REQUEST FOR PROPOSALS

HOSKYN CHANNEL LANDING FLOAT AND GANGWAY REPLACEMENT
RFP-09-23

ISSUE DATE
November 24, 2023

CLOSING DATE AND TIME
December 22, 2023
12:00PM Pacific Time

CLOSING LOCATION
Strathcona Regional District
301-990 Cedar Street
Campbell River, BC V9W 7Z8

CONTACT PERSON
Meredith Starkey
Manager, Parks and Planning
Tel: (250) 830-6700
Fax: (250) 830-6710
Email: procurement@srd.ca

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A. PROJECT SUMMARY

The Strathcona Regional District (Regional District) is seeking proposals from qualified firms to design, supply, and install a new floating dock and gangway ramp at the Hoskyn Channel Landing wharf, on the east side of Quadra Island.

The existing floating dock and gangway ramp at Hoskyn Channel Landing are nearing the end of their service life and more moorage space is needed at this well used community wharf. Hoskyn Channel Landing is managed under the Regional District's Electoral Area C – Discovery Island - Mainland Inlets Community Park service (https://srd.ca/services/parks-and-facilities/discovery-islands-mainland-inlets-parks/).

Proponents shall base their Proposal on furnishing everything including all permits, labour, engineering, materials, tools, equipment and all necessary supplies as well as incidentals required to complete the project in full compliance with the provisions and requirements of this RFP document. Any deviation from the requirements set out in this document must be fully disclosed in the proposal.

Refer to Section D (Specifications and Scope of Work) for additional details regarding the scope and specifications for this project.

B. ADMINISTRATIVE REQUIREMENTS

1.0 DEFINITIONS

Throughout this RFP, the following definitions apply:

"Closing" means the closing date and time specified on the first page of this Request for Proposals.

"Contract" means the written agreement resulting from this Request for Proposals executed by the Strathcona Regional District and the contractor.

"Contractor" means the successful proponent to this Request for Proposals who enters into a written contract with the Regional District.

"Must", "shall" or "mandatory" means a requirement that must be met in order for the proposal to receive consideration.

"Project" means that work to be completed in accordance with this Request for Proposals.

"Proponent" means an individual, company or partnership that submits, or intends to submit, a proposal in response to this Request for Proposals.

"Proposal" means a submission in response to this Request for Proposals.

"RFP" means this Request for Proposals.

"Should" or "desirable" means a requirement having a significant degree of importance to the objective of the Request for Proposals.

2.0 TERMS AND CONDITIONS

The terms and conditions applicable to this RFP are contained within this document. Submission of a proposal in response to this RFP indicates acceptance of all terms and conditions contained herein or in any addenda issued by the Regional District.

3.0 EVALUATION

Proposals will be evaluated by the Regional District based on the criteria identified herein. The intent of the Regional District is to enter into a contract with the proponent whose

proposal represents the best value to the Regional District based on the Regional District's evaluation of the proposals received.

4.0 ALTERNATIVE SOLUTIONS

If alternative solutions are offered, the information should be submitted in the same format as a standard proposed response but must be clearly marked as an "Alternative Proposal". If a proponent submits more than one proposal each must be separately and uniquely identified.

5.0 CHANGES TO PROPOSALS

By written notice a proponent may, prior to closing, amend or withdraw its proposal. Upon closing all proposals become irrevocable and may not be amended or withdrawn prior to the deadline for acceptance except where the proponent and the Regional District have mutually agreed to a change for the purpose of entering into a contract.

6.0 PROPONENTS' EXPENSES

Proponents are solely responsible for their own expenses in preparing and submitting their proposals. The Regional District will not be liable for any claims for costs or damages incurred by a proponent in preparing a proposal, loss of anticipated profit in connection with a final contract or any other matter whatsoever.

7.0 CURRENCY AND TAXES

Prices must be quoted in Canadian dollars and exclusive of taxes which shall be shown separately on the Proposal Form. No adjustment of fees or pricing will be made due to international currency fluctuations and/or any import duties and any additional taxes as a result of the contractor sourcing any materials, components and/or labour from international sources.

8.0 SUBCONTRACTORS AND PARTNERSHIPS

If subcontractors are to be used, they must be clearly identified in the proposal. Joint submissions in the form of a partnership or consortium are acceptable including a joint submission by proponents having no formal corporate links. However, each proposal must identify the legal entity which is to be responsible for the overall performance of the work which constitutes the project.

9.0 CONFLICT OF INTEREST

Contracting or subcontracting with any firm or individual whose corporate or other interests could, in the Regional District's opinion, give rise to a conflict of interest in connection with the services will not be permitted. This includes, but is not limited to, any firm or individual involved in the preparation of this RFP.

10.0 ACCEPTANCE OF PROPOSALS

This RFP must not be construed as an agreement to purchase goods or services nor as an invitation to perform any service for the Regional District, except as specifically outlined herein. Proposals shall remain open for acceptance by the Regional District for a minimum of 45 days after the RFP closing date. Proposals must state the latest date for acceptance at the time of submission.

The Regional District is not bound to accept the lowest price or any proposal. Proposals will be evaluated on the basis of stated criteria and the Regional District is under no obligation to request clarification or further information, whether written or oral, from any proponent prior to completion of the evaluation process.

The Regional District reserves the right to reject any and all proposals for any reason or to accept any proposal in whole or in part which the Regional District, in its sole unrestricted discretion, deems to represent the best value for the Regional District. Proponents acknowledge the Regional District's rights under this clause and absolutely waive any right of action against the Regional District for failure to accept their proposals whether such right of action arises as a result of negligence, bad faith or for any other reason.

The Regional District reserves the right to enter into negotiations with one or more proponents with respect to the services to be provided, and expressly reserves the right through such negotiations to request changes, alterations, additions or deletions from the terms of any proposals received.

Formal acceptance of any proposal and the subsequent confirmation of project award must not be construed as authority for the proponent to proceed with the project as this will be dependent on the execution of a contract and the fulfillment of any conditions precedent imposed by any authority having jurisdiction over the work or service to be performed.

11.0 CANCELLATION OR DELAY OF RFP

The Regional District reserves the right to delay and/or cancel this RFP at any time and for any reason and will not be responsible for any direct or indirect loss, damage, cost or expense incurred or suffered by any proponent as a result of such cancellation.

The acceptance of any Proposal and the subsequent execution of a contract may be subject to funding and approval by the Board of Directors of the Strathcona Regional District or any of its delegated authorities.

12.0 EXECUTION OF CONTRACT

After acceptance by the Regional District, the successful Proponent will be provided with written confirmation. A contract will be executed when all preconditions have been met. No proponent will acquire any legal or equitable rights or privileges with respect to this project until a contract has been entered into with the Regional District.

13.0 LIABILITY FOR ERRORS

The information contained within this RFP is not guaranteed or warranted to be accurate by the Regional District, nor is it necessarily comprehensive or exhaustive. Nothing in this RFP is intended to relieve proponents from conducting their own research and forming their own opinions and conclusions with respect to the matters addressed in this RFP.

14.0 MODIFICATION OF TERMS

The Regional District reserves the right, at its sole discretion, to modify the terms of this RFP at any time prior to the closing time. Such modifications will be communicated to all proponents through a formal addenda process.

15.0 FREEDOM OF INFORMATION

Proposals are subject to the provisions of the *Freedom of Information and Protection of Privacy Act* which provides that all information contained therein, with some exceptions, is subject to access by the public. Information that is considered to be confidential or proprietary in nature should be clearly noted as such by the proponent. The Regional District cannot guarantee that any information contained within a proposal will remain confidential if a request for access is made.

16.0 USE OF DOCUMENT

This document, nor any portion thereof, may not be used for any purpose other than the submission of proposals.

17.0 CONFIDENTIALITY OF INFORMATION

Information pertaining to the Regional District obtained by the Proponent as a result of participation in this RFP process, other than information that is generally available as part of the public record, is to be treated as confidential and must not be disclosed without prior written authorization from the Regional District.

C. SUBMISSION REQUIREMENTS

18.0 PROPOSAL SUBMISSION

Proposals shall be submitted in one of the following formats:

Electronically in PDF format, along with the signed and dated Proposal Form provided herein, to the secure RFP submission portal on the Regional District's website. The deadline for receipt of proposals is 12:00pm Pacific time on December 22, 2023, at the following address:

https://srd.ca/uploadsubmissions/

Once submitted, proposals may not be viewed or changed. To make a correction, a clearly labelled corrected version shall be submitted to the portal and an email sent to procurement@srd.ca indicating which version is intended for consideration.

In person delivery or by mail/courier in duplicate complete with one digital copy in portable document format (.pdf file) on a CD, DVD or USB device along with the signed and dated Proposal Form provided. The deadline for receipt of proposals is 12:00pm Pacific time on December 22, 2023, at the following location:

Strathcona Regional District
990 Cedar Street
Campbell River, BC V9W 7Z8

Proposals must be submitted in a sealed package with the name and address of the proponent and the RFP title clearly marked on the outside.

SAMPLE LABEL

Name of Proponent
Address of Proponent

CONFIDENTIAL – DO NOT OPEN

RFP – 09-23
Hoskyn Channel Landing Float and Gangway Replacement

STRATHCONA REGIONAL DISTRICT
990 Cedar Street
Campbell River, BC V9W 7Z8

Late proposals will be disqualified.

Proposals that are conditional, illegible, obscure, contain arithmetical errors, erasures, alterations or irregularities of any kind may, at the discretion of the Regional District, be disqualified.

The person(s) authorized to sign on behalf of the proponent and to bind the proponent to statements made in response to this RFP **must execute** the Proposal Form. Unsigned proposals will be disqualified.

Proponents shall be solely responsible for the delivery of their proposals in the manner and time prescribed. All submissions must be delivered according to the instructions provided herein and the Regional District will accept no responsibility for documents delivered to any other location.

19.0 PROPOSAL CONTENT

Proponents should include the following information in their proposal:

- Product description (gangway ramp, float and anchoring system).
- Budget/cost breakdown.
- Schedule – must include the anticipated number of days between removing the existing structures and completing installation of the new structures.
- Construction plan, including a description of demolition and disposal, gangway ramp, float, and anchor system installation methods.
- Proponent's relevant experience and resources, including three similar project examples.
- Project team's credentials, relevant experience and their role on the project.
- List of subcontractors, including their relevant experience, credentials, and their role on the project.

20.0 PROJECT MANAGER

Proponents are required to designate an individual who shall be the Designated Project Manager ("Project Manager") for the project. The Project Manager shall be the contractor's project/construction manager responsible for the delivery of all contracted services to the Regional District. The Project Manager, and not subordinate staff, shall at all times be directly responsible for the management of the project. The Project Manager shall attend all meetings of the project team during the term of the project. The Project Manager shall not be replaced without the prior written consent of the Regional District.

21.0 ENQUIRIES

All enquiries related to this RFP are to be directed, in writing or by email, to:

Meredith Starkey, Manager, Parks and Planning
Strathcona Regional District
301-990 Cedar Street, Campbell River, BC V9W 7Z8
Phone: 250-830-6700
Fax: 250-830-6710
Email: procurement@strathconard.ca

Information obtained from any other source is not official and should not be relied upon.

22.0 RFP ADDENDA

Addenda to this RFP may be issued prior to closing in response to queries received or at the initiative of the Regional District. Addenda will be in written form and will be made available on the BC Bid (http://www.bcbid.gov.bc.ca) and Strathcona Regional District (www.strathconard.ca) websites. Information contained within RFP addenda(s) is considered

an integral part of the RFP and should be considered by proponents when responding to this RFP.

Verbal communications will not be binding unless confirmed by written addenda.

23.0 DISCLAIMER

Each proponent is responsible to review and understand the terms and conditions of this RFP and the scope of the work described. The Regional District makes no representation or warranty as to the accuracy or completeness of the information contained in this RFP and proponents are solely responsible to ensure that they have obtained and considered all information necessary to understand the requirements of the RFP and to prepare and submit their proposals. The Regional District will not be held responsible for any loss, damage or expense incurred by a proponent as a result of any inaccuracy or lack of completeness associated with this RFP, or as a result of any misunderstanding or misinterpretation of the requirements of this RFP on the part of any proponent.

24.0 EVALUATION CRITERIA

Proposals will be evaluated against the following criteria:

Criteria	Points
Lowest cost to the Regional District	35
Ability to comply with preferred project schedule	25
Proponent relevant project experience	20
Project team credentials and relevant experience	15
Proposal quality and clarity	5

If required, a short list of proponents may be established to be contacted by the Regional District. The purpose for contacting a proponent at this stage would be to gain a greater understanding of the proponent's proposal as submitted. Depending on the nature of the questions to be answered an interview may also be arranged to facilitate a more in-depth understanding of the proposal.

D. SPECIFICATIONS AND SCOPE OF WORK

25.0 SERVICES

The proponent will provide all labour, tools, equipment, supervision, vessels, vehicles, fuels, lubricants, materials, supplies, permits, and services necessary to complete the project, including detailed design, fabrication, transportation/delivery to site, and installation of a new gangway ramp, floating dock and anchoring system at the Hoskyn Channel Landing wharf. The proponent will also be responsible for the removal and disposal of the existing gangway ramp, floating dock, and anchor system.

Hoskyn Channel Landing is located on the east side of Quadra and can be accessed by vehicle at the end of Surge Narrows Road. Coordinates for the site are:

50°12'47.48"N, 125° 8'53.32"W

All work must be completed in accordance with the drawings in Appendix A and the environmental management plan in Appendix B.

Proponents shall carefully examine the requirements, specifications and site of the proposed work, judging for and satisfying themselves as to the probable conditions to be encountered and the quantities, quality and practicability of the work. Proponents are required to fully inform themselves of the conditions relating to the engineering, installation and labour under which the work is to be performed and shall employ, as far as possible, such methods and means in carrying out the works so as not to cause any interruption or interference with any other group using the facility.

The successful Proponent will be responsible for ensuring correct design, fit, detail and dimensions. ***Proponents are reminded to confirm accuracy of all figures.***

26.0 WARRANTIES

The contractor will be required to warranty all materials furnished and work performed under the contract for a minimum period of two (2) years from the date of project completion. This includes the replacement of faulty materials and rectification of any defects discovered and failures occurring during the warranty period. All deficiencies will be rectified to the satisfaction of the Regional District.

27.0 PRODUCTS AND MATERIALS

Proposals must include detailed specifications regarding the products and materials proposed to be used or installed for this project along with the manufacturer's written installation methods and instructions.

All products and materials provided under the contract must meet or exceed the standards established by any authority having jurisdiction.

All materials provided under this contract must be acceptable to all federal, provincial, municipal and Worker's Compensation Board regulations.

The Regional District will reject any proposal where the products or materials to be used do not conform to the minimum specifications set out herein or meet the minimum regulatory requirements.

28.0 PERMITS AND CERTIFICATES

The successful proponent must obtain, and pay for, all necessary permits to carry out the work of this project. The contractor will be required to provide certificates of conformity to requirements of authorities having jurisdiction.

Exception: The Regional District has applied for a Project Review with Fisheries and Oceans Canada (DFO), under the *Fisheries Act*. The project review is not complete, and DFO may have requirements and conditions that alter the scope, conditions and/or schedule of this project as described in this RFP.

29.0 PROJECT SCHEDULE

The Regional District has a preferred schedule for this project. Proponents shall state in their Proposal submission whether they can comply with this timeline. In accordance with the evaluation criteria set out in this document, points will be awarded to proponents confirming their ability to conform with the preferred project schedule specifications:

Notice of award – January 12, 2024

Contract signing/Project Start – January 19, 2024

Project Completion – March 1, 2024, strong preference

Project completion – March 31, 2024, moderate preference

Project completion – December 31, 2024, acceptable for consideration.

In order for regular operations of the facility to continue, the new gangway ramp and float must be installed as quickly as possible once the existing structures are removed. In accordance with the evaluation criteria set out in this document, points will be awarded to proponents confirming their ability to minimize facility closures during the installation.

30.0 WORKSITE MANAGEMENT

Excess materials and debris must be cleaned up on a daily basis during operating hours. All excess materials must be disposed of in accordance with all applicable legislation and best practices.

Any contractor's materials and equipment proposed to be stored on Regional District property must either be stored at the designated worksite or in an area approved by the Regional District for that purpose.

The Contractor is responsible for security of construction materials, tools and equipment. The Regional District will assume no liability for theft, vandalism or loss to the Contractor as may occur during the term of this work.

The Contractor is responsible for providing sufficient signage, temporary fencing and other foot traffic control measures to safely and effectively secure the work site and any material staging sites from the public.

All foot traffic control measures, including signs, fences and other materials, must be approved by the Regional District's representative prior to installation. In cases where the Contractor leaves incomplete work posing a potential hazard, the area must be cordoned off to the satisfaction of the Regional District's representative.

Any temporary storage areas, or areas adjacent to the works must be restored to the original condition and any damage caused during the installation or construction process must be repaired by the Contractor at their own expense.

31.0 KNOWLEDGE OF PROJECT

By submitting a response, the Proponent agrees that they have examined the facilities, have carefully read this RFP document and have satisfied themselves as to their ability to fulfill the requirements of this RFP and the project before submitting a proposal and agree that they will make no claim against the Regional District based on any misunderstanding of the RFP requirements and the project to be provided.

No extra payment will be made by the Regional District for conditions which should have been determined by a proponent by inspection, prior to entering into a contract for the project.

32.0 PROJECT SPECIFICATIONS

All work must be completed in accordance with the drawings in Appendix A and the environmental management plan in Appendix B.

33.0 MONITORING AND INSPECTIONS

Monitoring of the work and the work site will be done by Regional District staff, and/or consultants hired by the Regional District, as deemed necessary by the Regional District. The Regional District's representatives will conduct site reviews and approve completed work.

The Contractor will be expected to regularly inspect and monitor their work site to ensure public safety, worker safety and security.

The Regional District's representatives, including a third-party Environmental Monitor, will have the authority to stop work if the individual determines that some aspect of the construction is creating or will result in a substantial adverse effect on environmental values or resources, on or adjacent to the Project.

34.0 WORK EXCLUDED

The Regional District is responsible for:

- Notifications to park users
- Environmental monitoring

35.0 CHANGE IN SCOPE

The Regional District reserves the right to amend the scope for work during the term of the proposed contract. In such cases, the Regional District would request a quotation from the contractor for the change in scope.

E. CONTRACT CONDITIONS

By submission of a proposal, the Proponent agrees that should its proposal be successful, the Proponent will enter into a contract with the Regional District that subject to negotiation, may include the following contract clauses:

36.0 COMPLIANCE WITH LAWS

The contractor will give all notices and provide all permits, licenses and other approvals required to perform the work. The contractor will comply with all laws applicable to the work or performance of the contract.

37.0 LAWS OF BRITISH COLUMBIA

Any contract resulting from this RFP will be governed by and will be construed and interpreted in accordance with all laws in affect in the province of British Columbia.

38.0 INDEMNITY

Notwithstanding the provision of insurance coverage by the contractor, the contractor hereby agrees to indemnify and save harmless the Regional District, its officers, agents and employees from and against all claims, demands, losses, costs, damages, actions, suits or proceedings by whomever made, brought or prosecuted and in any manner based upon, arising out, related to, occasioned by or attributable to the activities of the contractor, its servants, agents, subcontractors and suboperators, in providing the services and performing the work of the contract, excepting always liability arising solely out of the negligent act or omission of the Regional District.

39.0 INSURANCE

Any contract resulting from this RFP will require that the contractor, without limiting its obligations or liabilities and at its own expense, provide and maintain throughout the contract term:

a. Comprehensive commercial general liability insurance in an amount not less than $2,000,000 inclusive per occurrence, insuring against bodily injury and property damage and including liability assumed under the contract;

The Regional District is to be added as an additional insured and the policy shall contain a cross liability clause. All required insurance will be endorsed to provide the Regional District with 30 days advance written notice of cancellation or material change.

The contractor will provide the Regional District with evidence of the required insurance in the form of a certificate(s) of insurance, immediately upon execution and delivery of the contract.

40.0 REGISTRATION WITH WORKSAFEBC

The contractor and any approved subcontractors must be registered with WorkSafe BC and WCB coverage must be maintained for the duration of the contract. Prior to receiving any payment, the contractor may be required to submit a WCB Clearance Letter confirming all assessments have been paid and the contractor is in good standing. The contractor and any approved subcontractors shall abide by all provisions of the Workers Compensation Act of British Columbia.

41.0 PRIME CONTRACTOR STATUS

The Contractor hereby covenants and agrees that when circumstances arise that there are two or more employers present on the work site creating a “multi-employer” worksite as defined by the Worker's Compensation Act and its regulations (the “Act”), the Contractor shall:

a) be the “prime contractor” for the “work site” as defined by the Act and its regulations; and
b) do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with the Act and its regulations, as required, to ensure the health and safety of all persons at the "work site".

The Contractor shall direct all sub-contractors, other contractors, employers, workers, volunteers, and any other persons at the “work site” on safety related matters to the extent required to fulfill its “prime contractor” responsibilities pursuant to the Act, regardless of:

a) whether or not any contractual relationship exists between the Contractor and any of these entities, and
b) whether or not such entities have been specifically identified in this agreement.

F. DRAWINGS

Any drawings provided by the Regional District are intended as a guide only and may not be suitable for calculating quantities, dimensions, angles, elevations or other pertinent information. Proponents are solely responsible for confirming the information they require in order to meet the requirements of the RFP.

G. PROPOSAL FORM

REQUEST FOR PROPOSALS
HOSKYN CHANNEL LANDING FLOAT AND GANGWAY REPLACEMENT
RFP-09-23

CLOSING DATE AND TIME
12:00PM PACIFIC STANDARD TIME ON DECEMBER 22ND, 2023

This form must be completed, signed, and included with the submission.

The undersigned confirms that its submission is in response to the above noted RFP.

The proponent acknowledges receipt of Addenda # _____ through Addenda #_____.

Proponent: _____

Address: _____

_____

Contact Name: _____

Phone: _____ **Fax:** _____

Email: _____

Completed Price	**$**
Taxes	**$**
Total Completed Price	**$**

Proponents should ensure that all requirements of the RFP are dealt with in their proposal submission and that all materials and products proposed comply with the specifications therein.

_____
Authorized Signature

_____
Name and Title

_____
Date

APPENDIX A

HOSKYN CHANNEL LANDING FLOAT AND GANGWAY REPLACEMENT
RFP-09-23

CONCEPTUAL DESIGN DRAWINGS, CRITERIA AND GENERAL NOTES

DESIGN CRITERIA AND GENERAL NOTES

1.0 GENERAL

1.1 VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK.

1.2 ALL DIMENSIONS ARE IN METRIC UNLESS NOTED OTHERWISE.

1.3 ALL WORK SHALL CONFIRM TO THE BC BUILDING CODE AND WORKSAFE BC REGULATIONS.

1.4 CLIMACTIC DESIGN DATA (FROM BC BUILDING CODE FOR CAMPBELL RIVER):

- Ss: 2.8 kPa
- Sr: 0.4 kPa
- 1/10 HOURLY WIND PRESSURE: 0.40 kPa
- 1/50 HOURLY WIND PRESSURE: 0.52 kPa

1.5 WHERE CODES AND STANDARDS ARE REFERENCED, THE LATEST EDITION APPLIES.

1.6 SUBMIT DETAILS OF PROPOSED SCHEDULE AND METHODOLOGY TO THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.

1.7 UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS AND SURPLUS MATERIALS FROM SITE. LEAVE THE WORK AREA IN A CLEAN AND NEAT CONDITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

1.8 BATHYMETRIC SURVEY COMPLETED BY MCELHANNEY IN JUNE 2023.

1.9 CONTRACTOR SHALL ADHERE TO THE ENVIRONMENTAL MANAGEMENT PLAN.

2.0 DEMOLITION

2.1 TAKE ALL NECESSARY PRECAUTIONS TO CONTAIN THE DEMOLITION WITH THE LIMITS DESIGNATED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO EXISTING STRUCTURES.

2.2 ANY DAMAGE INCURRED IN THE EXECUTION OF THIS CONTRACT TO ANY PART OF THE PROPERTY OR STRUCTURE NOT SPECIFICALLY DESIGNATED FOR DEMOLITION SHALL BE REPAIRED, REPLACED AND/OR RECONSTRUCTED BY THE CONTRACTOR TO ITS ORIGINAL CONDITION AT THEIR OWN EXPENSE.

2.3 REMOVE AND DISPOSE OF ALL DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH ALL MUNICIPAL, PROVINCIAL AND FEDERAL REQUIREMENTS.

2.4 EXISTING FLOAT AND GANGWAY TO BE REMOVED AND DISPOSED BY THE CONTRACTOR.

3.0 GANGWAY CRITERIA

3.1 ALUMINUM GANGWAY SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR DETAILED DESIGN (LIVE LOAD 2.4kPa), SUPPLY AND CONSTRUCTION. SUBMIT SEALED SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO FABRICATION.

3.2 THE GANGWAY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF CSA S157 STRENGTH DESIGN IN ALUMINUM, THE REQUIREMENTS OF OTHER APPLICABLE CANADIAN CODES AND STANDARDS, AS WELL AS THOSE SHOWN ON THE DRAWINGS AND OTHER CONTRACT DOCUMENTS.

3.3 CONTRACTOR IS TO PROVIDE WEARING PROVISIONS AND ATTACHMENTS TO PIER DESIGN FOR APPROVAL BY OWNER'S REPRESENTATIVE.

3.4 GANGWAY TO TRESTLE CONNECTION TO ALLOW FOR TRANSLATIONAL MOVEMENT OF FLOAT, SIMILAR TO EXISTING.

3.5 PRIOR TO MATERIAL PROCUREMENT, APPROVAL BY OWNER'S REPRESENTATIVE IS REQUIRED.

4.0 FLOAT DESIGN REQUIREMENTS

4.1 THE FLOAT SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF CANADIAN CODES FOR THE APPLICABLE MATERIAL, AS WELL AS THE REQUIREMENTS SHOWN ON THE DRAWINGS AND OTHER CONTRACT DOCUMENTS. THESE CODES MAY INCLUDE:

- CSA A23.3 DESIGN OF CONCRETE STRUCTURES
- CSA O86 ENGINEERING DESIGN IN WOOD
- CSA S16 DESIGN OF STEEL STRUCTURES
- CSA S157 STRENGTH DESIGN IN ALUMINUM

4.2 THE AUSTRALIAN STANDARD (AS 3962) AND THE BRITISH STANDARD (BS 6349) MAY BE USED AS A MARINE CODE, AS APPLICABLE WHERE THE CANADIAN CODES DO NOT PROVIDE MARINE GUIDANCE. ALTERNATIVELY, REFERENCE CAN BE MADE TO OTHER INTERNATIONAL CODES, STANDARDS OR GUIDELINES, SUBJECT TO OWNER'S APPROVAL.

4.3 THE DRAWINGS INDICATE THE GENERAL INTENT OF THE FLOAT. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE DETAILED DESIGN, CONSTRUCTION, INSTALLATION AND QUALITY CONTROL.

4.4 THE FLOAT SHALL BE DESIGNED FOR THE CLIMACTIC CONDITIONS EXPECTED AT THE SITE. WHERE SITE SPECIFIC INFORMATION IS NOT AVAILABLE, SUCH AS CURRENT AND WAVE LOADING, THE CONTRACTOR'S DESIGNER SHALL BE RESPONSIBLE FOR THE DETERMINATION OF LOADING.

4.5 THE MATERIAL OF CONSTRUCTION FOR THE FLOATS SHALL BE DETERMINED BY THE CONTRACTOR. MATERIALS SUCH AS CONCRETE, STEEL, ALUMINUM, FRP, TIMBER AND EXPANDED POLYSTYRENE FOAM FLOTATION ARE ACCEPTABLE. POSITIVE FLOTATION IS PREFERRED OVER WATERTIGHT COMPARTMENTS AND EXPANDED POLYSTYRENE SHALL BE FULLY ENCAPSULATED. THE USE OF DISSIMILAR METALS SHALL BE AVOIDED. IT IS EXPECTED THAT THE CONTRACTOR WILL SELECT THE MOST SUITABLE, PRACTICAL AND DURABLE MATERIALS FOR THE APPLICATION AND DESIGN LIFE.

4.6 THE SURFACE OF THE FLOATS SHALL BE NONSLIP. FRP MINI MESH GRATING IS PREFERRED OVER STEEL GRATING.

4.7 THE MINIMUM SERVICE LIFE OF THESE FLOATS SHALL BE 25 YEARS.

4.8 THE CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN BRITISH COLUMBIA. THESE DRAWINGS SHALL IDENTIFY DESIGN REQUIREMENTS, DESIGN CODES USED, LAYOUT, MEMBER SIZES, CONNECTIONS, DIMENSIONS, MATERIALS AND FINISHES.

4.9 THE CONTRACTOR SHALL PROVIDE A STANDARD OPERATION PROCEDURE.

5.0 FLOAT PERFORMANCE CRITERIA

5.1 THE FLOAT SHALL SIT LEVEL WITH A MAXIMUM CROSS SLOPE OF 2%, AND A MINIMUM ACCEPTABLE FREEBOARD OF 400mm UNDER DEAD LOAD. THE MINIMUM FREEBOARD TO THE TOP OF THE PRIMARY FLOATATION UNDER THE WORST COMBINATION OF LOADING SHALL BE 50mm, WITH THE OPPOSITE CHINE REMAINING SUBMERGED UNDER THESE CONDITIONS.

5.2 FLOATS SHALL BE DESIGNED TO ACCOMMODATE VESSELS UP TO 8m IN LENGTH.

5.3 A POSITIVE METACENTRIC HEIGHT IS REQUIRED FOR ALL EXPECTED LOADING CONDITIONS AND ANGLES OF TILT.

5.4 FLOATS SHALL BE DESIGNED TO CARRY A UNIFORMLY DISTRIBUTED LOAD OF 2.0 kPa OVER THE WHOLE OR ANY PART OF THE DECK. STABILITY SHALL BE CHECKED AND VERIFIED FOR THIS LOADING CONDITION. MAXIMUM ANGLE OF HEEL SHALL NOT EXCEED 6 DEGREES WHEN THIS LOAD IS APPLIED OVER HALF OF THE FLOAT WIDTH.

5.5 FLOATS SHALL BE DESIGNED TO CARRY, AT ANY LOCATION ON THE FLOAT DECK, A CONCENTRATED LOAD OF 1.8 kN PLACED AT ANY LOCATION, NO CLOSER THAN 300mm TO ANY EDGE. STABILITY SHALL BE CHECKED AND VERIFIED FOR THIS LOADING CONDITION INCLUDING THE SUBMERGED ELEMENT, MAXIMUM ANGLE OF HEEL SHALL NOT EXCEED 6 DEGREES.

6.0 FLOAT APPURTENANCES AND HARDWARE

6.1 250mm (10") CLEATS AT 3M SPACING SHALL BE PROVIDED FOR VESSEL MOORAGE.

6.2 FENDERS OR RUB STRIPS AND BULL RAILS SHALL BE PROVIDED AROUND THE PERIMETER OF THE FLOAT. THESE CONTINUOUS ITEMS SHALL HAVE HIGH RESISTANCE TO ENVIRONMENTAL ELEMENTS, SUCH AS UV LIGHT, AND MARINE GROWTH.

6.3 FIXED SAFETY LADDERS SUFFICIENT FOR EGRESS FROM THE WATER SHALL BE PROVIDED, SPACED AT INTERVALS LESS THAN 30m. THE LADDERS SHALL EXTEND A MINIMUM OF 1m BELOW THE WATER SURFACE. CORROSION SHALL BE CONSIDERED IN THE MATERIAL SELECTED AND FABRICATION DETAILS OF THE LADDER.

7.0 ANCHORAGE CRITERIA

7.1 THE ANCHORAGE SYSTEM SHALL CONSIST OF ANCHOR LINES AND CONCRETE BLOCKS. THE LOCATION AND NUMBER OF ANCHOR LINES SHOWN IS FOR REFERENCE ONLY.

7.2 THE CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT, DETAILED DESIGN, SUPPLY AND CONSTRUCTION OF THE ANCHORAGE SYSTEM THE ANCHORAGE SYSTEM LAYOUT SHALL BE SUCH TO PREVENT THE FLOAT FROM GROUNDING AT LLWLT AND LIMIT OVERALL MOVEMENT OF THE FLOATS RELATIVE TO THE FIXED STRUCTURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.

7.3 THE CONTRACTOR SHALL DESIGN THE ANCHORAGE SYSTEM FOR THE CLIMACTIC CONDITIONS EXPECTED AT THE SITE. WIND LOADING SHALL CONSIDER MOORED VESSELS. WHERE SITE SPECIFIC INFORMATION IS NOT AVAILABLE, SUCH AS CURRENT AND WAVE LOADING, THE CONTRACTOR'S DESIGNER SHALL BE RESPONSIBLE FOR THE DETERMINATION OF LOADING.

7.4 A ROBUST ANCHORAGE SYSTEM IS DESIRED. THE CONTRACTOR SHALL WARRANT THE SYSTEM AGAINST DAMAGE OCCURRING FROM ENVIRONMENTAL LOADING FOR A PERIOD OF TWO YEARS FOLLOWING COMPLETION OF THE WORK.

8.0 TIMBER

8.1 TIMBER CONSTRUCTION SHALL CONFORM TO CSA-086.

8.2 CONTRACTOR TO VERIFY AND CONFIRM ALL DIMENSIONS PRIOR TO FABRICATION INCLUDING COORDINATION WITH STEEL SHOP DRAWINGS.

8.3 SAWN LUMBER SHALL CONFORM TO CSA-O141 AND BE OF THE FOLLOWING SPECIES AND GRADES OR BETTER UNLESS NOTED OTHERWISE:

- TIMBER: D.FIR-LARCH No. 1
- DIMENSION LUMBER: S-P-F No. 2

8.4 ALL TIMER SIZES INDICATED ON THE DRAWINGS ARE DRESSED SIZES, UNLESS NOTED OTHERWISE.

8.5 ALL TIMBER TREATMENTS SHALL CONFIRM TO CSA O80, IN ACCORDANCE THE FOLLOWING, UNLESS NOTED OTHERWISE:

- TIMBER WITH ALL PARTS ABOVE HHWLT: ACZA SALT CONCENTRATE TREATMENT OR CREOSOTE TREATMENT FOR USE CATEGORY 4.2
- TIMBER WITH ANY PART BELOW HHWLT: ACZA SALT CONCENTRATE TREATMENT OR CREOSOTE TREATMENT FOR USE CATEGORY 5A

8.6 SAWN TIMBER GRADES TO MATCH THOSE INDICATED ON DRAWINGS. ALL TIMBERS TO BE SEASONED TO MAXIMUM 15% MOISTURE CONTENT PRIOR TO FABRICATION.

8.7 PLATE WASHERS SHALL BE USED UNDER THE HEADS AND NUTS OF ALL BOLTS BEARING ON TIMBER, UNLESS NOTED OTHERWISE, THE SIZE OF PLATE WASHERS SHALL BE AS FOLLOWS:

BOLT DIAMETER	THICKNESS	PLATE SIZE
M20	10mm	100mm x 100mm
M24	12mm	125mm x 135mm
M30	12mm	150mm x 150mm

8.8 FASTENERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123/A123M UNLESS NOTED OTHERWISE AND SHALL CONFORM TO THE FOLLOWING:

- BOLTS, LAG SCREWS, NUTS, WASHERS: ASTM A307 GRADE A

8.9 UNLESS NOTED OTHERWISE, TREATED TIMBER SHALL NOT BE CUT FOLLOWING TREATMENT.

8.10 BOLT HOLES DRILLED INTO TREATED TIMBER SHALL BE TREATED WITH TWO SEPARATE COATS OF ACZA SALT PRESERVATIVE, ADDITIONALLY, BOLTS SHALL BE DIPPED IN PRESERVATIVE IMMEDIATELY PRIOR TO INSTALLATION.

9.0 STRUCTURAL STEEL

9.1 STRUCTURAL STEEL SHALL BE DESIGNED AND FABRICATED TO CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.

9.2 STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- ROLLED SECTIONS: CSA-G40.21 GRADE 350W
- HOLLOW STRUCTURAL SECTIONS: CSA-G40.21 GRADE 350W, CLASS C
- PLATES: CSA-G40.21 GRADE 300W
- SOLID STEEL RODS: CSA-G40.21 GRADE 350W
- STRUCTURAL BOLTS, NUTS, WASHERS: ASTM F3125 GRADE A325M, TYPE 1
- PIPE: ASTM A53/A53M GRADE B
- ANCHOR BOLTS: ASTM F1554 GRADE 36
- ANCHORS, CHAIN HOOKS, LIFTING HOOKS: ASTM 436

9.3 FASTENERS INSTALLED IN HARDENED CONCRETE SHALL BE WITH HILTI HIT-RE 500 ADHESIVE AND STANDARD EMBEDMENT TYPE 316 STAINLESS STEEL ANCHORS, UNLESS NOTED OTHERWISE. USE OF HILTI ADHESIVE PRODUCTS SHALL BE BY TRAINED APPLICATORS ONLY. INSTALLED ANCHORS SHALL BE SUBJECT TO VERIFICATION TESTING IN ACCORDANCE WITH THE SPECIFICATIONS.

9.4 WELDING SHALL BE IN ACCORDANCE WITH CSA-W59 BY COMPANIES AND WELDERS CERTIFIED TO CSA-W47.1 BY CWB.

9.5 WELDS SHALL BE MADE USING E490XX (E70XX) ELECTRODES OR BETTER UNLESS NOTED OTHERWISE.

9.6 UNLESS NOTED OTHERWISE, WELDS BETWEEN ADJACENT MEMBERS SHALL BE 6mm CONTINUOUS FILLET WELDS ALL ROUND. ALL WELDS SHALL BE SEAL WELDS.

9.7 FIELD WELDING IS NOT PERMITTED UNLESS SPECIFIED OR AUTHORIZED BY THE OWNERS REPRESENTATIVE.

9.8 ALL WELDS SHALL BE SUBJECT TO NON-DESTRUCTIVE EXAMINATION (NDE) BY A WELDING INSPECTOR CERTIFIED TO CSA-W178.2 IN ACCORDANCE WITH THE SPECIFICATIONS. UNLESS NOTED OTHERWISE THE FOLLOWING SHALL APPLY:

- BUTT WELDS: 100% RADIOGRAPHIC OR ULTRASONIC
- ALL OTHER WELDS: 10% MAGNETIC PARTICLE + 100% VISUAL

9.9 UNLESS NOTED OTHERWISE, ALL STEELWORK SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A123M IN ACCORDANCE WITH THE SPECIFICATIONS.

9.10 DAMAGED GALVANIZING SHALL BE TOUCHED UP WITH TWO COATS OF LANCO GALVACON GC-243 COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

9.11 HSS SECTIONS SHALL BE PROVIDED WITH SEAL WELDED CAP PLATES AT OPEN ENDS AND DRAIN HOLES AT THE BASE.

9.12 BEARING PLATES AND BASE PLATES SUPPORTED BY MASONRY OR CONCRETE SHALL BE GROUTED SOLID WITH NON-METALLIC, NON-SHRINK GROUT HAVING A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 40 MPa IN ACCORDANCE WITH THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

10.0 ALUMINUM

10.1 ALUMINUM SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- PLATES: ASTM B209 TYPE 6061-T6
- BARS & STRUCTURAL SHAPES: ASTM B308 TYPE 6061-T6
- TUBES & PIPES: ASTM B429 TYPE 6061-T6

10.2 FASTENERS FOR ALUMINUM SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- ALUMINUM BOLTS: ASTM F464
- GALVANIZED BOLTS: ASTM F3125 GRADE 325 & ASTM A153
- STAINLESS STEEL BOLTS: ASTM F593

10.3 ALUMINUM SHALL BE WELDED IN ACCORDANCE WITH CSA-W59.2 BY COMPANIES CERTIFIED TO CSA-W47.2.

10.4 ALUMINUM SHALL BE PROTECTED FROM CORROSION WHERE IT IS EXPOSED TO AGGRESSIVE ENVIRONMENTS OR IN CONTACT WITH DISSIMILAR METALS IN MOIST CONDITIONS.

11.0 STAINLESS STEEL

11.1 STAINLESS STEEL SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- PLATES: ASTM A276 TYPE 316L
- BARS & STRUCTURAL SHAPES: ASTM A240 TYPE 316L
- HSS: ASTM A269 TYPE 316L
- PIPES: ASTM A312 TYPE 316L
- BOLTS: ASTM A193 GRADE B8M

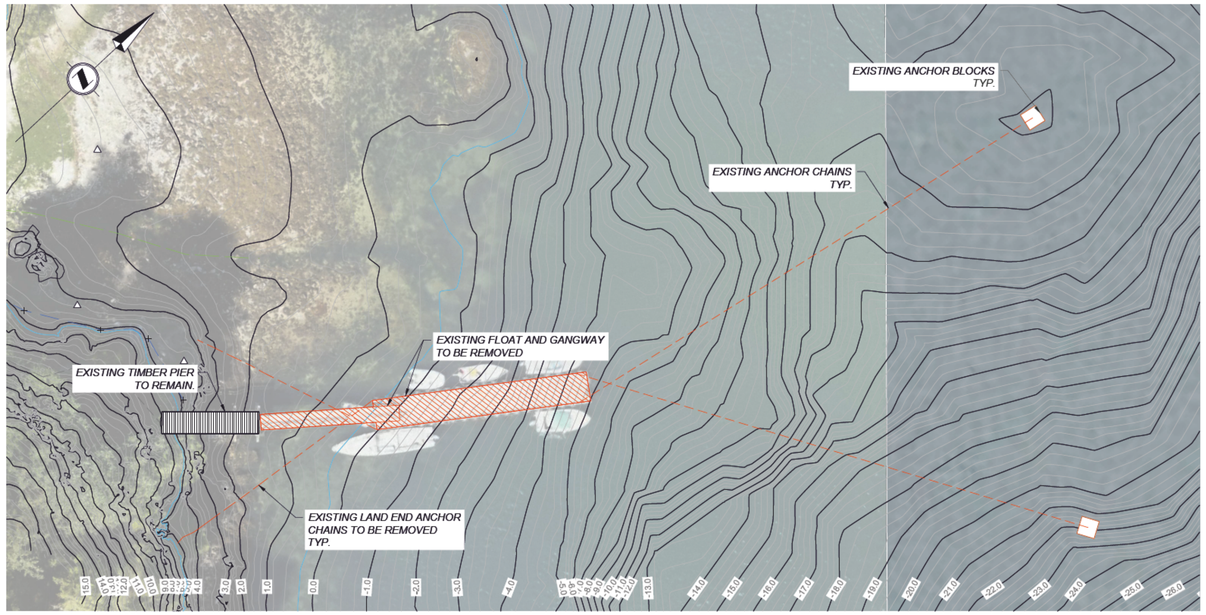
11.2 STAINLESS STEEL SHALL BE WELDED IN ACCORDANCE WITH AWS D1.6.

LEGEND

TO BE REMOVED

NOTES:

1. TOPOGRAPHIC AND BATHYMETRIC SURVEY FROM MCELHANNEY DATED JUNE 22, 2023 AND REFERENCES GEODETIC DATUM CGVD2013
2. MAJOR CONTOURS ARE SHOWN AT 1.0m INTERVALS



DEMOLITION PLAN
SCALE 1:250

Rev	Date	Description	Drawn	Design	App'd
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-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
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-	-	-	-	-	-
0	2023-11-23	ISSUED FOR TENDER	JTH	HH	GH
PA	2023-11-08	ISSUED FOR REVIEW	JTH	HH	GH

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney

1211 Ryan Road
Courtenay BC
Canada V9N 3R6
Tel 250 338 5495

PERMIT TO PRACTICE

McElhanney Ltd.

PERMIT NUMBER: 1003299

Engineers and Geoscientists of British Columbia

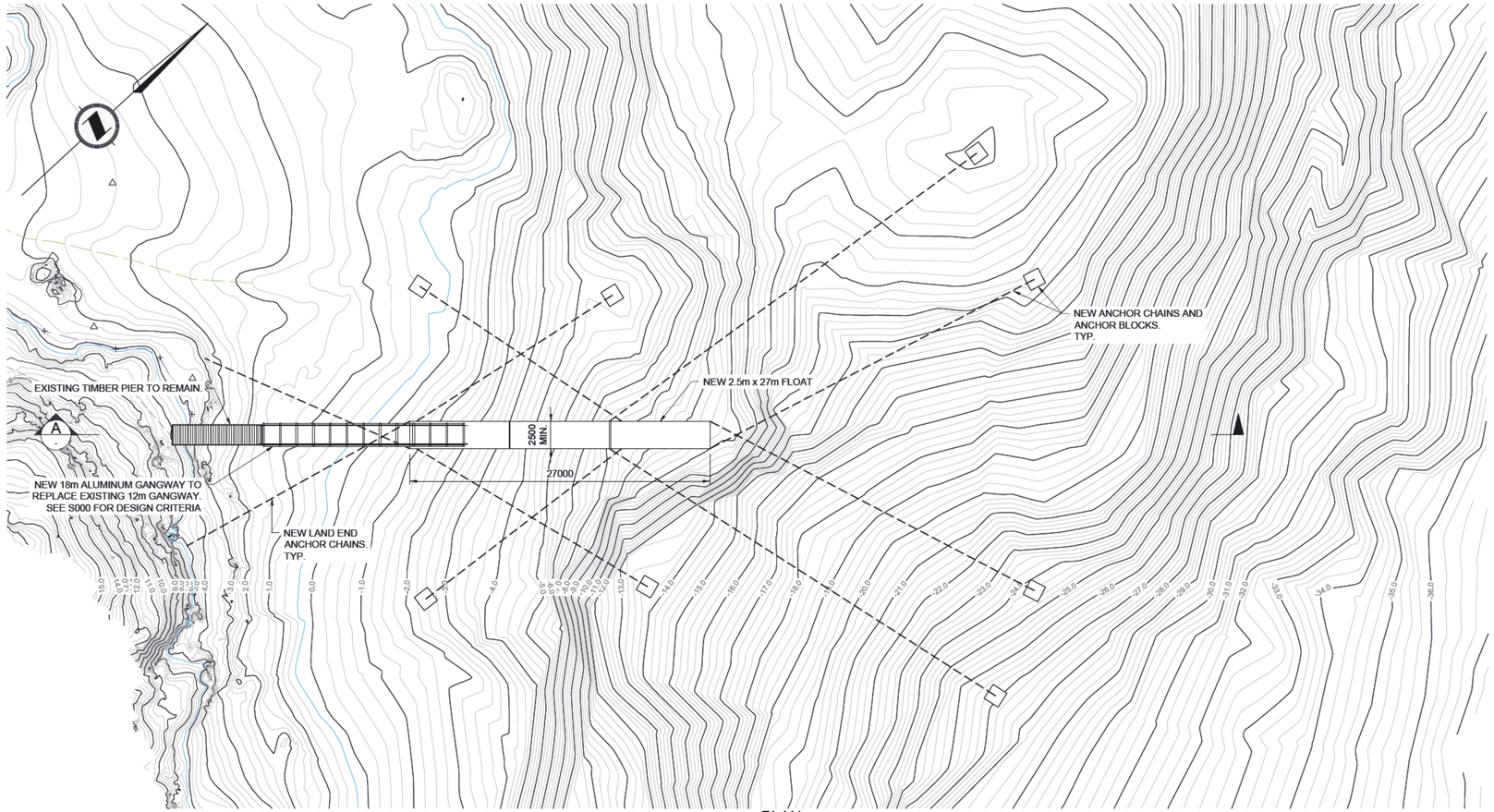
Approved Sealed

STRATHCONA REGIONAL DISTRICT
990 CEDAR STREET, CAMPBELL RIVER, BC V9W 7Z8

HOSKYN CHANNEL MARINE FACILITY REPAIRS AND REPLACEMENT DESIGN CRITERIA AND DEMOLITION PLAN

Drawing No.
S000

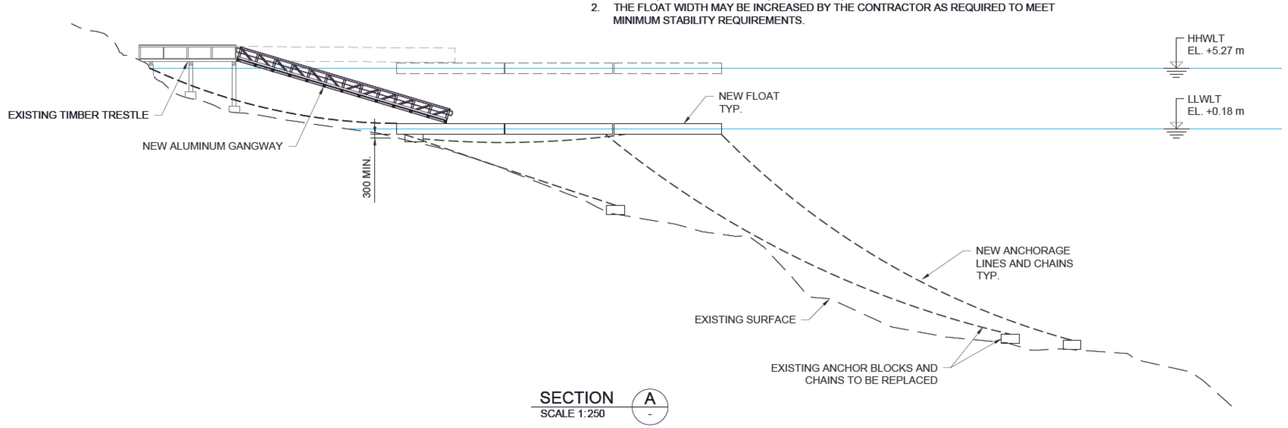
Project Number: 2211-71343-00
Rev.: 0



PLAN
SCALE 1:250

NOTE:

1. ANCHORAGE LOCATIONS AND NUMBER ARE SHOWN FOR INDICATIVE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE ANCHORING SYSTEM, INCLUDING NUMBER, WEIGHT/SIZE, AND LOCATIONS.
2. THE FLOAT WIDTH MAY BE INCREASED BY THE CONTRACTOR AS REQUIRED TO MEET MINIMUM STABILITY REQUIREMENTS.



SECTION A
SCALE 1:250

NOTES:

1. SEE DWG S000 FOR DESIGN CRITERIA.
2. TOPOGRAPHIC AND BATHYMETRIC SURVEY FROM MCELHANNEY DATED JUNE 22, 2023 AND REFERENCES GEODETIC DATUM CGVD2013
3. MAJOR CONTOURS ARE SHOWN AT 1.0m INTERVALS

Rev	Date	Description	Drawn	Design	App'd
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-	-	-	-	-	-
-	-	-	-	-	-
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-	-	-	-	-	-
-	-	-	-	-	-
0	2023-11-23	ISSUED FOR TENDER	JTH	HH	GH
PA	2023-11-08	ISSUED FOR REVIEW	JTH	HH	GH

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

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Tel 250 338 5496

PERMIT TO PRACTICE
McElhanney Ltd.
PERMIT NUMBER: 1003299
Engineers and Geoscientists of British Columbia

Approved Sealed

STRATHCONA REGIONAL DISTRICT
990 CEDAR STREET, CAMPBELL RIVER, BC V9W 7Z8

HOSKYN CHANNEL MARINE FACILITY REPAIRS AND REPLACEMENT GENERAL ARRANGEMENT
PLAN AND SECTION

Drawing No. S100

Project Number	Rev.
2211-71343-00	0

DESTROY ALL PRINTS BEARING PREVIOUS REVISION.

APPENDIX B

HOSKYN CHANNEL LANDING FLOAT AND GANGWAY REPLACEMENT
RFP-09-23

ENVIRONMENTAL MANAGEMENT PLAN

STRATEGIC

SNRC Project Reference: 23-1731-40

Construction Environmental Management Plan

Hoskyn Channel Landing Dock Repairs

Cindy Hannah, RPBio

November 24, 2023

Prepared For:

Strathcona REGIONAL DISTRICT

Strathcona Regional District

PROFESSIONALLY RESOURCEFUL

This report has been prepared by Strategic Natural Resource Consultants for the sole use and distribution of Strathcona Regional District. Results and observations in this report have been made in a manner consistent with the level of care and skill normally applied by environmental professionals practicing under similar conditions.

Prepared For

Strathcona Regional District
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Prepared By

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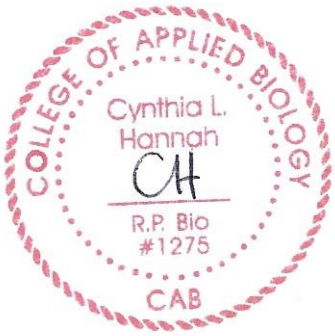

Cindy Hannah, BSc, RPBio
Strategic Natural Resource Consultants

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Appendix

Contact Information

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Phone	(250) 616-3758		

Design Engineer	McElhanney	**Address**	#200 – 858 Beatty Street, Vancouver, BC, V6B 1C1
Contact	Graham Hirst	**Email**	ghirst@mcelhanney.com
Phone	778-647-2324		

1.0 Introduction

Strathcona Regional District (SRD) retained Strategic Natural Resource Consultants (SNRC) to prepare a Construction Environmental Management Plan (CEMP) to facilitate upgrades to the existing Hoskyn Channel Landing Dock Facility located in Hoskyn Channel, British Columbia, on the east coast of Quadra Island (herein referred to as the "Project"). The dock upgrade is necessitated due to a 2022 McElhanney condition assessment of the existing floats, which gave them a 1-2 year residual life span[1]. Strathcona Regional District (SRD) has also received multiple complaints from users that a portion of the dock was grounding at low tides, along with the boats tied up at the mooring locations closest to shore. There has been concern that the combination of low tide and storm conditions could cause property damage to the dock and the boats tied at the facility. The site is readily used by recreational and commercial boaters to access their moored vessels, and residences of the outer Discovery Islands. Previous work at the site includes dredging under the dock and redirection of an adjacent stream channel that was completed in 2020.

The primary objective of this CEMP is to ensure that all contractors working on the project have a common understanding of the site's environmental sensitivities as well as construction practices that will mitigate potential impacts to the environment. The on-site Project Superintendent will be responsible for ensuring all CEMP measures are understood by the crew and undertaken appropriately. A Qualified Registered Professional (QRP) will be onsite during the project to assist in implementing the CEMP. In addition, this CEMP will characterize existing environmental features; identify potential environmental impacts; present mitigation to minimize or avoid the identified impacts; assess if unavoidable residual impacts will persist despite the implementation of the mitigation; and facilitate regulatory submissions.

SRD will replace the existing structure with a safer, engineered structure that complies with regulatory requirements. The existing structure is partially grounding at low tides. The proposed structure will include a new 18 m long gangway, new 2.5 m x 27 m long floats and ten new anchors including two land end and eight sea end anchors to support the dock.

The proposed dock replacement requires project review under the federal Fisheries Act as this Project has the potential to impact fish habitat.

[1] McElhaney, April 4, 2023, Marine Facility Condition Assessment of the Hoskyn Channel Landing Marine Facility.

2.0 Project Description

2.1 Project Location

The Hoskyn Channel Landing Dock Facility is located on the northeastern shoreline of Quadra Island in Hoskyn Channel, approximately 22km north northeast of the town of Campbell River, British Columbia (Figure 1). The approximate geographical center of the Project is located at 50° 12’ 36’’, -125° 8' 4’’.

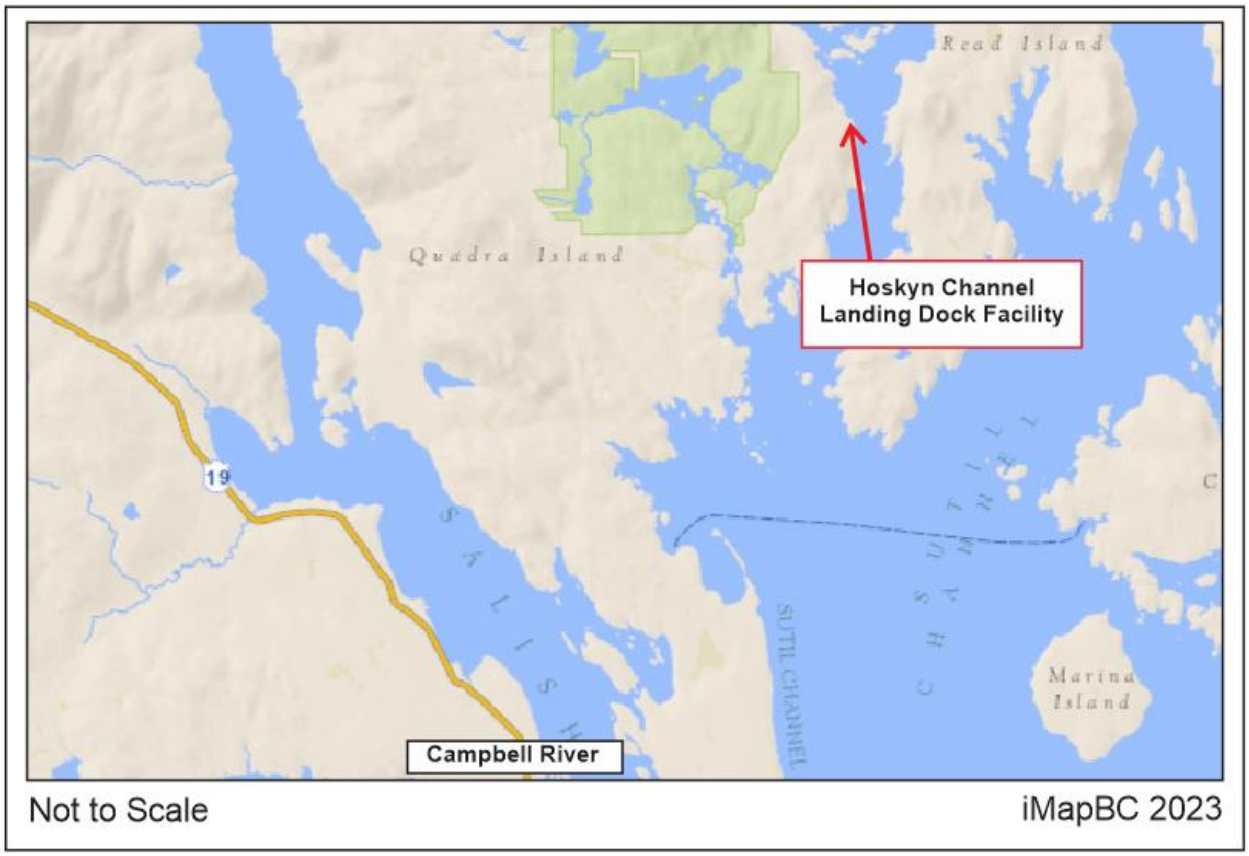


Figure 1: Area map showing the location of the proposed works in relation to the City of Campbell River.

2.2 Previous Assessments

In 2018, Strategic, per request of the SRD, conducted a marine environmental assessment of the inter-tidal and sub-tidal areas at the Hoskyn Channel Landing Dock Facility to determine the potential side effects to fish habitat and marine life of installing two pilings at the end of the floating dock. Subsequently an attempt to install piles was unsuccessful due to geotechnical conditions. The following year, in 2019, Strategic conducted a follow up assessment for SRD due to received complaints that the dock was grounding at low tide. The assessment was to determine the extent of impacts to fish habitat and marine life of dredging the shore below the dock. In 2020 the dredging work was completed. Both the piling work and dredging work were submitted to DFO for review. In 2023, Strategic per SRD requests, drafted a CEMP for repairs to the wooden trestle located at the dock facility. Repairs to the existing wooden trestle are expected to take place by the end of the year.

2.3 Project Schedule

The timing of the dock upgrades are not confirmed at this time, depending on regulatory approvals and the Regional District's and their contractor's ability to complete the work. However, the following broad general guidelines will be followed in order to reduce the risk to wildlife and fish habitat as defined under

the Fisheries Act. The works may occur outside of the timing window. Below is a preliminary schedule that is subject to change, but captures the general project tasks (Table 1).

Table 1: Preliminary Project Schedule

Task	Duration	Proposed Dates
Mobilization to Site	2 days	Jan 19-May 31
Dismantle and Remove Existing Structure	1 day	
Install Dock	5 days	
Clean up and Demobilization	1 day	

2.4 Project Components

The existing structure includes a 12 m (40') long aluminum truss gangway, two 2.5 m x 9 m (8' x 30') galvanized steel framed floating docks with PVC wrapped buoyancy billets, two concrete anchors connected with anchor chains to the dock, and a two land anchors consisting of lugs drilled into the rock on shore connected with anchor chains to the dock.

The Project will replace the existing structure, including the gangway, floats and four anchors with anchor chains, and install a new 18 m (60') long prefabricated aluminum gangway that will extend to cover a minimum water column depth of 0.5 m, followed by three new composite style floats totaling 27 m (90') long, anchored by eight new sea end anchors and two land end anchors. All materials will be brought to the site by water on either a tug boat, barge or landing craft including crane(s) for lifting structures into place.

As per the draft dock design (Appendix I), the project will include:

- The removal of the old gangway, floats and anchors,
- Installation of new gangway, floats, and anchors,
- Demobilization of equipment and materials.

Aquatic Footprint		Footprint increase
Existing Dock	**New Dock**	
45 m^2 + 4 m^3 [2(2.5 m x 9 m)] dock + 2(2m^3) anchors	67.5 m^2 + 16 m^3 (2.5 m x 27 m) dock + 8(2 m^3) anchors	**22.5 m^2 loss – 12 m^3 loss**
Comments:	• Although a bigger footprint, the new structure will minimize the ground disturbance footprint, by extending the gangway length to the dock, thereby eliminating grounding at low tide. • Although there will be a loss of floor footprint of the anchors, they will provide a gain in surface area habitat for attachment.	

2.4.1 Project Rationale with Considerations of Design and Location

The existing structure is nearing its service life (1-2 year estimate in McElhanney condition assessment report, 2022), grounding at low tide, and the anchoring system is not effective given the storm conditions present in Hoskyn Channel. This facility provides very important access for community members of the outer Discovery Islands (e.g. Read, Maurelle, Sonora, etc.) to access services and amenities on Quadra Island and Vancouver Island (Campbell River).

The project will minimize impacts to the intertidal and subtidal zones and create habitat for littoral species. The new structure will use much of the existing footprint, but adjustments have been made in the design to accommodate the lowest low tide level. The decking design of the structure will incorporate greater light penetration beneath the proposed structure, offering flora and fauna habitat opportunities. The additional eight new anchors will provide habitat for anchoring barnacles, sea stars, shell fish, etc.

2.5 Environmental Monitor Responsibilities

Onsite monitoring of the construction works is a key component for conformance with the CEMP. The primary responsibility of the Environmental Monitor (EM) is to ensure that the environmental protection objectives of the applicant, SRD, and applicable approvals/permits are met by ensuring that the requirements of this CEMP are adhered to. The frequency of visits will be dependent upon the work tasks for each day, but an EM will be present for any intrusive work (e.g. installing the anchors), and at the start-up of any new phases of work.

The EM will have the authority to stop work if the individual determines that some aspect of the construction is creating or will result in a substantial adverse effect on environmental values or resources, on or adjacent to the Project. The EM will verify conformance with the CEMP, the applicable regulatory framework, and any best management practices (BMPs) expected at construction sites.

The EM will complete and submit environmental monitoring reports to the applicant and regulatory bodies (if required within permit or approval criteria). These reports will include a summary of activities completed.

Other tasks associated with the EM are covered in Section 7.0: Environmental Monitoring Plan.

3.0 Regulatory Framework

3.1 Federal

3.1.1 Fisheries Act

A project request for review will be required for the works associated with the dock replacement, as the proposed works cannot avoid or mitigate impacts to fish and fish habitat. By employing measures contained within this CEMP and based on the proposed construction design, it is expected that no harmful alteration, disruption, or destruction (HADD) of fish or fish habitat will occur. There will be an interim code of practice for repair, maintenance and construction of docks, moorings, and boathouses, but at this point in time, is not available to use. The measures have been incorporated into this document.

3.1.2 Canadian Navigable Waters Act

The *Canadian Navigable Waters Act (CNWA)* protects the public right to travel on navigable waters in Canada. Subsections 4(1) and 4(2) allows for an owner of a minor work to construct, place, alter, rebuild, remove, decommission, repair, maintain, operate and use a minor work in, on, over, under, through or across any navigable water as long as it's done in accordance with the requirements of the CNWA. As the dock will be located on the ocean within Hoskyn Channel, it would fall under CNWA. This project meets the requirements of a minor work under the act.

Prior Notification at least 48 hours prior to the commencement of the works is required.

4.0 Site Description

The site shoreline is categorized generally as steep and rocky with a foreshore composed mainly of fractured bedrock. The backshore is vegetated with fir, hemlock, cedar, salmonberry and some salal. There is a small stream approximately 30m to the north that provides sediment input to the underwater substrate.

The current dock facility at Hoskyn Channel Landing is nearing the end of its service life, grounds at low tide, and is failing to secure the dock due to the conditions in Hoskyn Channel. The proposed structure

will reduce storm caused property damage that is occurring particularly during low tide. The dock replacement design will better secure the dock to the stresses that exist within the channel, as well as increase habitat for intertidal and sub-tidal fauna and flora. The decking is designed to increase light penetration below the dock and to increase habitat opportunities for photosynthetic flora. Installing eight new anchors will secure the end of the dock from the impacts of strong weather and strong currents, minimizing disturbance to the ocean floor from dragging. The anchors will also provide habitat to anchoring flora and fauna.

Figure 2: Southeastern view of the existing Hoskyn Channel Landing Facility. A stream flows from the north towards the dock at low tide has since been redirected slightly away from the dock.

4.1 Sensitive Species and Habitat

No sensitive, species of note or sensitive habitats were identified during the previous 2018[2], nor 2019[3] site assessments by SNRC. ROV footage and photos from a 2022 assessment by McElhanney were reviewed to determine habitat types at the current anchor locations. Eelgrass beds were not found and no kelp beds were identified in the assessment area. The general habitat conditions in the area are indicative of clam or bivalve habitat, although the abundance of species in the assessment area was very low. The substrates in the area vary between the existing anchor sites but are generally not conducive to abalone populations. There was some algae noted, and one sea cucumber was noted in the ROV footage. There is a small clam bed adjacent to the proposed works, although far enough away that the existing dock and the improvements should not have any effect on it. There is no anticipated loss to any sensitive species or habitat from the proposed works. Figure 3 shows the habitat under the dock and at the current anchor locations.

IMapBC data layers indicate that no herring spawn, clam beds, eel grass nor kelp beds are located within the vicinity of the project.

[2] Strategic, November 2018. Marine Environmental Assessment of the Hoskyn Channel Landing Dock Facility.

[3] Strategic, October 2019. Follow up Marine Environmental Assessment for Hoskyn Channel Landing Dock Dredging for Safety and Infrastructure Protection.

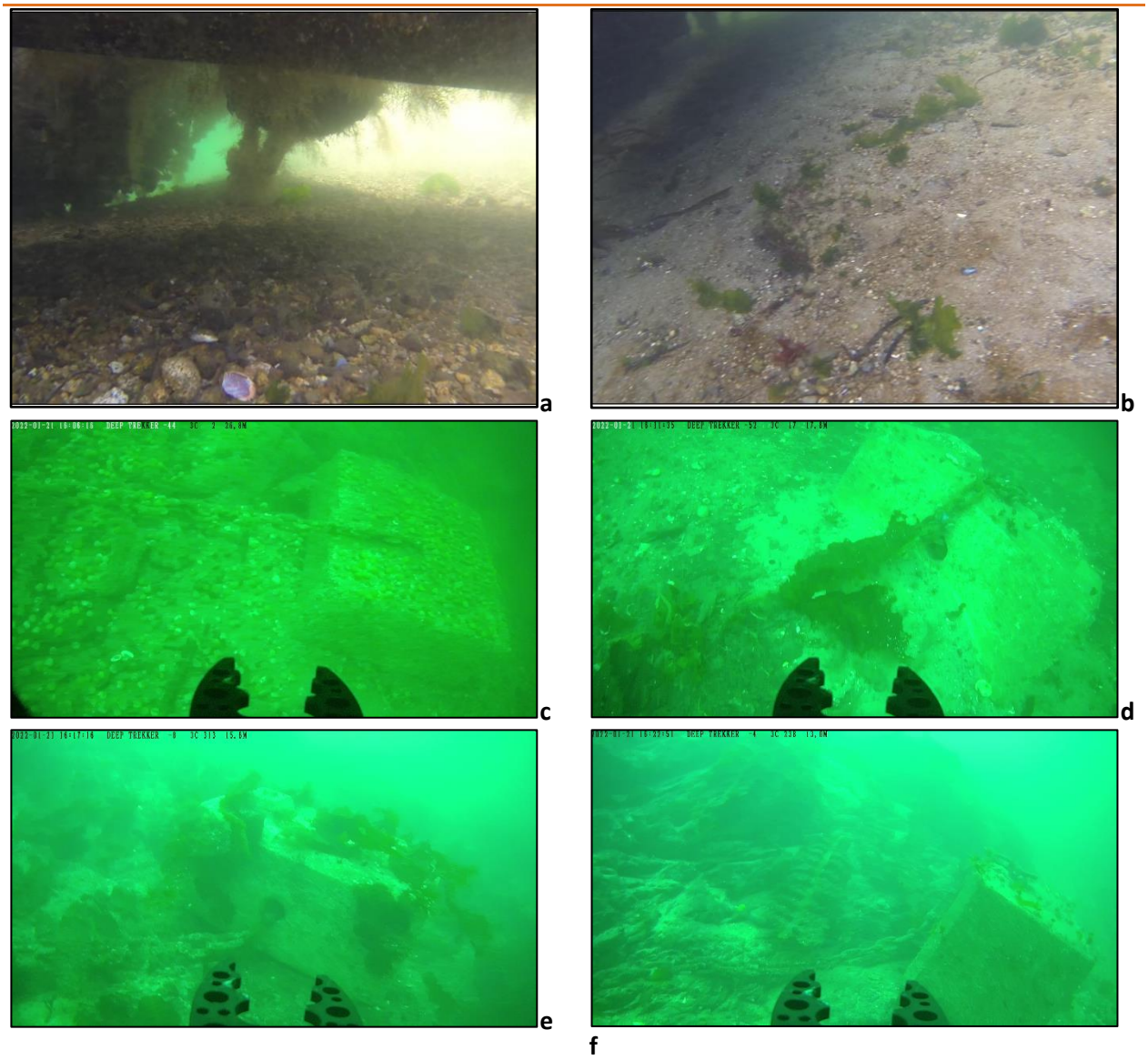


Figure 3: Figures 3a and 3b show the habitat under the existing dock. It is void of most marine life. Figures 3c-f show the habitat in the vicinity of the anchor locations. The substrate is predominantly fines and shell hash with minor rock. Fauna includes molluscs and flora includes minor amounts of algae.

The DFO species at risk registry mapping indicates that the site has potential for the following Species at Risk:

<u>Endangered</u>

- Leatherback Sea Turtle – Very Unlikely
    - The habitat within Canadian waters is predominantly offshore, off the west coast of Vancouver Island. The project site is located on the inside waters, thus it is not likely to be present within the work area.
- Northern Abalone – Possible where suitable habitat exists
    - Physical parameters
        - Primary substrate: bedrock and/or boulders – Minor amounts
        - Normal seawater salinity (> 30 ppt; not low salinity as found close to river run off) – Yes

- Depth: ≤10m depth (chart datum) – Yes
- Good water exchange (tidal current or wave action present) - Yes
- Secondary substrate: some cobble may be present but little or no gravel, sediment, sand, mud, or shell present. – Predominant substrate is fines with shell hash.

○ Biological parameters

- Presence of encrusting coralline algae (e.g. Lithothamnium) – Unknown, none visible in the ROV footage
- Presence of Sea Urchins Strongylocentrotus franciscanus and/or S. droebachiensis, Lithopoma gibberosum (= Astraea gibberosa), Sea Stars – Unknown, none visible in ROV footage
- Presence of kelp in surrounding area (e.g., Nereocystis, Macrocystis, Pterygophora) – Minor amounts noted
- Presence of abalone – Unknown, none visible in ROV footage

Threatened

- Killer Whale (Northeast Pacific transient) – Possible in general area but not within project footprint area

Special Concern

- Humpback Whale (North Pacific) – Possible in general area but not within project footprint area
- Harbour Porpoise (Pacific Ocean) – Possible
- Stellar Sea Lion – Possible
- Rougheye Rockfish (type I & II) – No, lives in deep water
- Yelloweye Rockfish (Pacific Ocean Inside Waters) – No, lives in deep water
- Longspine Thornyhead – No, lives in deep benthic waters

There is no anticipated loss to any sensitive species or habitat from the proposed works. The anchors will be placed onto the sub-tidal sea floor within the littoral zone. The above listed species are not found in the littoral zone with the exception of abalone and sea lions. Abalone are associated with lower intertidal to subtidal and require hard substrates for anchoring, kelp for food and encrusting algae for settlement[4] which are not present at this location based on the ROV data. Sea lions may potentially haul out on the beach.

5.0 Description of Works

The existing gangway, floats, and anchors will be removed and taken off site by boat. The new dock and any required building materials will be brought by water through a tug, barge or land craft vessel.

The new dock will consist of the existing timber trestle, an 18 m long aluminum gangway, three composite style floats that will be 27 m long, and ten anchors with anchorage chains (Figure 4). The new design will accommodate for the lowest tides to prevent the dock from grounding, increase the moorage and add additional anchors to support the dock. The dock upgrades will increase the overall footprint by 22.5 m^2.

[4] COSEWIC. 2009. Assessment and Update Status Report on the Northern Abalone *Haliotis kamtschatkana* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 48 pp. (www.sararegistry.gc.ca/status/status_e.cfm).

Figure 4: Schematic drawing showing the proposed dock. The height of the dock at lowest tide will be 0.5 m above the sea floor.

The new structure will be built to have 0.5 m of clearance between the bottom of the dock and seafloor at the lowest low water line. Refer to Appendix 1 for a plan and profile view of the proposed dock.

The anchors are the only component that will be in contact with the ground below the low-water mark. The new dock has been designed to be above the lowest low water level, which is more clearance than the existing structure has. The anchors will have an additional footprint area of $2m^3$ per anchor below the lowest low tide elevation. See Appendix 1 for a site plan of the project site, and a design of the dock. A schematic of the new dock is shown in Figure 7.

5.1 Proposed Work Plan

There is no expected in-water concrete work, the concrete blocks used for the project will be precast.

Equipment requirements may include boat or barge for transporting materials to or in the vicinity of the site, and various small hand and power tools (e.g. power saw) for the dock removal and respective installation.

The following is a general sequence of how construction is expected to proceed. The sequence and some of the components may be adjusted based on the contractor's schedule or preferred methods. Components that must not be adjusted, or only adjusted with the approval of a Registered Environmental Professional will be noted.

5.1.1 Dock Construction Workplan

- On site pre-work meeting with the contractor and site supervisor to review work plan, environmental risks, and mitigations measures.
- Mobilization of equipment and materials to site.
- Dismantle and remove old dock out of Project area using boat.
- Install prefabricated floats and prefabricated gangway with use of boat.
- Install the new anchors.
- De-mobilization and site restoration.

5.1.2 Site Access, Mobilization and Laydown Areas

The dock is accessed by water. A tug, barge or land craft including crane(s) will be used to lift structures into place

The Contractor shall implement the following mitigation measures during construction:

- Follow the applicable laws and regulations regarding the loading and transport of materials and any other applicable regulations.

6.0 Environmental Monitoring Plan

The SRD will provide a qualified EM to be on site during all aspects of the Projects phases. The frequency of the visits will be dependent upon the work tasks for each day, but an EM will be present for any intrusive work (e.g. installing the anchors). These works are considered routine in dock replacements and the risks and mitigation measures are commonly understood.

A site visit (pre-work meeting) will be conducted with the site supervisor and the construction contractor prior to commencing work to ensure all required equipment is available, environmental sensitivities related to the project are discussed, and mitigation measures that will be adhered to during the project in order to maintain environmental compliance throughout the project are understood. In collaboration with the construction supervisor, the EM will be able to advise on suspending or altering work if an environmental emergency or incident occurs. This may also occur during periods of inclement weather where environmental risks may be higher.

The EM will be responsible for documenting and reporting on construction activities, environmental compliance, and adherence to environmental permits throughout the duration of the project. Any deviations from this CEMP must be documented, with supporting rationale.
Other tasks associated with the EM include, but are not limited to;

- Communication and coordinating with the Contractor for appropriate scheduling of onsite visits based on work tasks.
- Halting works if the tasks planned can cause adverse effects to the environment.
- Monitoring the effectiveness of mitigation measures (e.g. preventing spills from entering the water).
- Communicating with the Contractor on any issues with the proposed work schedule or planned tasks that may have adverse environmental effects (e.g. installing dock floats in poor weather).
- Completing incident reports (e.g. spills) and reporting incidents to the appropriate contacts onsite.
- Maintain complete records of activities related to the implementation of the CEMP. This should include any measurements taken (e.g. turbidity), photographs and incident reports.
- Complete and submit environmental monitoring reports to the applicant and regulatory bodies (if required within permit/approval criteria) and will report any unanticipated adverse effects to the environment. Such reports should include the nature of the effect, its cause, mitigation and/or remediation implemented, and whether a work stoppage was ordered, as well as photographs, analyses and measurements, if applicable.
- Helping guide the Contractor in achieving sound environmental management during the Project construction.

6.1 Risks and Mitigation Measures

The known risks and associated mitigation measures for the Hoskyn Channel Dock upgrades are in Table 2. The potential impacts will be localized to the immediate project area and will be short in duration.

Table 2: Known construction risks and the associated mitigation measures for the Hoskyn dock replacement.

Risk:	Harm to fish/in water work

Mitigation Measures:	• Works will comply with DFO measures to protect fish and fish habitat wherever practicable.
	• Works should occur within the Reduced Risk Work Window for Area 13E.
	  • Summer window July 1-September 1
	  • Winter window November 1-February 15
	• It is anticipated that the works will be outside the window and may require additional mitigation measures such as surveys for fish to be determined by the EM at the time of the work.
	• Have an EM onsite during the works as required
	• Remove motile fauna from removed anchors/chains and place in suitable habitat.

Risk:	Contaminant Spills – Oils and Fuels
Mitigation Measures:	• Ensure vessels and equipment are clean and leak free. Only clean and leak free machinery will be permitted to enter the worksite. • Ensure adequate spill containment materials are on site at all times for the equipment that is being used.
Risk:	Herring Spawn
Mitigation Measures:	• Be aware of spawning herring outside of the winter fish window (November 1 to February 15). • If herring spawn successfully within the worksite, the spawn sites must be left undisturbed until hatching has occurred approximately 14 days after spawn. Vegetation and structures including logs, chains and docks must be left undisturbed. • Marine mammals or birds associated with schools of fish or spawn must be protected against potential impacts.
Risk:	Marine Mammals
Mitigation Measures	• Be aware of surroundings at the worksite and while transporting materials to and from site. • Slow down vessel to reduce engine noise and wake. Reduce speed to less than 7.0 knots when within 1000 m of a marine mammal. • Do not approach marine mammals and do not position vessel closer than 100 m or 200 m if a calf is present or the marine mammal is in a resting position. • Report any collisions with marine mammals, or sightings of entangled, injured, or dead marine mammals to Fisheries and Oceans Canada as well as to the to the appropriate marine animal response organization.

6.2 Spill Response Plan Guidelines

Every precaution must be taken to ensure that there is no release of a deleterious substance into the environment. To ensure that there is no release of a deleterious substance the following actions must be followed at the worksite:

- Ensure equipment is in good operating condition and free of leaks, excess oil, and grease.

- Ensure equipment working in and around environmentally sensitive areas is in good repair and is cleaned of all chemical (e.g. oil, grease, fuel) and biological (dirt, mud) debris. This may require power washing of the equipment.
- No equipment re-fueling or servicing will be undertaken within 15 m of any watercourse or surface water drainage without prior authorization from the Environmental Monitor. During on-site refueling, fuel must be properly stored in clean Transport Canada approved tidy-tanks or in approved secondary containment facilities.
- Handle environmentally hazardous materials (form oil, gasoline, oil) >15 m away from any watercourse or surface water drainage unless prior permission is obtained from the onsite Environmental Monitor.
- Have spill kit readily available onsite with all personnel trained in its use. Promptly re-stock any spill kit materials used to maintain an appropriate clean-up capacity on site.
- All onsite staff will be knowledgeable about hazardous material storage, handling requirements, and spill kit location and deployment.
- Conduct work activities in isolation (e.g. with silt fencing and absorbent booms) so that there is minimal risk of downstream transport of deleterious substances, such as oil or concrete, if a spill does occur.
- During hot weather, fuel tanks should not be filled more than 80% to allow for expansion of the fuel, reducing the chance for spillage from the fill cap.
- All small fuel storage containers (e.g. jerry-cans) must be stored in drip trays.
- No fuels or maintenance products should be stored onsite.
- All waste fuel or products such as filters will be secured in spill-proof containers and discarded at an approved facility.

6.2.1 Spill Response Procedures

Table 3 provides reportable levels of some substances that commonly occur on projects. The full list is included in Schedule (1) in the *Spill Reporting Regulations* of the *Environmental Management Act*[5]. Spills that are classified as reportable, either meeting the spill quantities requirements in Table 4 or any quantity of a substance that is toxic, polluting, or deleterious to aquatic life introduced into a watercourse or waterbody, will be reported to the Provincial Emergency Program (PEP) at 1-800-663-3456 and to your nearest DFO office. In the event of a reportable spill, the EM or construction supervisor will contact EMBC following consultation with the SRD.

If a spill does occur the following actions will mitigate potential impacts to fish, fish habitat and water quality:

- Stop work immediately.
- Contain the spilled substance as much as possible.
- Soak up the spilled substance with absorbent pads and booms.
- Remove used absorbent pads and booms and replace with new ones.
- Dispose of used pads and booms at an appropriate facility.

Table 3: British Columbia Reportable Spill Quantities (for spills outside of a watercourse or waterbody).

Substance	Amount
Diesel Fuel	100 L
Gasoline	100 L
Grease	100 L
Hydraulic Oil	100 L

[5] B.C. Reg. 187/2017. Available online at: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/187_2017

Lubricating Oils	100 L
Solvents	100 L
Flammable Gases, (other than natural gas as defined in section 3.11 (a) of the Federal Regulations)	10 kg, if the spill results from equipment failure, error, or deliberate action or inaction
Non-flammable Gases (of Division 2 of Class 2 as defined in section 3.11 (d) of the Federal Regulations)	10 kg, if the spill results from equipment failure, error, or deliberate action or inaction
Flammable Liquids of Class 3 as defined in section 3.12 of the Federal Regulations	100 L
Waste Oil as defined in section 1 of the Special Waste Regulation	100 L
Note: Any quantity of deleterious substance released to a watercourse or waterbody (e.g. wetland, stream or lake) must be reported to Emergency Management BC and the nearest DFO office immediately.	

6.2.2 Spill Response Equipment List

The following list is to be used as a guide by the contractor. The Environmental Monitor may change the contents and quantities of this list during works as the situation dictates. These are minimum quantities and the contractor can choose to stock higher amounts if desired.

- 8" absorbent oil boom – 10 m
- Absorbent spill pads (white/oil) – 1 bag
- Absorbent spill pads (grey/universal) – 1 bag
- Emergency spill kit – 1/machine

7.0 Wildlife Management

The works will be confined to a small area; therefore, significant wildlife encounters are not anticipated. Crews will be responsible for ensuring proper housekeeping is maintained and the site does not attract wildlife. Domestic waste (e.g. food scraps and garbage) must be properly stored and removed from site daily to avoid attracting wildlife.

Contact information for Marine Mammal Incident Response
DFO's BC Marine Mammal Response Network (Observe, Record, Report): 1-800-465-4336
DFO.ORR-MPO.ONS@dfo-mpo.gc.ca
VHF Channel 16

8.0 Conclusion

The potential impacts of the Project were considered within the limits of typical, routine construction activities and should be considered localized and temporary. There is no direct fish habitat loss within the immediate footprint of the proposed dock, nor impacts to fish habitat within the vicinity of the site are expected. It is anticipated that there will be no adverse residual environmental effects as a result of the Project activities provided that the contractor effectively implements the Construction Environmental Management Plan and industry standard Best Management Practices and mitigation measures are applied.

Appendix I: Dock Design

DESIGN CRITERIA AND GENERAL NOTES

1.0 GENERAL

1.1 VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK.

1.2 ALL DIMENSIONS ARE IN METRIC UNLESS NOTED OTHERWISE.

1.3 ALL WORK SHALL CONFIRM TO THE BC BUILDING CODE AND WORKSAFE BC REGULATIONS.

1.4 CLIMACTIC DESIGN DATA (FROM BC BUILDING CODE FOR CAMPBELL RIVER):

- Ss: 2.8 kPa
- Sr: 0.4 kPa
- 1/10 HOURLY WIND PRESSURE: 0.40 kPa
- 1/50 HOURLY WIND PRESSURE: 0.52 kPa

1.5 WHERE CODES AND STANDARDS ARE REFERENCED, THE LATEST EDITION APPLIES.

1.6 SUBMIT DETAILS OF PROPOSED SCHEDULE AND METHODOLOGY TO THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.

1.7 UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS AND SURPLUS MATERIALS FROM SITE. LEAVE THE WORK AREA IN A CLEAN AND NEAT CONDITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

1.8 BATHYMETRIC SURVEY COMPLETED BY MCELHANNEY IN JUNE 2023.

1.9 CONTRACTOR SHALL ADHERE TO THE ENVIRONMENTAL MANAGEMENT PLAN.

2.0 DEMOLITION

2.1 TAKE ALL NECESSARY PRECAUTIONS TO CONTAIN THE DEMOLITION WITH THE LIMITS DESIGNATED. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE TO EXISTING STRUCTURES.

2.2 ANY DAMAGE INCURRED IN THE EXECUTION OF THIS CONTRACT TO ANY PART OF THE PROPERTY OR STRUCTURE NOT SPECIFICALLY DESIGNATED FOR DEMOLITION SHALL BE REPAIRED, REPLACED AND/OR RECONSTRUCTED BY THE CONTRACTOR TO ITS ORIGINAL CONDITION AT THEIR OWN EXPENSE.

2.3 REMOVE AND DISPOSE OF ALL DEMOLITION MATERIAL OFF SITE IN ACCORDANCE WITH ALL MUNICIPAL, PROVINCIAL AND FEDERAL REQUIREMENTS.

2.4 EXISTING FLOAT AND GANGWAY TO BE REMOVED AND DISPOSED BY THE CONTRACTOR.

3.0 GANGWAY CRITERIA

3.1 ALUMINUM GANGWAY SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR DETAILED DESIGN (LIVE LOAD 2.4kPa), SUPPLY AND CONSTRUCTION. SUBMIT SEALED SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO FABRICATION.

3.2 THE GANGWAY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF CSA S157 STRENGTH DESIGN IN ALUMINUM, THE REQUIREMENTS OF OTHER APPLICABLE CANADIAN CODES AND STANDARDS, AS WELL AS THOSE SHOWN ON THE DRAWINGS AND OTHER CONTRACT DOCUMENTS.

3.3 CONTRACTOR IS TO PROVIDE WEARING PROVISIONS AND ATTACHMENTS TO PIER DESIGN FOR APPROVAL BY OWNER'S REPRESENTATIVE.

3.4 GANGWAY TO TRESTLE CONNECTION TO ALLOW FOR TRANSLATIONAL MOVEMENT OF FLOAT, SIMILAR TO EXISTING.

3.5 PRIOR TO MATERIAL PROCUREMENT, APPROVAL BY OWNER'S REPRESENTATIVE IS REQUIRED.

4.0 FLOAT DESIGN REQUIREMENTS

4.1 THE FLOAT SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF CANADIAN CODES FOR THE APPLICABLE MATERIAL, AS WELL AS THE REQUIREMENTS SHOWN ON THE DRAWINGS AND OTHER CONTRACT DOCUMENTS. THESE CODES MAY INCLUDE:

- CSA A23.3 DESIGN OF CONCRETE STRUCTURES
- CSA O86 ENGINEERING DESIGN IN WOOD
- CSA S16 DESIGN OF STEEL STRUCTURES
- CSA S157 STRENGTH DESIGN IN ALUMINUM

4.2 THE AUSTRALIAN STANDARD (AS 3962) AND THE BRITISH STANDARD (BS 6349) MAY BE USED AS A MARINE CODE, AS APPLICABLE WHERE THE CANADIAN CODES DO NOT PROVIDE MARINE GUIDANCE. ALTERNATIVELY, REFERENCE CAN BE MADE TO OTHER INTERNATIONAL CODES, STANDARDS OR GUIDELINES, SUBJECT TO OWNER'S APPROVAL.

4.3 THE DRAWINGS INDICATE THE GENERAL INTENT OF THE FLOAT. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE DETAILED DESIGN, CONSTRUCTION, INSTALLATION AND QUALITY CONTROL.

4.4 THE FLOAT SHALL BE DESIGNED FOR THE CLIMACTIC CONDITIONS EXPECTED AT THE SITE. WHERE SITE SPECIFIC INFORMATION IS NOT AVAILABLE, SUCH AS CURRENT AND WAVE LOADING, THE CONTRACTOR'S DESIGNER SHALL BE RESPONSIBLE FOR THE DETERMINATION OF LOADING.

4.5 THE MATERIAL OF CONSTRUCTION FOR THE FLOATS SHALL BE DETERMINED BY THE CONTRACTOR. MATERIALS SUCH AS CONCRETE, STEEL, ALUMINUM, FRP, TIMBER AND EXPANDED POLYSTYRENE FOAM FLOTATION ARE ACCEPTABLE. POSITIVE FLOTATION IS PREFERRED OVER WATERTIGHT COMPARTMENTS AND EXPANDED POLYSTYRENE SHALL BE FULLY ENCAPSULATED. THE USE OF DISSIMILAR METALS SHALL BE AVOIDED. IT IS EXPECTED THAT THE CONTRACTOR WILL SELECT THE MOST SUITABLE, PRACTICAL AND DURABLE MATERIALS FOR THE APPLICATION AND DESIGN LIFE.

4.6 THE SURFACE OF THE FLOATS SHALL BE NONSLIP. FRP MINI MESH GRATING IS PREFERRED OVER STEEL GRATING.

4.7 THE MINIMUM SERVICE LIFE OF THESE FLOATS SHALL BE 25 YEARS.

4.8 THE CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN BRITISH COLUMBIA. THESE DRAWINGS SHALL IDENTIFY DESIGN REQUIREMENTS, DESIGN CODES USED, LAYOUT, MEMBER SIZES, CONNECTIONS, DIMENSIONS, MATERIALS AND FINISHES.

4.9 THE CONTRACTOR SHALL PROVIDE A STANDARD OPERATION PROCEDURE.

5.0 FLOAT PERFORMANCE CRITERIA

5.1 THE FLOAT SHALL SIT LEVEL WITH A MAXIMUM CROSS SLOPE OF 2%, AND A MINIMUM ACCEPTABLE FREEBOARD OF 400mm UNDER DEAD LOAD. THE MINIMUM FREEBOARD TO THE TOP OF THE PRIMARY FLOATATION UNDER THE WORST COMBINATION OF LOADING SHALL BE 50mm, WITH THE OPPOSITE CHINE REMAINING SUBMERGED UNDER THESE CONDITIONS.

5.2 FLOATS SHALL BE DESIGNED TO ACCOMMODATE VESSELS UP TO 8m IN LENGTH.

5.3 A POSITIVE METACENTRIC HEIGHT IS REQUIRED FOR ALL EXPECTED LOADING CONDITIONS AND ANGLES OF TILT.

5.4 FLOATS SHALL BE DESIGNED TO CARRY A UNIFORMLY DISTRIBUTED LOAD OF 2.0 kPa OVER THE WHOLE OR ANY PART OF THE DECK. STABILITY SHALL BE CHECKED AND VERIFIED FOR THIS LOADING CONDITION. MAXIMUM ANGLE OF HEEL SHALL NOT EXCEED 6 DEGREES WHEN THIS LOAD IS APPLIED OVER HALF OF THE FLOAT WIDTH.

5.5 FLOATS SHALL BE DESIGNED TO CARRY, AT ANY LOCATION ON THE FLOAT DECK, A CONCENTRATED LOAD OF 1.8 kN PLACED AT ANY LOCATION, NO CLOSER THAN 300mm TO ANY EDGE. STABILITY SHALL BE CHECKED AND VERIFIED FOR THIS LOADING CONDITION INCLUDING THE SUBMERGED ELEMENT, MAXIMUM ANGLE OF HEEL SHALL NOT EXCEED 6 DEGREES.

6.0 FLOAT APPURTENANCES AND HARDWARE

6.1 250mm (10") CLEATS AT 3M SPACING SHALL BE PROVIDED FOR VESSEL MOORAGE.

6.2 FENDERS OR RUB STRIPS AND BULL RAILS SHALL BE PROVIDED AROUND THE PERIMETER OF THE FLOAT. THESE CONTINUOUS ITEMS SHALL HAVE HIGH RESISTANCE TO ENVIRONMENTAL ELEMENTS, SUCH AS UV LIGHT, AND MARINE GROWTH.

6.3 FIXED SAFETY LADDERS SUFFICIENT FOR EGRESS FROM THE WATER SHALL BE PROVIDED, SPACED AT INTERVALS LESS THAN 30m. THE LADDERS SHALL EXTEND A MINIMUM OF 1m BELOW THE WATER SURFACE. CORROSION SHALL BE CONSIDERED IN THE MATERIAL SELECTED AND FABRICATION DETAILS OF THE LADDER.

7.0 ANCHORAGE CRITERIA

7.1 THE ANCHORAGE SYSTEM SHALL CONSIST OF ANCHOR LINES AND CONCRETE BLOCKS. THE LOCATION AND NUMBER OF ANCHOR LINES SHOWN IS FOR REFERENCE ONLY.

7.2 THE CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT, DETAILED DESIGN, SUPPLY AND CONSTRUCTION OF THE ANCHORAGE SYSTEM THE ANCHORAGE SYSTEM LAYOUT SHALL BE SUCH TO PREVENT THE FLOAT FROM GROUNDING AT LLWLT AND LIMIT OVERALL MOVEMENT OF THE FLOATS RELATIVE TO THE FIXED STRUCTURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.

7.3 THE CONTRACTOR SHALL DESIGN THE ANCHORAGE SYSTEM FOR THE CLIMACTIC CONDITIONS EXPECTED AT THE SITE. WIND LOADING SHALL CONSIDER MOORED VESSELS. WHERE SITE SPECIFIC INFORMATION IS NOT AVAILABLE, SUCH AS CURRENT AND WAVE LOADING, THE CONTRACTOR'S DESIGNER SHALL BE RESPONSIBLE FOR THE DETERMINATION OF LOADING.

7.4 A ROBUST ANCHORAGE SYSTEM IS DESIRED. THE CONTRACTOR SHALL WARRANT THE SYSTEM AGAINST DAMAGE OCCURRING FROM ENVIRONMENTAL LOADING FOR A PERIOD OF TWO YEARS FOLLOWING COMPLETION OF THE WORK.

8.0 TIMBER

8.1 TIMBER CONSTRUCTION SHALL CONFORM TO CSA-086.

8.2 CONTRACTOR TO VERIFY AND CONFIRM ALL DIMENSIONS PRIOR TO FABRICATION INCLUDING COORDINATION WITH STEEL SHOP DRAWINGS.

8.3 SAWN LUMBER SHALL CONFORM TO CSA-O141 AND BE OF THE FOLLOWING SPECIES AND GRADES OR BETTER UNLESS NOTED OTHERWISE:

- TIMBER: D.FIR-LARCH No. 1
- DIMENSION LUMBER: S-P-F No. 2

8.4 ALL TIMER SIZES INDICATED ON THE DRAWINGS ARE DRESSED SIZES, UNLESS NOTED OTHERWISE.

8.5 ALL TIMBER TREATMENTS SHALL CONFIRM TO CSA O80, IN ACCORDANCE THE FOLLOWING, UNLESS NOTED OTHERWISE:

- TIMBER WITH ALL PARTS ABOVE HHWLT: ACZA SALT CONCENTRATE TREATMENT OR CREOSOTE TREATMENT FOR USE CATEGORY 4.2
- TIMBER WITH ANY PART BELOW HHWLT: ACZA SALT CONCENTRATE TREATMENT OR CREOSOTE TREATMENT FOR USE CATEGORY 5A

8.6 SAWN TIMBER GRADES TO MATCH THOSE INDICATED ON DRAWINGS. ALL TIMBERS TO BE SEASONED TO MAXIMUM 15% MOISTURE CONTENT PRIOR TO FABRICATION.

8.7 PLATE WASHERS SHALL BE USED UNDER THE HEADS AND NUTS OF ALL BOLTS BEARING ON TIMBER, UNLESS NOTED OTHERWISE, THE SIZE OF PLATE WASHERS SHALL BE AS FOLLOWS:

BOLT DIAMETER	THICKNESS	PLATE SIZE
M20	10mm	100mm x 100mm
M24	12mm	125mm x 135mm
M30	12mm	150mm x 150mm

8.8 FASTENERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123/A123M UNLESS NOTED OTHERWISE AND SHALL CONFORM TO THE FOLLOWING:

- BOLTS, LAG SCREWS, NUTS, WASHERS: ASTM A307 GRADE A

8.9 UNLESS NOTED OTHERWISE, TREATED TIMBER SHALL NOT BE CUT FOLLOWING TREATMENT.

8.10 BOLT HOLES DRILLED INTO TREATED TIMBER SHALL BE TREATED WITH TWO SEPARATE COATS OF ACZA SALT PRESERVATIVE, ADDITIONALLY, BOLTS SHALL BE DIPPED IN PRESERVATIVE IMMEDIATELY PRIOR TO INSTALLATION.

9.0 STRUCTURAL STEEL

9.1 STRUCTURAL STEEL SHALL BE DESIGNED AND FABRICATED TO CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.

9.2 STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- ROLLED SECTIONS: CSA-G40.21 GRADE 350W
- HOLLOW STRUCTURAL SECTIONS: CSA-G40.21 GRADE 350W, CLASS C
- PLATES: CSA-G40.21 GRADE 300W
- SOLID STEEL RODS: CSA-G40.21 GRADE 350W
- STRUCTURAL BOLTS, NUTS, WASHERS: ASTM F3125 GRADE A325M, TYPE 1
- PIPE: ASTM A53/A53M GRADE B
- ANCHOR BOLTS: ASTM F1554 GRADE 36
- ANCHORS, CHAIN HOOKS, LIFTING HOOKS: ASTM 436

9.3 FASTENERS INSTALLED IN HARDENED CONCRETE SHALL BE WITH HILTI HIT-RE 500 ADHESIVE AND STANDARD EMBEDMENT TYPE 316 STAINLESS STEEL ANCHORS, UNLESS NOTED OTHERWISE. USE OF HILTI ADHESIVE PRODUCTS SHALL BE BY TRAINED APPLICATORS ONLY. INSTALLED ANCHORS SHALL BE SUBJECT TO VERIFICATION TESTING IN ACCORDANCE WITH THE SPECIFICATIONS.

9.4 WELDING SHALL BE IN ACCORDANCE WITH CSA-W59 BY COMPANIES AND WELDERS CERTIFIED TO CSA-W47.1 BY CWB.

9.5 WELDS SHALL BE MADE USING E490XX (E70XX) ELECTRODES OR BETTER UNLESS NOTED OTHERWISE.

9.6 UNLESS NOTED OTHERWISE, WELDS BETWEEN ADJACENT MEMBERS SHALL BE 6mm CONTINUOUS FILLET WELDS ALL ROUND. ALL WELDS SHALL BE SEAL WELDS.

9.7 FIELD WELDING IS NOT PERMITTED UNLESS SPECIFIED OR AUTHORIZED BY THE OWNERS REPRESENTATIVE.

9.8 ALL WELDS SHALL BE SUBJECT TO NON-DESTRUCTIVE EXAMINATION (NDE) BY A WELDING INSPECTOR CERTIFIED TO CSA-W178.2 IN ACCORDANCE WITH THE SPECIFICATIONS. UNLESS NOTED OTHERWISE THE FOLLOWING SHALL APPLY:

- BUTT WELDS: 100% RADIOGRAPHIC OR ULTRASONIC
- ALL OTHER WELDS: 10% MAGNETIC PARTICLE + 100% VISUAL

9.9 UNLESS NOTED OTHERWISE, ALL STEELWORK SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A123M IN ACCORDANCE WITH THE SPECIFICATIONS.

9.10 DAMAGED GALVANIZING SHALL BE TOUCHED UP WITH TWO COATS OF LANCO GALVACON GC-243 COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

9.11 HSS SECTIONS SHALL BE PROVIDED WITH SEAL WELDED CAP PLATES AT OPEN ENDS AND DRAIN HOLES AT THE BASE.

9.12 BEARING PLATES AND BASE PLATES SUPPORTED BY MASONRY OR CONCRETE SHALL BE GROUTED SOLID WITH NON-METALLIC, NON-SHRINK GROUT HAVING A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 40 MPa IN ACCORDANCE WITH THE MANUFACTURE'S WRITTEN INSTRUCTIONS.

10.0 ALUMINUM

10.1 ALUMINUM SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- PLATES: ASTM B209 TYPE 6061-T6
- BARS & STRUCTURAL SHAPES: ASTM B308 TYPE 6061-T6
- TUBES & PIPES: ASTM B429 TYPE 6061-T6

10.2 FASTENERS FOR ALUMINUM SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- ALUMINUM BOLTS: ASTM F464
- GALVANIZED BOLTS: ASTM F3125 GRADE 325 & ASTM A153
- STAINLESS STEEL BOLTS: ASTM F593

10.3 ALUMINUM SHALL BE WELDED IN ACCORDANCE WITH CSA-W59.2 BY COMPANIES CERTIFIED TO CSA-W47.2.

10.4 ALUMINUM SHALL BE PROTECTED FROM CORROSION WHERE IT IS EXPOSED TO AGGRESSIVE ENVIRONMENTS OR IN CONTACT WITH DISSIMILAR METALS IN MOIST CONDITIONS.

11.0 STAINLESS STEEL

11.1 STAINLESS STEEL SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:

- PLATES: ASTM A276 TYPE 316L
- BARS & STRUCTURAL SHAPES: ASTM A240 TYPE 316L
- HSS: ASTM A269 TYPE 316L
- PIPES: ASTM A312 TYPE 316L
- BOLTS: ASTM A193 GRADE B8M

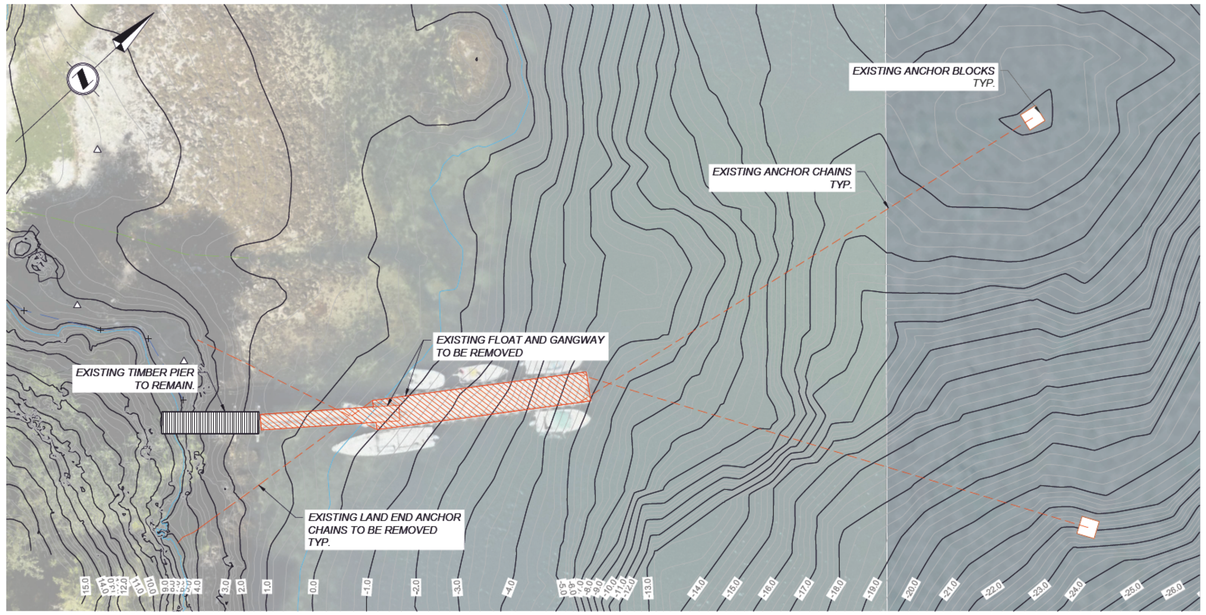
11.2 STAINLESS STEEL SHALL BE WELDED IN ACCORDANCE WITH AWS D1.6.

LEGEND

TO BE REMOVED

NOTES:

1. TOPOGRAPHIC AND BATHYMETRIC SURVEY FROM MCELHANNEY DATED JUNE 22, 2023 AND REFERENCES GEODETIC DATUM CGVD2013
2. MAJOR CONTOURS ARE SHOWN AT 1.0m INTERVALS



DEMOLITION PLAN
SCALE 1:250

Rev	Date	Description	Drawn	Design	App'd
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
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-	-	-	-	-	-
0	2023-11-23	ISSUED FOR TENDER	JTH	HH	GH
PA	2023-11-08	ISSUED FOR REVIEW	JTH	HH	GH

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney

1211 Ryan Road
Courtenay BC
Canada V9N 3R6
Tel 250 338 5495

PERMIT TO PRACTICE

McElhanney Ltd.

PERMIT NUMBER: 1003299

Engineers and Geoscientists of British Columbia

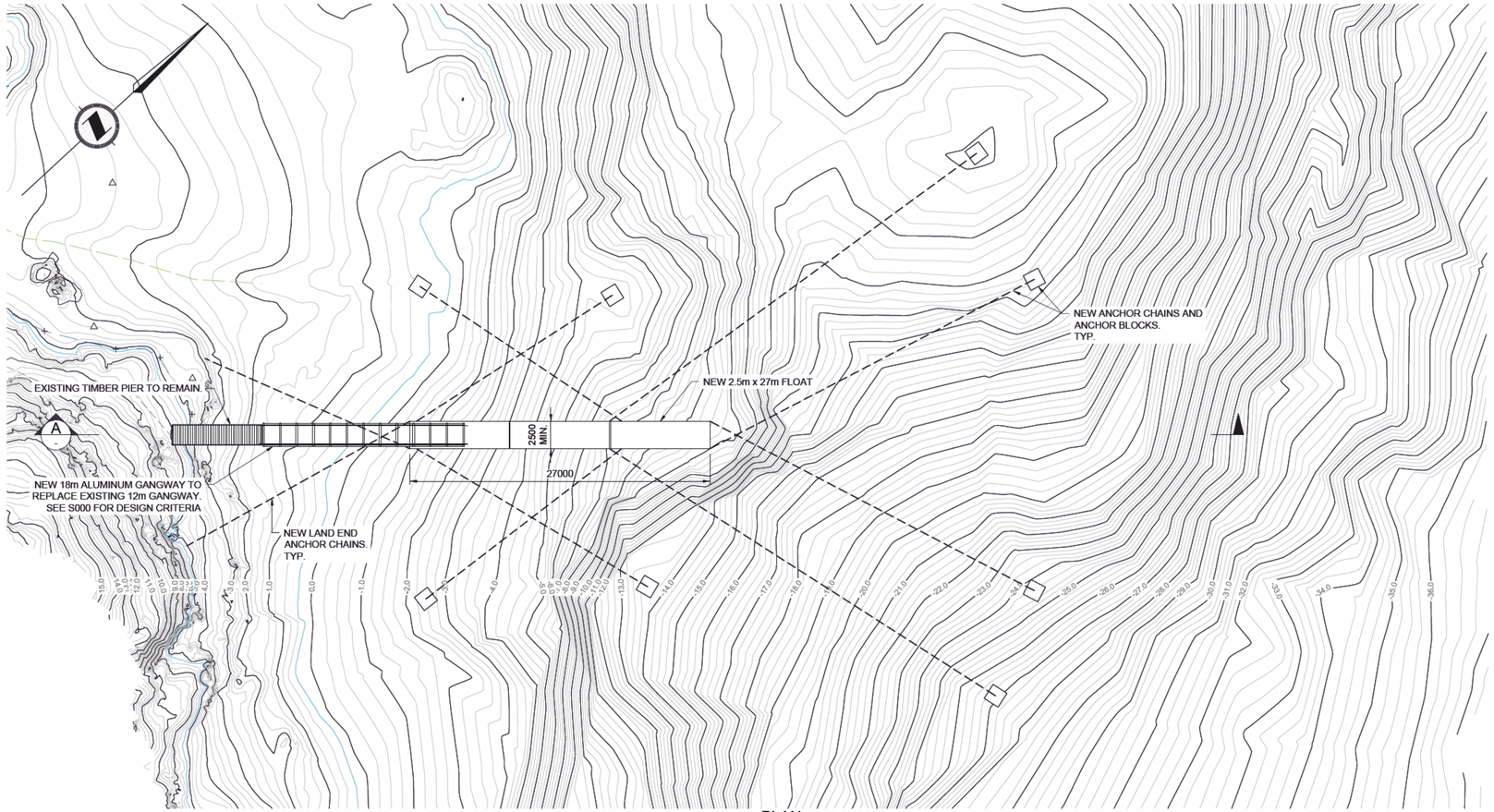
Approved Sealed

STRATHCONA REGIONAL DISTRICT
990 CEDAR STREET, CAMPBELL RIVER, BC V9W 7Z8

HOSKYN CHANNEL MARINE FACILITY REPAIRS AND REPLACEMENT DESIGN CRITERIA AND DEMOLITION PLAN

Drawing No.
S000

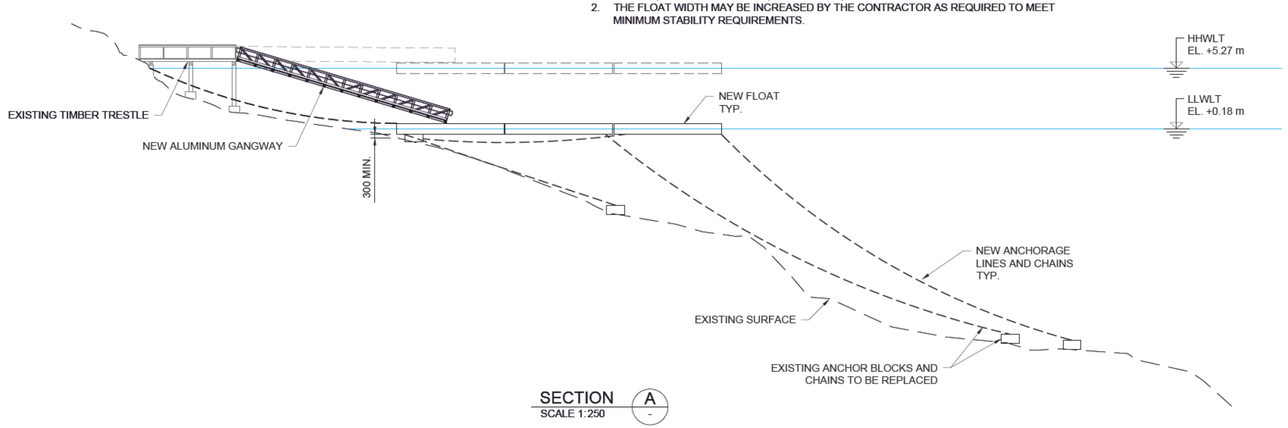
Project Number: 2211-71343-00
Rev.: 0



PLAN
SCALE 1:250

NOTE:

1. ANCHORAGE LOCATIONS AND NUMBER ARE SHOWN FOR INDICATIVE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE ANCHORING SYSTEM, INCLUDING NUMBER, WEIGHT/SIZE, AND LOCATIONS.
2. THE FLOAT WIDTH MAY BE INCREASED BY THE CONTRACTOR AS REQUIRED TO MEET MINIMUM STABILITY REQUIREMENTS.



SECTION A
SCALE 1:250

NOTES:

1. SEE DWG S000 FOR DESIGN CRITERIA.
2. TOPOGRAPHIC AND BATHYMETRIC SURVEY FROM MCELHANNEY DATED JUNE 22, 2023 AND REFERENCES GEODETIC DATUM CGVD2013
3. MAJOR CONTOURS ARE SHOWN AT 1.0m INTERVALS

Rev	Date	Description	Drawn	Design	App'd
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
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0	2023-11-23	ISSUED FOR TENDER	JTH	HH	GH
PA	2023-11-08	ISSUED FOR REVIEW	JTH	HH	GH

0 1:250 10

ORIGINAL DWG SIZE: ANSI D (22" x 34")

McElhanney
1211 Ryan Road
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McElhanney Ltd.
PERMIT NUMBER: 1003299
Engineers and Geoscientists of British Columbia

Approved Sealed

STRATHCONA REGIONAL DISTRICT
990 CEDAR STREET, CAMPBELL RIVER, BC V9W 7Z8

HOSKYN CHANNEL MARINE FACILITY REPAIRS AND REPLACEMENT GENERAL ARRANGEMENT
PLAN AND SECTION

Drawing No. S100

Project Number	Rev.
2211-71343-00	0

DESTROY ALL PRINTS BEARING PREVIOUS REVISION.