mean high-water mark.

### 3.1.2 Habitat & Substrate Identification

Within survey transects, the QEP must provide the following:

- Along each transect, nearshore intertidal habitat information should be obtained and recorded. Benthic habitats will be stratified based on bed paving material composition. Changes in benthic composition, including flora and fauna, should be recorded. Dominant and subdominant substrate type should be identified and classified per Table 1.
- Locate and record any Habitat(s), such as eelgrass, along the transects within the survey area. The distribution of eelgrass meadows should be described as “continuous” if there is almost 100% cover, or “patchy” if the bed contains patches of eelgrass.
- Where possible, dominant flora and fauna should be identified and recorded. Observational information regarding dominant species should be added as a comment. Species of conservation concern (e.g. rockfish) must also be recorded.
- Representative photos should be taken within each 5 m length of the transect, or at obvious changes in substrate. Underwater drop camera footage, or photos and video footage obtained by divers, must be reviewed by the QEP.
- It is recommended that information and spatial delineation of areas that could support shellfish communities or provide suitable forage fish spawning habitat be provided. Habitat should be recorded as continuous or not.
- The QEP should also take notes and photographs of the biological and physical characteristics of the immediate backshore and riparian area within the dock footprint and/or tenure area.



**Table 1. Substrate Type Classification**

Substrate	Code	Definition
Silt/clay/mud	S/C/M	Loose sedimentary deposit; <0.06 mm
Sand	SD	Loose granular material; 0.06 – 2 mm
Gravel	G	Loose rounded fragments of rock; 2 – 64
Cobble	C	Loose stone larger than gravel, smaller than boulder; 64 – 256 mm
Boulder	B	A detached massive rock; >256 mm
Bedrock	BR	Solid rock underlying unconsolidated surface material
Organic detritus	D	Organic materials such as logs, sticks, leaves, remnants of decayed aquatic plants, etc.
Shell debris (marine only)	SD	Shell fragments of various organisms
Aquatic Vegetation	AV	Bottom vegetation

### 3.1.3 Habitat & Substrate Delineation

Representative photos or video, as well as geospatial data (e.g. SHP, KML, KMZ, CSV) delineating the observed extent of Habitat and/or Features, should be collected and submitted to MFLNRORD with application materials. Survey information should be visually layered on the site plan along transects and at appropriate distances relative to the dock. Maps must be attached to the final report as appendices.

- Detailed nearshore habitat information should be spatially delineated. Algae, vegetation, invertebrates, and fish observed should be identified to the taxonomic level. Sessile invertebrate species should be coded simply as either present or absent. The abundance of motile animals must be recorded as a count, and the relative abundance of algae and vegetation should be coded as sparse, moderate, or abundant at the discretion of the QEP.
- The full extent of Habitat(s) must be recorded and spatially delineated relative to the proposed structure and tenure area, with proximity to dock indicated.

### 3.2 Reporting

The QEP must provide the dock tenure applicant with a report detailing the methods and results of their survey. QEPs should use the relevant Environmental Review Checklist for Qualified Environmental Professionals and Environmental Review Report template. The two documents should be completed and submitted together. QEPs are asked to review all three documents in detail prior to commencing a survey.

Applicants should submit both documents (Checklist and Report) along with their Management Plan to the Province of British Columbia after the applicant has received a Notice of Application Acceptance.

## APPENDIX A

### Marine Dock Construction and Maintenance Guidelines – Best Management Practices

1 Wherever possible proponents are encouraged to develop dock facilities that can facilitate numerous upland owners. In pursuing multi-owner/use facilities the footprint on marine habitats is minimized. These types of facilities also help to alleviate potential cumulative impacts from high density, individual dock infrastructures.

2 Habitat should be avoided within the Dock Footprint, where “Habitat” means habitat that is important for:

- (a) sustaining a subsistence, commercial, or recreational fishery, or
- (b) any species at risk (e.g. terrestrial or aquatic red and blue-listed species, those designated by the Committee on the Status of Endangered Wildlife in Canada, or species listed under Schedule 1 of the Federal Species at Risk Act (SARA)), or
- (c) its relative rareness, productivity, or sensitivity (e.g. eelgrass meadows, kelp forests, foreshore salt marsh vegetation, herring spawning habitat, and potential forage fish spawning beach habitat); or
- (d) sustaining area biodiversity and the recovery of native coastal flora in the marine riparian area.

Docks must not be installed over these habitats unless the design mitigates for potential impacts and does not result in losses to these habitats. Boathouses must not be built over Habitat.

3 Design of a Dock or Boathouse should not include components that block the free movement of water along the shoreline. Crib foundations or solid core structures made of cement or steel sheeting should be avoided as these types of structures result in large areas of vegetation removal and erosion in Riparian areas.

4 The bottom of all floats must be a minimum of 1.5 metres above the seabed during the lowest tide. Dock height above lowest water level must be increased if deep draft vessels are to be moored at the Dock. The Dock and the vessel to be moored at the Dock must not come to rest on the foreshore seabed during the lowest tide of the year.

5 The size of all docks should be minimized. Access ramps, walkways or docks should be a minimum of 1.0 metre above the highest high-water mark of the tide. Access ramps and walkways should not exceed a maximum width of 1.2 metres. Docks should not exceed a maximum width of 1.5 metres.

6 All improvements should be a minimum of 5.0 meters from the side property line (6.0 meters if adjacent to a dedicated public beach access or park) and at least 10 meters from any existing



dock or structures, consistent with Federal requirements under Transport Canada's *Navigable Waters Protection Act*.

7 Docks must be constructed to allow light penetration under the entire structure. Docks, inclusive of all components, must allow for minimum of 43% open space allowing for light penetration to the water surface under the structure. Light transmitting materials may be made of various materials shaped in the form of grids, grates, and lattices to allow for light passage.

8 Docks should be aligned in a north-south direction, perpendicular to the shoreline, to the maximum extent that is practicable given site-specific conditions. This orientation increases the potential for adequate light penetration under the Dock to the water surface.

9 Concrete, steel, treated (except creosote), or recycled timber are acceptable piling materials, although steel is preferred. Detailed information on treated wood options can be obtained on-line from the Fisheries and Oceans Canada website (*Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in the Aquatic Environment in the Pacific Region*).

10 Access to the Foreshore for construction purposes should be from the adjacent upland property wherever possible. If heavy equipment is required to work on the Foreshore or access is required along the foreshore then the advice of a Qualified Professional or Fisheries and Oceans Canada should be obtained.

11 Works along the Foreshore should be conducted when the site is not wetted by the tide.

12 Applicants for Docks that exceeds 20 square meters, or such other dimensions as may trigger a review under the *Fisheries Act* from time to time, must contact Fisheries and Oceans Canada and submit a Request for Review or other required documents to ensure proposed activities, and the scheduling of those activities, complies with Fisheries and Oceans Canada requirements including the fisheries works window.

13 The upland design of the Dock, including anchor points, should avoid disturbing riparian vegetation adjacent to the Project Footprint due to its role in bank stabilization and erosion control.

14 Pile driving is the preferred method of pile installation. All pile driving must meet current Fisheries and Oceans regulations.

15 The use of Styrofoam to keep docks afloat is prohibited for new construction and repairs unless the foam is encapsulated. Encapsulated foam is defined as 'foam which is fully enclosed in a solid, molded shell to prevent breakdown and discharge into the environment.' Styrofoam floats on existing docks that are showing evidence of breakdown should be replaced using an alternative material.

16 Docks must be constructed in accordance with requirements under *Navigation Protection Act* as may be amended or replaced from time to time.

## APPENDIX B

### Freshwater Dock Construction and Maintenance Guidelines – Best Management Practices

1 Wherever possible proponents are encouraged to develop dock facilities that can facilitate numerous upland owners. In pursuing multi-owner/use facilities the footprint on lakeshore habitats is minimized. These types of facilities also help to alleviate potential cumulative impacts from high density, individual dock infrastructures.

2 Habitat should be avoided within the Dock Footprint, where “Habitat” means habitat that is important for:

- (a) sustaining a subsistence, commercial, or recreational fishery, or
- (b) any species at risk (e.g. terrestrial or aquatic red and blue-listed species, those designated by the Committee on the Status of Endangered Wildlife in Canada, or species listed under Schedule 1 of the Federal Species at Risk Act (SARA)), or
- (c) its relative rareness, productivity, or sensitivity (e.g. spawning beaches, shallow littoral zones and marshes, painted turtle egg-laying habitat, etc.); or
- (d) sustaining area biodiversity and the recovery of native flora in the riparian area.

Docks must not be installed over these Habitats unless the design mitigates for potential impacts and does not result in losses to these Habitats. Boathouses must not be built over Habitat.

3 Design of a Dock or Boathouse should not include components that block the free movement of water along the lakeshore. Crib foundations or solid core structures made of cement or steel sheeting should be avoided as these types of structures result in large areas of vegetation removal and erosion in Riparian areas.

Docks that require new access points will have to meet the requirements listed under the Provincial Riparian Area Regulations (RAR). A RAR assessment may be required to be completed by an appropriate Qualified Professional.

4 The bottom of all floats must be a minimum of 1.5 metres above the lake bottom during the lowest water levels of the year. Dock height above lowest water level must be increased if deep draft vessels are to be moored at the Dock. The Dock and the vessel to be moored at the Dock must not come to rest on the lake bottom during the lowest water period of the year.

5 The size of all docks should be minimized. Access ramps, walkways or docks should be a minimum of 1.0 metre above the seasonal high-water mark. Access ramps and walkways should not exceed a maximum width of 1.2 metres. Docks should not exceed a maximum width of 1.5 metres.

6 All improvements should be a minimum of 5.0 meters from the side property line (6.0 meters if adjacent to a dedicated public lake access or park) and at least 10 meters from any existing dock or structures, consistent with Federal requirements under Transport Canada's *Navigable Waters Protection Act*.

7 Docks must be constructed to allow light penetration under the entire structure. Docks, inclusive of all components, must allow for minimum of 43% open space allowing for light penetration to the water surface under the structure. Light transmitting materials may be made of various materials shaped in the form of grids, grates, and lattices to allow for light passage.

8 Docks should be aligned in a north-south direction, perpendicular to the shoreline, to the maximum extent that is practicable given site-specific conditions. This orientation increases the potential for adequate light penetration under the Dock to the water surface.

9 Concrete, steel, treated (except creosote), or recycled timber are acceptable piling materials, although steel is preferred. Detailed information on treated wood options can be obtained on-line from the Fisheries and Oceans Canada website (*Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in the Aquatic Environment in the Pacific Region*).

10 Access to the lakeshore for construction purposes should be from the adjacent upland property wherever possible. If heavy equipment is required to work on the lakeshore or access is required along the lakeshore then the advice of a Qualified Professional or Fisheries and Oceans Canada should be obtained.

11 Applicants for Docks that exceeds 20 square meters, or such other dimensions as may trigger a review under the *Fisheries Act* from time to time, must contact Fisheries and Oceans Canada and submit a Request for Review or other required documents to ensure proposed activities, and the scheduling of those activities, complies with Fisheries and Oceans Canada requirements including the fisheries works window.

12 The upland design of the Dock, including anchor points, should avoid disturbing riparian vegetation adjacent to the Project Footprint due to its role in bank stabilization and erosion control.

13 Pile driving is the preferred method of pile installation. All pile driving must meet current Fisheries and Oceans regulations.

14 The use of Styrofoam to keep docks afloat is prohibited for new construction and repairs unless the foam is encapsulated. Encapsulated foam is defined as 'foam which is fully enclosed in a solid, molded shell to prevent breakdown and discharge into the environment.' Styrofoam floats on existing docks that are showing evidence of breakdown should be replaced using an alternative material.

15 Docks must be constructed in accordance with requirements under *Navigation Protection Act* as may be amended or replaced from time to time.