



REQUEST FOR TENDERS No. 22-044

Quennell Lake Floating Dock and Gangway/Ramp Design Build Project

ISSUED: April 12, 2022

CLOSING DATE AND TIME:

Tenders are to be received on or before:
3:00 PM (15:00 hrs) Pacific Time on May 5, 2022

Submissions and questions are to be directed to:

Carolyn Kennedy

Parks Planner

ckennedy@rdn.bc.ca

Tel: 778 674 3859

Questions are requested to be received five (5) business days before the closing date.

Proponent's Information Meeting:

There will be a non-mandatory site visit on April 21, 2022, at 10 a.m., meeting at 2690 Ritten Road on Quennell Lake, BC.



Project Introduction

The RDN is seeking contractors to design, supply, deliver and install a floating dock with a gangway ramp at the Quennell Lake car-top Boat Launch in Electoral Area A. Work includes some aquatic vegetation removal as per the attached environmental impact assessment and as outlined in the project scope below. The boat launch is located at 2690 Ritten Road on Quennell Lake, BC.

All installation work must be completed by September 15, 2022.

Instructions to Bidders

Article 1. Closing Date/Time/Location

Bidders are requested to submit their Tender on or before 3:00 PM (15:00 hrs), Pacific Time, on May 5, 2022.

Submission Method:

By Email, in PDF format with “22-044 Quennell Lake Dock” as the subject line at this electronic address:

ckennedy@rdn.bc.ca

Please note: Maximum email file size limit is 15MB, or less.

Tenders received in any other manner will not be accepted. Tenders will not be opened in public.

ARTICLE 2. Site Visit

There will be a non-mandatory site visit on April 21, 2022, at 10 a.m., meeting at 2690 Ritten Road on Quennell Lake, BC. It is the responsibility of the potential contractors to be familiar with the site to determine the existing conditions, layouts and limitations and ask any questions. In submitting a tender, the contractor confirms that he/she has viewed the site and the tender includes any equipment, materials, and labour necessary for this project. The contractor will rely entirely upon his/her own judgment in submitting a tender and include a sum sufficient to cover all items required for the contract.

Article 3. Addenda

If the REGIONAL DISTRICT determines that an amendment is required to this TENDER, the REGIONAL DISTRICT will post an addendum on the REGIONAL DISTRICT (<https://www.rdn.bc.ca/current-bid-opportunities>) and BC Bid (<https://www.bcbid.gov.bc.ca/open.dll/welcome?language=En>) websites. Each addendum will be incorporated into and become part of the TENDER. No amendment of any kind to the TENDER is effective unless it is contained in a written addendum issued by the REGIONAL DISTRICT. It is the sole responsibility of the Proponent to check and ensure all addendums are included prior to submitting their final Tender submission.



ARTICLE 4. Tender Price

All pricing is to be in Canadian Dollars. Prices shall be filled as indicated on the Tender Form. In the event of a price extension discrepancy when calculating the total contract value, the REGIONAL DISTRICT reserves the right to correct the totals. For unit price contracts, the unit price will prevail.

ARTICLE 5. Tender Signing

The tender must be executed by an authorized signatory in a position to legally bind their Company to the information contained in the Tender Form.

ARTICLE 6. Tender Withdrawal

A Tenderer may, without prejudice, withdraw their tender upon written request received on or before the posted closing date and time as per the submission instructions outlined in Article 1.

ARTICLE 7. Tender Rejection

The REGIONAL DISTRICT reserves the right to reject any or all tenders or accept other than the lowest tender and to accept the tender which it deems most advantageous.

The REGIONAL DISTRICT may reject all tenders if for any reason the REGIONAL DISTRICT considers to be in its best interest to do so, including without limitation for any of the following reasons;

- a) the lowest tender that the REGIONAL DISTRICT considers otherwise acceptable is higher than the funds budgeted or otherwise available for the project;
- b) the REGIONAL DISTRICT decides not to proceed with the project or to defer the project;
- c) if only one bid is received, then the tender will be reissued unless a financial analysis indicates that the sole bid represents a good value for the taxpayers; or
- d) the REGIONAL DISTRICT is delayed in obtaining, or is unable to obtain, all approvals or consents it considers necessary, whether required by law or otherwise.

In no event will the REGIONAL DISTRICT be responsible for a Tenderer's costs of preparing or submitting a tender.

ARTICLE 8. No Claim for Compensation

Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, by participating in the tender, and by submitting a bid each Tenderer shall be deemed to have agreed that it has no claim.

ARTICLE 9. WorkSafe BC Prime Contractor

The successful Tenderer will be designated as the Prime Contractor. The successful Tenderer must be qualified and willing to take on this responsibility and shall fulfill the Prime Contractor responsibilities as defined in:

- a) WorkSafeBC *Occupational Health and Safety Regulation*, Notice of project, Section 20.2, and Coordination of multiple employer workplaces, Section 20.3;
- b) *Workers Compensation Act* (BC), Coordination at multiple-employer workplaces, Section 118, Subsections (1) & (2); and
- c) General Requirements, Section 3.10 WorkSafe BC.



The Prime Contractor will be required to coordinate the safety of all workers on the work site, including their employees, their subcontractors, REGIONAL DISTRICT work crews and their contractors, and private utilities, (such as BC Hydro, Telus, Shaw and FortisBC).

Prior to commencing work, the successful Tenderer will be required to provide the REGIONAL DISTRICT with its latest WorkSafeBC Clearance Letter demonstrating it is a member in good standing and its remittance is up to date. Otherwise, no work can commence until the Tenderer is either reinstated in good standing or if the REGIONAL DISTRICT decides to cancel the agreement because this would result in an unacceptable time delay.

ARTICLE 10. BUILDER'S LIEN PAYMENT HOLDBACK

Payments will be subject to a 10% holdback as per the Province of British Columbia's Builder's Lien Act.

PROJECT SCOPE

A floating dock and ramp concept has been developed by the RDN. It is anticipated that the successful proponent will use this concept as a baseline for the development of detailed shop drawings.

Scope of Work includes but is not limited to:

- Design, supply, delivery and installation of a floating dock and gangway. Specific elements include:
 - A 6' (1.83m) x 20' (6.1m) wood dock (ACZA treated preferred) c/w steel pipe piles Bumper rails and boat tie ups required on both sides
 - Hinged Aluminum Gangway to be 4' (1.22) x 20' (6.1m), non-slip, with railing along one side and kick rail along the other
 - Precast concrete footing on shore
 - Must be designed to accommodate a future dry hydrant pipe that will be affixed to bottom of dock. Dry hydrant pipe is planned to be 8" Ø Schedule 40PVC.design team will coordinate with Fire Hall directly for additional information.
- Dock to be located in such a way as to not inhibit current access to water. General Location per attached plan. Confirm exact location with RDN prior to any ground disturbance.
- Dock at water level
- Engineered shop drawings required for all components to be submitted to RDN prior to construction
- Installation to be during Fish window per Environmental Impact Assessment (EIA) report
- Shoreline clearing and Yellow Flag Iris removal 2 meters of either side of dock per Environmental plans.

Contractor responsibilities:

- To make good all site damage resulting from dock project
- Provide tree protection fencing around existing trees within construction area.
- Make themselves familiar with and follow mitigation measure as outlined in the attached EIA document written by Aquaparian Environmental Consultants.
- Provide safety barricades as required to protect the Public during construction.

It is the Contractor's responsibility to secure adequate parking, laydown, staging, and storage areas as required to complete the work. The Contractor shall provide a written document and/or plan detailing their proposed method(s) for site access, laydown, and staging for review by the District a minimum of two (2) weeks prior to site mobilization.



Please refer to the attached Conceptual Drawing L1 for further information.

Work Schedule and Conditions

1. **All installation work must be completed by September 15, 2022.**
2. Follow all recommendations in the report "QUENNELL LAKE FLOATING DOCK WITH RAMP, YELLOW POINT, BC ENVIRONMENTAL IMPACT ASSESSMENT (EIA)" (March 9, 2021, Aquaparian Environmental Consulting Ltd. - attached);

Warranty

Provide warranty details. Warranty must include workmanship, parts, and all materials for a minimum of two years.



TENDER FORM
Quennell Lake Floating Dock and Gangway/Ramp
Page 1 of 2

Date: _____

Company Name: _____

Address: _____

Telephone: _____ Email: _____

To: Regional District of Nanaimo
Carolyn Kennedy, Parks Planner
ckennedy@rdn.bc.ca

Having examined the Project site and having carefully examined all documents including any addenda issued as supplements thereto, we hereby offer to perform the Work set forth in the aforesaid documents for the Stipulated Contract Price. Prices include the Contractor's design, material, equipment, material costs, overhead and profit, all taxes, and duties, and shall represent the cost to the Owner of such charges excluding GST which shall be shown separately.

Lump Sum Total \$ _____

GST (5%) \$ _____

Total Stipulated Contract Price \$ _____

Warranty Details: _____

ACCEPTANCE

- The tender is open to acceptance for a period of thirty (30) calendar days from the date of bid closing.
- Submission of this Bid implies acceptance of the existing conditions at the site.
- We understand that the lowest or any Bid will not necessarily be accepted. The Owner may also elect not to proceed with the Project.
- The Owner reserves the right to waive minor defects or irregularities in the bid.
- We agree to be designated as the Prime Contractor for this project per WorkSafe BC OH&S Regulations and have the necessary qualifications and are willing to accept the responsibilities as Prime Contractor for the project.



TENDER FORM
Quennell Lake Floating Dock and Gangway/Ramp
Page 2 of 2

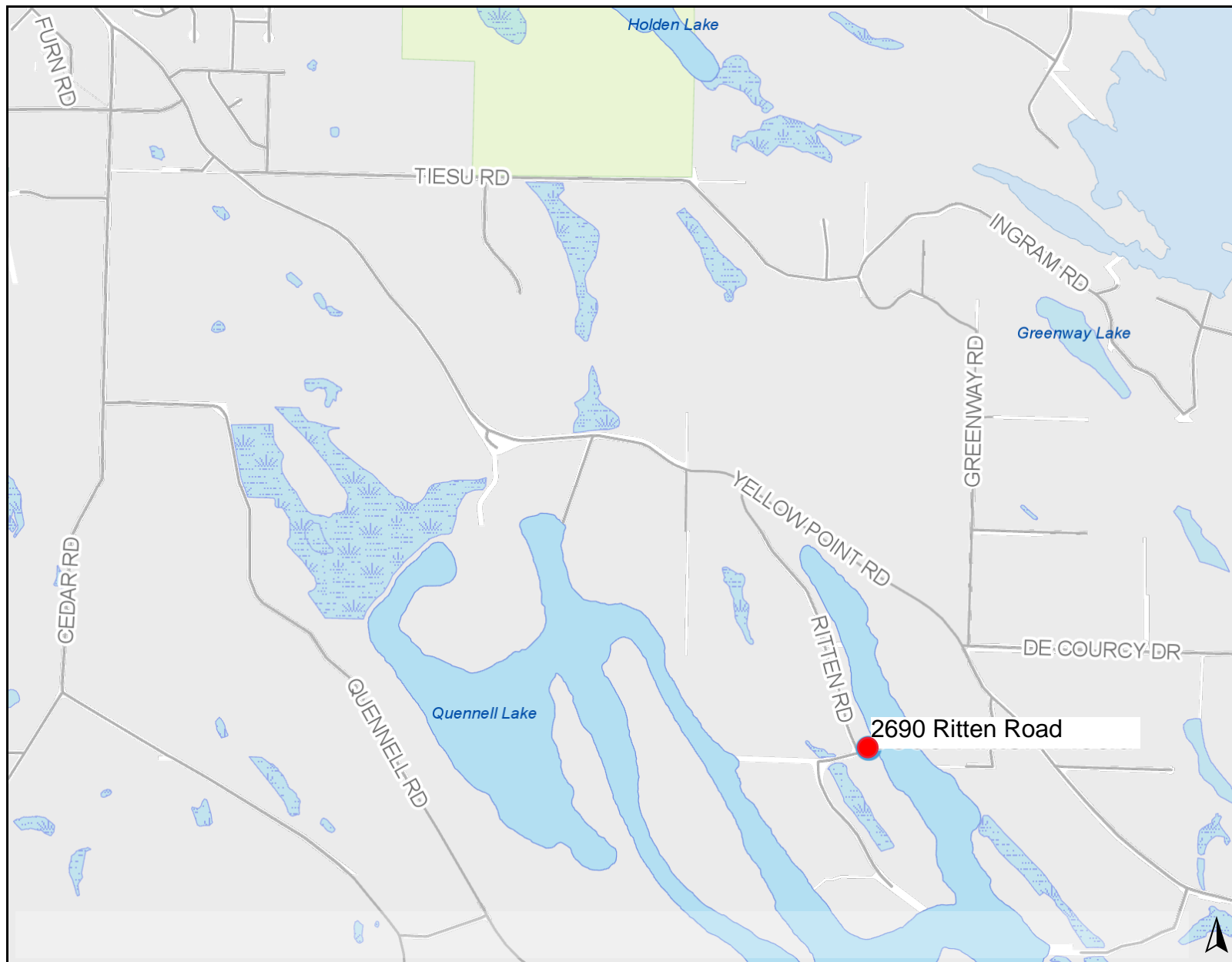
- The successful contractor is to provide their own water and power, and portable toilet if required.
- Prior to commencing work, the successful contractor will be required to provide the RDN with its latest WorkSafe BC Clearance Letter demonstrating it is a member in good standing and its remittance is up to date.
- We can complete the installation work by September 15, 2022
- Prior to commencing work, the successful contractor will be required to provide a Comprehensive General Liability Insurance certificate in an amount not less than Two Million Dollars (\$2,000,000.00) inclusive per occurrence against bodily injury and property damage. The Owner is to be listed as an additional insured on the certificate.
- Prior to commencing work, the successful contractor will be required to provide a Pollution/Environmental Impairment Liability Insurance certificate in an amount not less than Two Million Dollars (\$2,000,000.00) per occurrence, Five Million Dollars (\$5,000,000) aggregate with maximum deductible of Fifty Thousand Dollars (\$50,000).

Company: _____

Signature: _____
(Authorized Officer)

Printed: _____
(Authorized Officer)

Quennell Lake Car-Top Boat Launch



Legend

Internal Layers

Waterbodies

Light Blue Lake / Pond

Dark Blue Lake / Pond

Blue with pattern Wetland / Seasonally Flooded

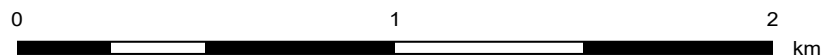
Ocean, Major Lakes & Rivers



Parks, Community



Parks, Provincial



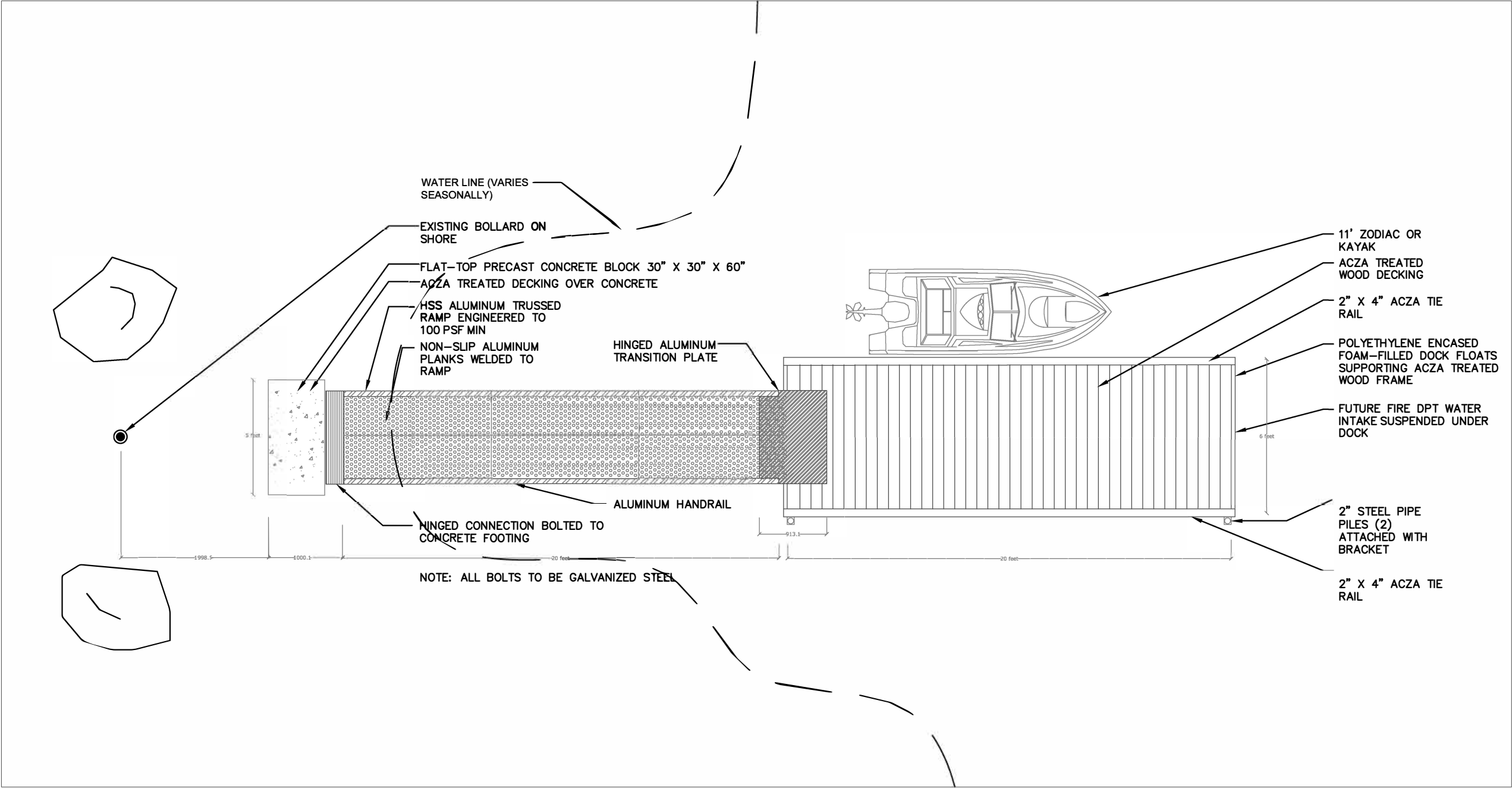
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Location Map

Quennell Lake Floating Dock with Ramp Concept





March 9, 2021
Rev. February 7, 2022

Carolyn Kennedy, Park Planner
Regional District of Nanaimo
1490 Springhill Road,
Parksville BC, V9P 2T2

Via E-mail: ckennedy@rdn.bc.ca

**RE: QUENNEL LAKE FLOATING DOCK WITH RAMP, YELLOW POINT, BC
ENVIRONMENTAL IMPACT ASSESSMENT (EIA)**

1.0 INTRODUCTION

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained to complete an Environmental Impact Assessment (EIA) for a proposed new floating dock at the existing boat launch on Quennell Lake located at 2690 Ritten Road in Area A of the Regional District of Nanaimo, Yellow Point, BC. A new floating dock and ramp are proposed to be installed to facilitate launching of car-top boats. A site location map is included with this report as Figure 1. A selection of photographs taken by Aquaparian during the site visit is included as Appendix A.

The ramp is located in a small community park parcel identified as “Quennell Lake Car Top Boat Launch” on the RDN map. The RDN design drawing shows the dock will be secured by two 2” steel pipe piles on the south side of the dock. A concrete footing will be poured in place at the shoreline to support the ramp. A site plan of the proposed new dock system is included as Figure 2.

As understood, the bottom of Quennell Lake is managed by Mosaic Forest Management Corporation (Mosaic). Permission to install the dock is under discussion between Mosaic and the RDN. The intent of this assessment is to document fish habitat conditions at the site and to formulate environmental protection measures for construction in order to confirm that the project will be compliant with the *Fisheries Act*.

2.0 BACKGROUND

Quennell Lake is a relatively warm and shallow fish-bearing lake consisting of multiple elongated arms. A review of the provincial Habitat Wizard database does not provide any documented information for the lake, but various local fishing reports identify that the main game fish in Quennell Lake are smallmouth bass (*Micropterus dolomieu*), pumpkinseed (*Lepomis gibbosus*) and rainbow trout (*Oncorhynchus mykiss*). Quennell Lake is nutrient dense with an abundance of lily pads, providing habitat and foraging opportunity for fish. Some sections of the lake experience degraded water quality during the summer months resulting from nitrification and algal growth. It is expected that this lake also provides habitat for other non recreational fish species such as stickleback. In addition, the lake provides ideal habitat for aquatic amphibians and many bird species.

A review of the BC Conservation Data Centre did not identify any known rare plant or animal species occurrences mapped within or adjacent to the project area. A review of the federal Sensitive Ecosystems Inventory (SEI) did not identify any sensitive ecosystem polygons mapped within the location of the proposed dock.

A review of the Wildlife Tree Stewardship (WiTS) and Great Blue Heron community mapping databases did not identify any heron or raptor nests that are mapped in close proximity to the proposed project.

3.0 APPLICABLE ACTS AND REGULATIONS

The following regulations are applicable to the proposed dock and ramp installation:

Federal Fisheries Act Section 35:

- No person shall carry on any work, undertaking or activity, other than fishing, that results in the death of fish; and,
- No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat (HADD). Which is defined as is any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat's capacity to support one or more life processes of fish.

Federal Fisheries Act Section 36: Environment and Climate Change Canada administers Section 36 of the *Fisheries Act*, the key pollution prevention provision, prohibiting the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations under the *Fisheries Act* or other federal legislation. A deleterious substance can be any substance

that, if added to any water, would degrade or alter its quality such that it could be harmful to fish, fish habitat or the use of fish by people.

Provincial *Water Sustainability Act* (2016):

Works in and about a *stream* under Section 11 of the *Water Sustainability Act* requires that a person may only make “changes in and about a stream” under an Approval or Notification. Aquaparian has submitted a Notification for the proposed dock. A notification is used for specified low risk changes in and about a stream that have minimal impact on the environment or third parties. The work must meet the requirements of the Water Sustainability Regulation, and comply with the Terms and Conditions letter and any additional conditions that may be set out by a habitat officer in response to a notification. Notifications are to be submitted at least 45 days prior to the scheduled work and within the same calendar year as the proposed work.

4.0 SITE OBSERVATIONS

Aquaparian completed a site visit of the project area on March 8, 2021. Access to the ramp is through a crushed gravel parking lot with angled parking, a turn-around and an outhouse on site. The existing boat ramp is an extension of the parking lot substrate, comprised of gravel and cobble with a gentle slope into the lake. Riparian vegetation grows thickly on either side of the ramp with a narrow, cleared entrance to the lake approximately 5m wide at the time of the assessment. The assessment was completed in the late winter, as such riparian and aquatic vegetation is expected to increase through the spring and summer.

The mixed coniferous and deciduous canopy within the project area is comprised of red alder (*Alnus rubra*), western redcedar (*Thuja plicata*), bigleaf maple (*Acer macrophyllum*), Douglas-fir (*Pseudotsuga menziesii*), black cottonwood (*Populus trichocarpa*) and arbutus (*Arbutus menziesii*). Alders are concentrated along the edge of the lake. Forest understory is dominated by Indian plum (*Oemleria cerasiformis*) with Nootka rose (*Rosa nutkana*), salal (*Gaultheria shallon*), dull Oregon-grape (*Mahonia nervosa*), Himalayan blackberry (*Rubus armeniacus*), cut leaf blackberry (*Rubus laciniatus*), bracken fern (*Pteridium aquilinum*), grand fir (*Abies grandis*), sword fern (*Polystichum munitum*), red huckleberry (*Vaccinium parvifolium*), minor spurge laurel (*Daphne laureola*) and one holly bush (*Ilex* sp.). Riparian vegetation concentrated along the edge of the lake is dominated by hardhack (*Spirea douglasii*) with salmonberry (*Rubus spectabilis*), reed canary grass (*Phalaris arundinacea*), skunk cabbage (*Symplocarpus foetidus*) and cattail (*Typha latifolia*). Aquatic species that edge Quennell lake previously observed by Aquaparian in the spring/summer include yellow flag iris (*Iris pseudacorus*) and yellow pond-lily (*Nuphar polysepalum*). A variety of songbirds were observed during the site visit.

5.0 IMPACT ASSESSMENT

An Environmental Protection Plan (EPP) has been prepared by Aquaparian for this project and is included with this report as Appendix B. The EPP is intended to mitigate or manage any potential risks or impacts that may occur as a result of construction of the proposed floating dock and ramp.

The direct impact of the proposed floating dock and ramp installation include the following:

- Shading of approximately 20m² of lake bottom; and,
- Minor clearing of riparian vegetation.

Shading will not negatively impact fish habitat. Docks provide a temperature refuge and cover to freshwater fish species. The dock will be installed in an area that receives frequent and regular use for boat launching. Works will be completed during the least risk window for fish (June 15 – September 15) and no fish spawning habitat will be impacted from the installation of the new floating dock.

The vegetation removal is planned to be minimal and restricted only to the dock alignment. Riparian vegetation is expected to infill naturally around the floating dock following installation. There may be some removal of the invasive yellow flag iris required for dock installation. This species is already heavily established in the lake and clearance of a small area for dock installation is not expected to have a significant impact to native aquatic vegetation or fish habitat over existing conditions if measures to reduce excessive rhizome fragmentation, as outlined in the EPP, are avoided.

Potential impacts that may result from the installation works include the following:

- Sedimentation to the lake created by earthworks for the ramp footing and use of heavy machinery on shore;
- Accidental release of deleterious substances (i.e. hydrocarbons) into the lake;
- Accidental release of cement leachate to the lake; and,
- Potential for invasive yellow flag iris to spread.

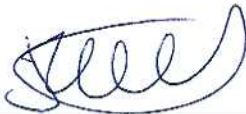
Temporary disturbances or potential risks to the freshwater environment during construction can be managed if all mitigation measures outlined in the EPP are followed. It is Aquaparian's professional opinion that the minor works to construct the proposed floating dock and ramp are not expected to result in negative impacts to fish habitat. As such, no submission to Fisheries and Oceans Canada is required aside from a Notification prior to construction.

6.0 CLOSURE

This report has been completed in accordance with generally accepted biological practices. No other warranty is made, either expressed or implied. Aquaparian trusts this information meets your requirements at this time. If you require further information, please contact the undersigned.

Regards,

AQUAPARIAN ENVIRONMENTAL CONSULTING LTD



Jeni Rowell, B.Sc., BIT
Biologist-in-Training

Z:\Projects\Projects\N726 Quennell Lake Boat Ramp\Quennell Lake Floating Dock.docx



Sarah Bonar, B.Sc., R.P.Bio
Senior Biologist/Principal



203-321 Wallace St, Nanaimo, BC V9R 5B6

SARAH BONAR 250-714-8446 CHRIS ZAMORA 250-714-8864

FIGURE 1
SITE LOCATION MAP

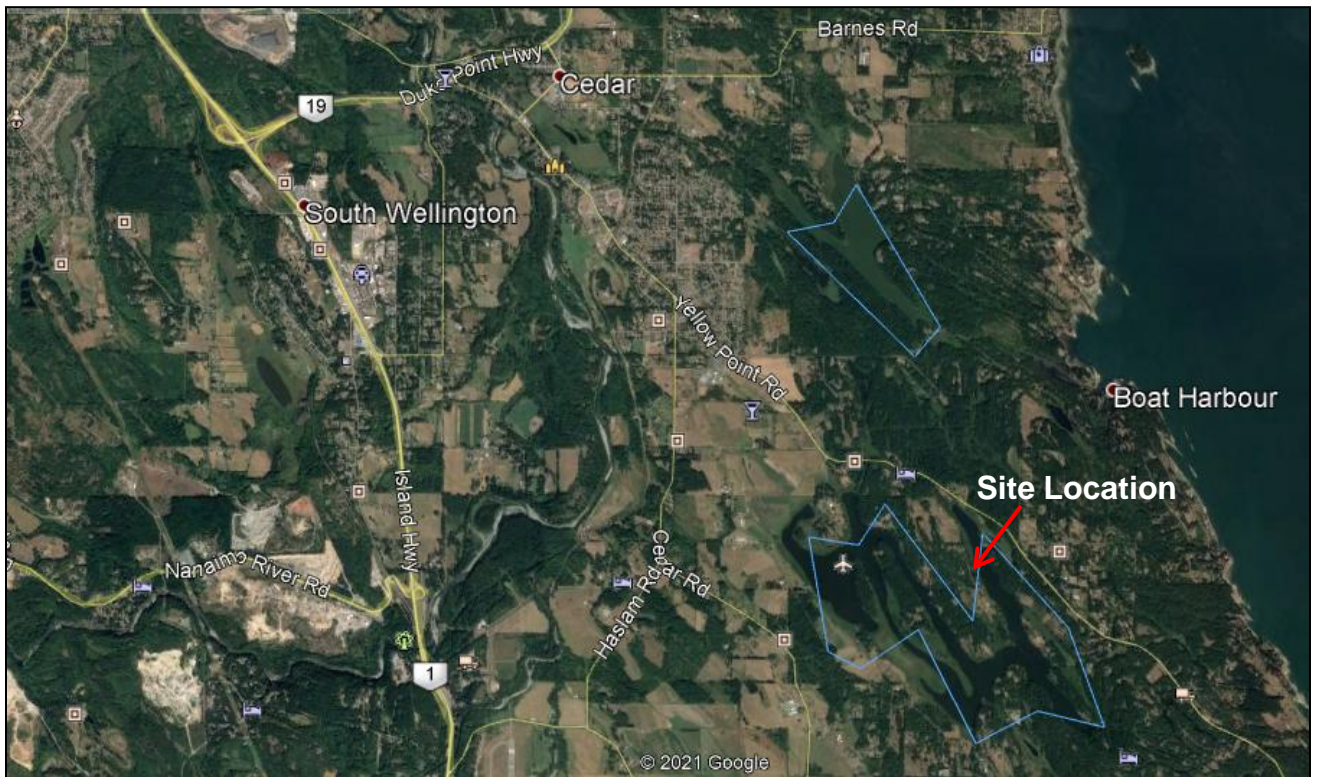


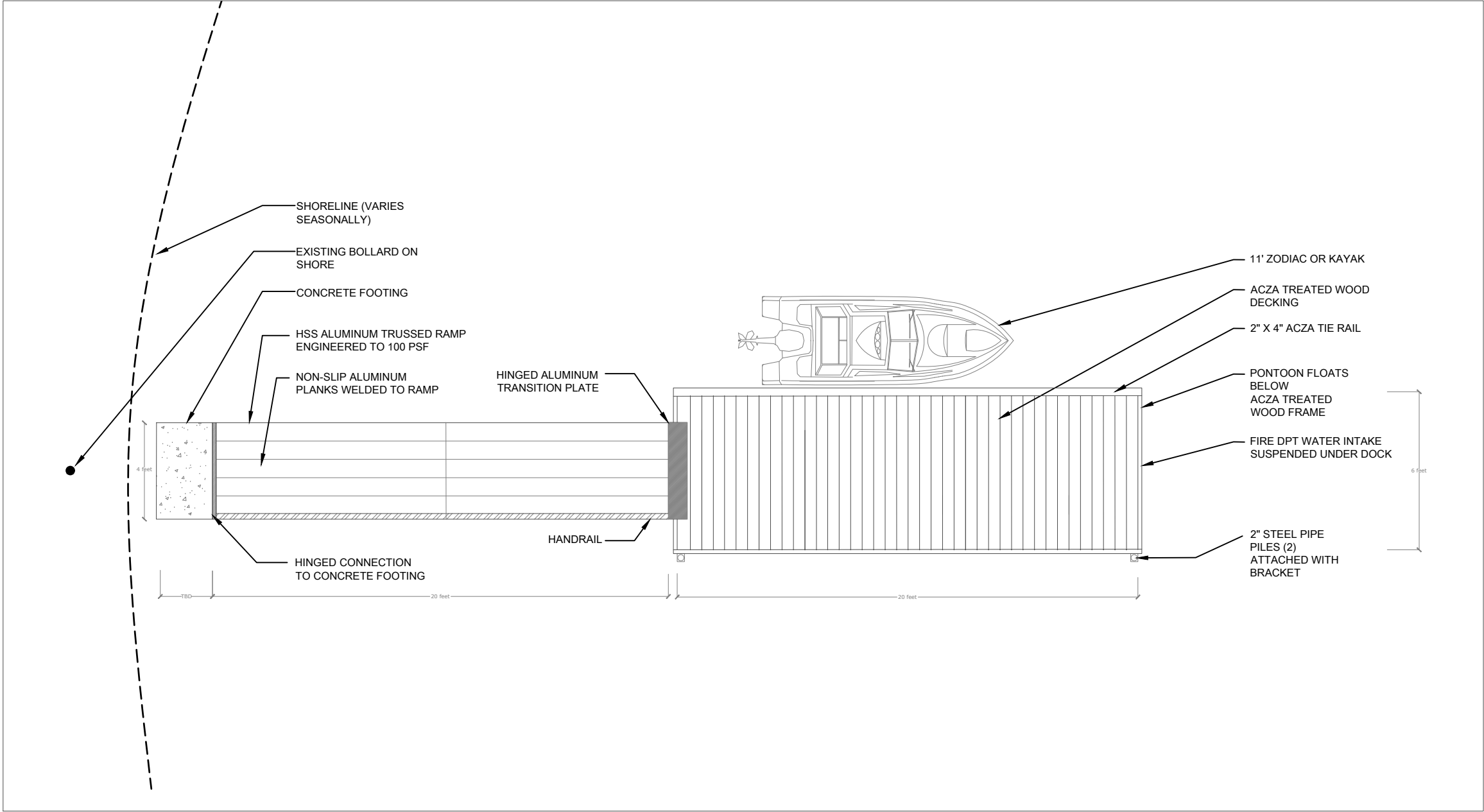
FIGURE 1A & 1B – SITE LOCATION MAPS



FIGURE 2
SITE PLAN

DRAFT

Quennell Lake Floating Dock with Ramp



March 1 2021
Drawn by: PW



Legend

Contours

Contours - 2m Intervals

— Index

— Intermediate

Internal Layers

Address Points



RDN Electoral Area Boundaries

Electoral Areas



Parks, Community



Properties (Conventional)



Air Photo 2020

Red: Band_1

Green: Band_2

Blue: Band_3

Base Layers



Notes

0 100 200 m

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

APPENDIX A

SITE PHOTOGRAPHS

APPENDIX A – SITE PHOTOGRAPHS



Photo 1: Facing east towards the existing boat launch from the parking lot.



Photo 2: Facing east towards the existing boat launch.



Photo 3: Close up of the existing boat launch where the proposed new floating dock and ramp will be installed.



Photos 4&5: Looking north across the existing boat launch.





Photo 6: Looking southeast from the centre of the existing boat launch.



Photo 7: Looking through riparian vegetation along the shoreline towards the lake. Photo taken standing several meters to the north of the boat launch.

APPENDIX B

ENVIRONMENTAL PROTECTION PLAN



203-321 Wallace St, Nanaimo, BC V9R 5B6

SARAH BONAR 250-714-8446 **CHRIS ZAMORA** 250-714-8864



March 9, 2021
Revised February 7, 2022

Carolyn Kennedy, Park Planner
Regional District of Nanaimo
1490 Springhill Road,
Parksville BC, V9P 2T2

Via E-mail: ckennedy@rdn.bc.ca

**RE: ENVIRONMENTAL PROTECTION PLAN (EPP)
QUENNEL LAKE FLOATING DOCK AND RAMP**

1.0 INTRODUCTION

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained by the Regional District of Nanaimo (RDN) to complete an Environmental Impact Assessment (EIA) for a proposed new floating dock and ramp at the existing boat launch on Quennell Lake, located at the end of Ritten Road in the community known as Yellow Point, BC. A new floating dock and ramp are proposed to be installed to facilitate launching of car-top boats. The following Environment Protection Plan (EPP) is intended to provide the contractor with environmental protection measures that can avoid or mitigate accidental impacts to the lake (i.e. water quality, fish habitat) or the forest while completing specific tasks for this project. The EPP is to be considered as a living document that may need to be amended to include and/or meet any terms and conditions that may be imposed by permits, licenses, or other approvals or as a result of design changes. This document is intended to support the Environmental Impact Assessment report but has been formatted as a stand-alone document that is to be provided to the construction contractor awarded to carry out the project. The General Contractor shall be required to review and have a copy of this document on site at all times during the construction of the project. The EPP has been created to mitigate potential environmental impacts during the construction phase of the project.

2.0 ENVIRONMENTAL MONITOR ROLES AND RESPONSIBILITIES

A minor amount of environmental monitoring may be warranted during construction during the concrete pour for the footing of the ramp, or if there is equipment failure resulting in release of hydrocarbons in the lake. Aquaparian anticipates that the project will require one monitoring visit. If additional monitoring is necessary, Aquaparian will be available upon request. The role

of the Environmental Monitor (EM) is to inspect, evaluate and report on the compliance and effectiveness of work practices and environmental protection and mitigation procedures as identified in this EPP and associated permits or approvals and to recommend and oversee improvements to the plan as necessary.

The EM shall have the authority to advise the contractor(s) to modify or halt construction operations that conflict with safe environmental practices and procedures. Mitigation measures include general objectives related to environmental protection and a site specific action plan to control impacts to fish and wildlife during construction activities.

The contractor shall review this EPP document prior to start of the project. During the construction phase of the project, the EM will have the primary responsibility to confirm that environmental management measures, controls and specifications are implemented in accordance with the EPP and are operating in compliance with terms and conditions of regulatory permits and approvals and Industry Best Management Practices (BMPs).

2.1 ROLES AND RESPONSIBILITIES OF THE EM

Roles and responsibilities of the EM include, but are not limited to the following:

- Have an understanding of all aspects of the project including the contract documents, project-related authorizations, agency guidelines and other documents, and confirm if all mitigation measures contained within are being appropriately implemented;
- Review the contractor's work plans to confirm if the conditions of the EPP are met, and make recommendations to address any deficiencies;
- Monitor contractor work activities as required and be on call should an emergency arise. A monitoring report is to be generated following the monitoring visit to document mitigation measures and any recommendations made. Site photographs are to be included;
- Consult with the construction Project Manager should a Work Stoppage be necessary if environmental protection is compromised;
- Inventory contents of Emergency Spill Kits and confirm if they are appropriately stocked and maintained;
- Monitor on-site equipment and machinery for oil or fuel leaks and follow-up any repairs prior to machinery being mobilized on site;

- Complete Environmental Incident Reports (EIR) when required. The EM or project manager is to observe, document and report spills and spill cleanup and contact appropriate authorities (i.e. Emergency Management BC (EMBC)) in the event of an environmental incident or development of unforeseen site conditions with potential for serious environmental degradation; and,
- Review contractor final site cleanup.

2.2 CONTRACTOR ENVIRONMENTAL RESPONSIBILITIES

The contractor's environmental responsibilities include:

- Be completely familiar with mitigation measures outlined in this EPP document;
- Implement and maintain mitigation measures to meet the objectives identified in this report;
- Frequent inspection of equipment for wear and leaks;
- Spill prevention and management, waste management and disposal;
- Maintain supplies of emergency spill management equipment and crew response training;
- Report spills to the EM and other relevant personnel/agencies as per the Spill Reporting Procedure (SRP); and,
- Work with the EM if additional measures are necessary to meet the guidelines set out in this report.

2.3 ENVIRONMENTAL INCIDENT REPORTS (EIR)

Spill prevention and emergency response procedures shall be communicated to all construction crew at the start of the project. The EM will be required to report environmental incidents, including non-compliance issues to the Project Manager and to external agencies such as EMBC if required by the nature of the incident within 24 hours.

An environmental incident is one that has caused, or has the potential to cause, one or more of the following:

- Environmental damage;
- Adverse effects to fish, wildlife or other environmental resources;
- Adverse publicity with respect to the environment; and,
- Legal action with respect to violation of statutes or environmental damage.

Examples of an environmental incident include, but are not limited to:

- Spills of oil, hydraulic fluid or other hazardous chemicals; and,
- Discharges of deleterious substances into the freshwater environment.

An emergency contact list is to be generated by the contractor at the beginning of the project and the list is to be kept onsite and available to all crew members in the event of an emergency.

For incidents that pose a threat to the environment or human safety as identified by the *Environmental Management Act* Spill Reporting Regulation, the first external call shall be made to the EMBC (formerly PEP) 1-800-663-3456 (24 hour).

The Project Manager or EM (if on site) should be notified as early as possible following an incident and the spill must be documented by Environmental Incident Report (EIR). In addition, it may be necessary in some situations for the EM to notify regulatory agencies with respect to environmental incidents. Agency reporting requirements are provided in Table 1 and shall be included in any Spill Prevention and Emergency Response documentation prepared for the project.

TABLE 1. SPILL REPORTING MATRIX

Substance	Quantity	External Reporting Requirements	Internal Reporting Requirements
Any spill into water	Any	EMBC	EIR
Oil & waste oil	>100L	EMBC	EIR
Oil with >50ppm PCB	>1kg	EMBC	EIR
Flammable or non- flammable gas	10kg	EMBC	EIR
Toxic or corrosive waste	>5kg	EMBC	EIR
Hazardous waste	>5L	EMBC	EIR

Where a spill occurs, the person who immediately before the spill had possession, charge or control of the spilled substance shall take all reasonable and practical action, having due regard

for the safety of the public and of himself or herself, to stop, contain and minimize the effects of the spill. Environmental incidents are to be reported to the project team within 24 hours.

The incident report is to include the following information:

- (a) The reporting person's name and telephone number,
- (b) The name and telephone number of the person who caused the spill,
- (c) The location, date and time of the spill,
- (d) The type and quantity of the substance spilled,
- (e) The cause and effect of the spill,
- (f) Details of action taken or proposed to comply with Section 3,
- (g) A description of the spill location and of the area surrounding the spill,
- (h) The details of further action contemplated or required,
- (i) The names of agencies on the scene, and
- (j) The names of other persons or agencies advised concerning the spill.

3.0 ENVIRONMENTAL PROTECTION PLANS (EPPS)

3.1 GENERAL ENVIRONMENTAL PROTECTION MEASURES

- The contractors are to review requirements of this EPP and verify environmental protection equipment is on site including spill prevention kits, filter fabric, site safety signage, hazardous material storage, garbage storage, permits etc;
- Inspect and verify all equipment is in good working order, clean and free of leaks prior to mobilizing on site;
- Store food and food waste in a secure container during works and remove off site when personnel are not on site to prevent attracting wildlife;
- Prepare a plan to remove equipment, fuel supplies and/or waste materials from the forest and project area at night to prevent wildlife from accessing it or causing a spill;
- Complete regular inspection of the emergency response plan and spill containment / recovery equipment, and spill response training programs;
- Inspection of the effectiveness of contractor's construction waste management program;
- Completion of monitoring reports and incident reports as necessary;

- Hazardous waste material generated in the course of the project (oil adsorbent pads, oily & grease covered rags, containers, etc.) shall be disposed of in compliance with hazardous waste regulations; and,
- A Spill Response Plan and Emergency Response Plan are to be developed by the contractor and kept in the site foreman's vehicle.

3.2 EXCAVATION OF SOILS AND VEGETATION REMOVAL

- No tree clearing is planned. Several meters of shoreline clearing of understory vegetation removal is expected. Clearing must be completed outside of the migratory bird nesting season (March 1 – August 15). If not, a nesting survey should be completed within a week of the proposed clearing date, preferably no more than three days prior;
- It is understood that some clearing of yellow flag iris is expected. This is a highly invasive species that propagates through floating seed dispersal, but also by fragmentation of rhizomes. Manual or mechanical removal, the only available option for control of this species once established, must be done with care to create the least possible disturbance and plant waste must be properly disposed of to reduce the spread of this species. The following recommendations apply to removal of yellow flag iris from the work area:
 - Remove the plants prior to seed production, or remove seed pods carefully before disturbance by cutting pods off. Plants bloom May-June, seed production follows.
 - Encircle the area with a fine mesh net to contain rhizome fragments generated during removal. Once finished, use the net to collect any loose rhizome fragments for disposal.
 - Preferably the entire rhizome system should be removed to prevent recolonization. Because this species is heavily established in Quennell Lake, complete eradication will be impossible, so remove as much of the rhizome system as possible.
 - Hand removal is possible for several meters of area, and is expected to create less disturbance than mechanical removal including less chance of sedimentation to the lake. Pull the plants gently and use minimal cutting of rhizomes as needed to reduce fragmentation of rhizomes.

- Dispose of removed plants and plant fragments in heavy tarps or plastic bags. Cover with tarps during transport to a landfill to prevent spread in transit. Dispose of properly at a designated disposal site. Burning and composting are not recommended. And,
 - Before leaving the site, ensure all plant parts are removed and cleaned from equipment, gear, clothing, etc.
- Complete work during the Least Risk Timing Window for fish (June 15 – September 15);
- Sediment and erosion control measures are to be put in place during earthworks required to prepare the site for the concrete footing. This includes the following measures:
 - Earthworks are to be completed in dry weather whenever possible and when the lake level is at its lowest;
 - If soil stockpiles are to be stored for periods of time, they should be positioned at least 15m away from the lake and protected from erosion during heavy rain i.e. covered with poly or tarp;
 - Areas of the gravel approach that may be disturbed during excavation are to be re-gravelled to prevent erosion and sediment release; and,
 - Upon completion, exposed soils should be covered with grass seed and straw or composted bark mulch or planted with native vegetation immediately to protect the stream banks from erosion.

3.3 SPILL PREVENTION & REPORTING

Aquaparian assumes construction will require the use of heavy equipment (excavator) and potentially small power tools such as a chain saw. No equipment is to enter the lake during construction.

- The contractor is to have Spill Prevention & Reporting procedures and Emergency Response Plan in place prior to the start of works;
- All work will be conducted in a manner that does not result in the deposit of a toxic or deleterious substance into the waters frequented by fish. Have a fully stocked spill kit on site during all works and have at least one spill containment boom on site for immediate deployment into the lake in case of accidental spill of hydrocarbons;

- Equipment fueling (if necessary) is to be completed in the upland away from the lake;
- Gerry cans of fuel will (if used) be stored in a Rubbermaid tub with a tight-fitting lid when not in use to prevent spillage;
- The Environmental Monitor (EM) is to be made aware of all fuel, oil and / or chemical spills that occur during the project;
- Containment, recovery and clean-up procedures are to be in place prior to the start of work; and,
- If a fuel or hydraulic oil spill occurs, the operator of the machine or equipment shall stop work immediately, address the immediate containment and clean-up of the spill and undertake the repair or replacement of the machinery before work is allowed to continue. The following spill response procedure is to be followed:

1. MAKE THE AREA SAFE
2. STOP THE FLOW (when possible)
3. SECURE THE AREA
4. CONTAIN THE SPILL
5. NOTIFY/REPORT
6. CLEAN-UP
7. SPILL REPORT

1. MAKE THE AREA SAFE

- Evaluate risk to Personal/Public and Environmental Safety;
- Wear appropriate Personal Protective Equipment (PPE);
- Never rush in, always determine the product spilled before taking action;
- Warn people in the immediate vicinity; and,
- Ensure no ignition sources if spill is a flammable material.

2. STOP THE FLOW (when possible and safe to do so)

- Act quickly to reduce the risk of environmental impacts;
- Close valves, shut off pumps or plug holes/leaks; and,
- Stop the flow or the spill at its source.

3. SECURE THE AREA

- Limit access to the spill area; and,
- Prevent unauthorised entry onto the site.

4. CONTAIN THE SPILL

- Prevent spilled material from entering the stream;
- Use spill sorbent material or containment boom to contain the spill;
- If necessary, use a dyke or any other method to prevent any discharge on site; and,
- Make every effort to minimize contamination.

5. NOTIFY/REPORT

- Verbally report all spills to the EM and the Project Manager immediately. All spills to the freshwater environment are to be reported to **EMBC (1-800-663-3456)**.

6. CLEAN-UP

- Determine required cleanup options;
- Mobilize recovery equipment and cleanup crew and direct cleanup activities;
- Dispose of all equipment and/or material used in clean up (e.g., used sorbent, oil containment materials, etc.) in accordance with MFLNRO requirements;
- Accidental spills may produce hazardous wastes (e.g., material with > 3% oil by mass) and contaminated soil. All waste disposals must comply with the *Environmental Management Act* and Regulations; and
- Replenish spill response kits and equipment.

7. SPILL REPORT

- Provide necessary spill details. A spill report should be completed and submitted to the Project Manager within 24 hours of the incident documenting the type and volume of spill, clean up and if external reporting was required; and,
- The EM will have the authority to shut down the work should fish or fish habitat be at risk. If directed by the project manager, the EM will make an external call to EMBC if necessary.

3.4 Concrete Management

As understood, a small concrete footing to support the ramp will be poured in place. Concrete pouring will abide by the following recommendations:

- No uncured concrete or concrete pour water is to enter the lake. High pH caused by uncured concrete is harmful to fish. Manage the concrete pour to prevent spillage; ensure the concrete forms have tight fitting joints, concrete delivery hoses and chutes have adequate seals to prevent spillage, cover drying concrete with plastic when necessary to protect from rain etc;

- The contractor will be required to have a concrete pouring management plan in place before the pouring takes place in order to mitigate concrete laden pour water from being released to the freshwater environment;
- No concrete equipment / tools are to be washed down near the lake. If necessary, excavate a small pit at least 15 m away from the lake, line it with plastic for waste and wash water. Once the concrete is cured it can be removed from the site. Waste concrete will not be allowed to enter the lake and will be disposed of offsite; and
- Work in dry (no or low precipitation) weather conditions if possible during concrete pours.

4.0 CONCLUSION

This EPP has been formulated using standard environmental protection guidelines and regulations for working within and around a watercourse. Based on our findings in the Environmental Impact Assessment, the project is not expected to result in a negative impact to fish and fish habitat if all precautions outlined in this document are followed.

The contractor(s) will be required to review this document and the Environmental Protection Measures outlined within it prior to the commencement of works. The contractor is to have a copy of this document on site at start-up.

If there are any questions regarding the content of the EPP, please contact the undersigned.

AQUAPARIAN ENVIRONMENTAL CONSULTING LTD.

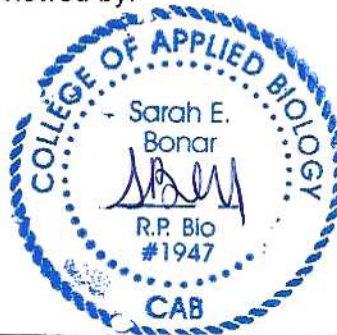
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5.0 REFERENCES

B.C. Ministry of Environment's A Users Guide to Working In and Around Water - Understanding the Regulation under British Columbia's *Water Act*. 2005.

http://www.env.gov.bc.ca/wsd/water_rights/cabinet/working_around_water.pdf

B.C. Ministry of Water, Land and Air Protection. Standards and Best Practices for Instream Works. 2004. <http://www.env.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf>

Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. 2006.

http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/develop_with_care_intro.html

Fisheries and Oceans Canada. Land Development Guidelines for the Protection of Aquatic Habitat. 1992. <http://www.dfo-mpo.gc.ca/Library/165353.pdf>

Invasive Species Council BC. 2017. Yellow Flag Iris *Iris pseudacorus* Fact sheet. Available: <http://bcinvasives.ca/invasive-species/identify/invasive-plants/yellowflagiris>. (Accessed February 2, 2022).

Metro Vancouver and the Invasive Species Council of Metro Vancouver. 2021. Best Management Practices for Yellow Flag Iris in the Metro Vancouver Region. Available:

<http://www.metrovancouver.org/services/regional-planning/PlanningPublications/YellowFlagIrisBMP.pdf>. (Accessed February 2, 2022).