Sunshine Coast Regional District

Request for Proposal

Number: 2465004

for

Design and Professional Services: Development of a Community Hall

Issue Date:

March 1, 2024

Closing Date of

April 8, 2024 at 3:00 PM local time

OPTIONAL SITE MEETING: A optional site meeting will be held on March 15, 2024, at 11:45 am local time at 8108 Northwood Road, Halfmoon Bay, BC. Proponents need to RSVP to purchasing@scrd.ca by noon on March 14, 2024 if no RSVPs are received the site meeting may be cancelled.

CONTACT: All enquiries related to this Request for Proposal, including any requests for information and clarification, are to be submitted by March 22, 2024, and directed, in writing, to purchasing@scrd.ca, who will respond if time permits with a Q&A on BCBid by March 27, 2024. Information obtained from any other source is not official and should not be relied upon. Enquiries and any responses providing new information will be recorded and posted to BC Bid or otherwise distributed to prospective Proponents.

DELIVERY OF PROPOSALS: Proposals must be in English and must be submitted using one of the submission methods below, and must either **(1)** include a copy of this cover page that is signed by an authorized representative of the Proponent or **(2)** be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP.

BC Bid Electronic Submission: Proponents may submit an electronic proposal using BC Bid. Proposals must be submitted in accordance with the BC Bid requirements and e-bidding key requirements (found at https://www.bcbid.gov.bc.ca/). Only pre-authorized electronic bidders registered on the BC Bid system can submit an electronic proposal using the BC Bid system. Use of an e-bidding key is effective as a signature.

OR

Hard Copy Submission*:* Proponents must submit **ONE (1)** hard-copies and **ONE (1)** electronic copy on a USB Drive of the proposal. Proposals submitted by hard copy must be submitted by hand or courier to:

Sunshine Coast Regional District
1975 Field Road
Sechelt, BC V7Z 0A8

Regardless of submission method, proposals must be received before Closing Time to be considered.

CONFIRMATION OF PROPONENT'S INTENT TO BE BOUND:

The enclosed proposal is submitted in response to the referenced Request for Proposal, including any Addenda. By submitting a proposal the Proponent agrees to all of the terms and conditions of the RFP including the following:

a) The Proponent has carefully read and examined the entire Request for Proposal;
b) The Proponent has conducted such other investigations as were prudent and reasonable in preparing the proposal; and
c) The Proponent agrees to be bound by the statements and representations made in its proposal.

PROPONENT NAME (please print): _____

NAME OF AUTHORIZED REPRESENTATIVE (please print):_____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

DATE: _____

TABLE OF CONTENTS

Page

1. GENERAL TERMS & CONDITIONS....3
2. INTRODUCTION....8
2.1 Purpose....8
3. SITUATION/OVERVIEW....8
3.1 Background....8
3.2 Project Objectives....9
3.3 Scope....9
4. CONTRACT....10
4.1 General Contract Terms and Conditions....10
4.2 Service Requirements....10
4.3 Related Documents....10
5. REQUIREMENTS....11
5.1 Capabilities....11
5.2 Sustainable Social Procurement....12
5.3 Approach....12
5.4 Value Add....12
5.5 Price....12
6. PROPOSAL FORMAT....13
7. EVALUATION....13
7.1 Mandatory Criteria....13
7.2 Weighted Criteria....14
7.3 Price Evaluation....14
Appendix 1 Geotechnical Subsurface Review....15
Appendix 2 Topographic Survey....28
Appendix 3 Environmental Assessment....30
Appendix 4 Pre-Design Report....103

1. GENERAL TERMS & CONDITIONS

1.1 DEFINITIONS

Throughout this Request for Proposal, the following definitions apply:

"**Addenda**" means all additional information regarding this RFP, including amendments to the RFP;
"**BC Bid**" means the BC Bid website located at https://www.bcbid.gov.bc.ca/ ;
"**Closing Location**" includes the location or email address for submissions indicated on the cover page of this RFP, or BC Bid, as applicable;
"**Closing Time**" means the closing time and date for this RFP as set out on the cover page of this RFP;
"**Contract**" means the written agreement resulting from the RFP executed by the Regional District and the successful Proponent;
"**Contractor**" means the successful Proponent to the RFP who enters into a Contract with the Regional District;
"**Must**", or "**mandatory**" means a requirement that must be met in order for a proposal to receive consideration;
"**Proponent**" means a person or entity (excluding its parent, subsidiaries or other affiliates) with the legal capacity to contract, that submits a proposal in response to the RFP;
"**Proposal**" means a written response to the RFP that is submitted by a Proponent;
"**Request for Proposals**" or "**RFP**" means the solicitation described in this document, including any attached or referenced appendices, schedules or exhibits and as may be modified in writing from time to time by the Regional District by Addenda; and
"**Should**", "**may**" or "**weighted**" means a requirement having a significant degree of importance to the objectives of the Request for Proposals.
"SCRD", "Regional District", "Organization", "we", "us", and**"our"** mean Sunshine Coast Regional District.

1.2 FORM OF PROPOSAL

This Proposal must be completed in its entirety. Failure to properly complete this Proposal form may cause your Proposal to be rejected. The signing officer must initial all corrections. The Sunshine Coast Regional District (Regional District) reserves the right to permit a correction, clarification or amendment to the Proposal or to correct minor errors and irregularities.

1.3 SUBMISSION OF PROPOSAL

a) Proposals must be submitted before Closing Time to the Closing Location using one of the submission methods set out on the cover page of this RFP. Proposals must not be sent by fax. The Proponent is solely responsible for ensuring that, regardless of submission method selected, the Regional District receives a complete Proposal, including all attachments or enclosures, before the Closing Time.

b) For electronic submissions (BC Bid or email), the following applies:

(i) The Proponent is solely responsible for ensuring that the complete electronic Proposal, including all attachments, is received before Closing Time;

(ii) The Regional District limits the maximum size of any single email message to 20MB or less.

(iii) Proponents should endeavour to submit emailed proposal submissions in a single message and avoid sending multiple email submissions for the same opportunity. If an electronic submission exceeds the applicable maximum single message size, the Proponent may make multiple submissions (BC Bid upload or multiple emails for the same opportunity). Proponents should identify the order and number of emails making up the email proposal submission (e.g. "email 1 of 3, email 2 of 3…");

(iv) For email proposal submissions sent through multiple emails, the Regional District reserves the right to seek clarification or reject the proposal if the Regional District is unable to determine what documents constitute the complete proposal;

(v) Attachments must not be compressed or encrypted, must not contain viruses or malware, must not be corrupted, and must be able to be opened using commonly available software (e.g. Adobe Acrobat). Proponents submitting by electronic submission are solely responsible for ensuring that any emails or attachments are not corrupted. The Regional District has no obligation to attempt to remedy any message or attachment that is received corrupted or cannot be viewed. The Regional District may reject proposals that are compressed encrypted, cannot be opened or that contain viruses or malware or corrupted attachments.

c) For BC Bid e-submissions only pre-authorized e-bidders registered on BC Bid can submit electronic bids on BC Bid. BC Bid is a subscription service ($150 per year) and the registration process may take two business days to complete. If using this submission method, Proponents should refer to the BC Bid website or contact BC Bid Helpdesk at 250-387-7301 for more information. An electronic proposal submitted on BC Bid must be submitted using the e-bidding key of an authorized representative of the Proponent. Using the e-bidding key of a subcontractor is not acceptable.

d) For email proposal submissions, including any notices of amendment or withdrawal referred to in Section 1.6, the subject line of the email and any attachment should be clearly marked

with the name of the Proponent, the RFP number and the project or program title.

e) The Regional District strongly encourages Proponents using electronic submissions to submit proposals with sufficient time to complete the upload and transmission of the complete proposal and any attachments before Closing Time.

f) The Proponent bears all risk associated with delivering its Proposal by electronic submission, including but not limited to delays in transmission between the Proponent's computer and the Regional District Electronic Mail System or BC Bid.

g) While the Regional District may allow for email proposal submissions, the Proponent acknowledges that email transmissions are inherently unreliable. The Proponent is solely responsible for ensuring that its complete email proposal submission and all attachments have been received before Closing Time. If the Regional District Electronic Mail System rejects an email proposal submission for any reason, and the Proponent does not successfully resubmit its proposal by the same or other permitted submission method before Closing Time, the Proponent will not be permitted to resubmit its proposal after Closing Time. The Proponent is strongly advised to contact the Regional District Contact immediately to arrange for an alternative submission method if:

(i) the Proponent's email proposal submission is rejected by the Regional District Electronic Mail System; or

(ii) the Proponent does not receive an automated response email from the Regional District confirming receipt of each and every message transmitted, within a half hour of transmission by the Proponent.

An alternate submission method may be made available, at the Regional District's discretion, immediately to arrange for an alternative submission method, and it is the Proponent's sole responsibility for ensuring that a complete proposal (and all attachments) submitted using an approved alternate submission method is received by the Regional District before the Closing Time. The Regional District makes no guarantee that an alternative submission method will be available or that the method available will ensure that a Proponent's proposal is received before Closing Time.

1.4 SIGNATURE REQUIRED

Proposals must be properly signed by an officer, employee or agent having authority to bind the Proponent by that signature.

1.5 CLARIFICATIONS, ADDENDA & MINOR IRREGULARITIES

If any Proponent finds any inconsistencies, errors or omissions in the proposal documents or requires information, clarification of any provision contained therein, they shall submit their query in writing or email, addressed as follows:

Purchasing Division
Sunshine Coast Regional District
1975 Field Road, Sechelt, BC V7Z 0A8

purchasing@scrd.ca

Any interpretation of, addition to, deletions from or any corrections to the proposal documents will be issued as written addendum by the Regional District.

All Addenda will be posted on BC Bid. It is the sole responsibility of the Proponent to check for Addenda on BC Bid. Proponents are strongly encouraged to subscribe to BC Bid's email notification service to receive notices of Addenda.

1.6 WITHDRAWAL OR REVISIONS

Proposals or revisions may be withdrawn by written notice provided such a notice of withdrawal is received prior to the closing date and time. Proposals withdrawn will be returned to the Proponent unopened. Revisions to the proposals already received shall be submitted only by electronic mail, or signed letter. The revision must state only the amount by which a figure is to be increased or decreased, or specific directions as to the exclusions or inclusion of particular words.

1.7 CONDUCT OF THE CONTRACT

Unless otherwise specified within this document, any queries regarding this Request for Proposal are to be directed to purchasing@scrd.ca. No other verbal or written instruction or information shall be relied upon by the Bidder, nor will they be binding upon the Regional District.

1.8 CONFLICT OF INTEREST/NO LOBBYING

(a) A Proponent may be disqualified if the Proponent's current or past corporate or other interests, or those of a proposed subcontractor, may, in the Regional District's opinion, give rise to an actual or potential conflict of interest in connection with the services described in the RFP. This includes, but is not limited to, involvement by a Proponent in the preparation of the RFP or a relationship with any employee, contractor or representative of the Regional District involved in preparation of the RFP, participating on the evaluation committee or in the administration of the Contract. If a Proponent is in doubt as to whether there might be a conflict of interest, the Proponent should consult with the Regional District Contact prior to submitting a proposal. By submitting a

proposal, the Proponent represents that it is not aware of any circumstances that would give rise to a conflict of interest that is actual or potential, in respect of the RFP.

(b) A Proponent must not attempt to influence the outcome of the RFP process by engaging in lobbying activities. Any attempt by the Proponent to communicate, for this purpose directly or indirectly with any employee, contractor or representative of the Regional District, including members of the evaluation committee and any elected officials of the Regional District, or with the media, may result in disqualification of the Proponent.

1.9 CONTRACT

By submitting a proposal, the Proponent agrees that should its proposal be successful the Proponent will enter into a Contract with the Regional District on substantially the same terms and Conditions set out in www.scrd.ca/bid and such other terms and conditions to be finalized to the satisfaction of the Regional District, if applicable.

1.10 SUSTAINABLE PROCUREMENT

The Regional District adheres to its sustainable consideration factors. Proposals will be considered not only on the total cost of services, but Proposals that addresses the environment and social factors.

1.11 INVOICING AND PAYMENT

Unless otherwise agreed, the Regional District payment terms are Net 30 days following receipt of services or approved invoices, whichever is later. Original invoices are to be forwarded to the accounts payable department of the Regional District. The purchase order number assigned by the Regional District must be stated on the invoice otherwise payment may be delayed.

1.12 PRICING, CURRENCY AND TAXES

Offered prices are to be attached as a price schedule in Canadian dollars with taxes stated separately when applicable.

1.13 IRREVOCABLE OFFER

This Proposal must be irrevocable for 90 days from the Proposal closing date and time.

1.14 TIME IS OF THE ESSENCE

Time shall be of the essence in this contract.

1.15 ASSIGNMENT

The Proponent will not, without written consent of the Regional District, assign or transfer this contract or any part thereof.

1.16 OWNERSHIP OF DOCUMENTS & FREEDOM OF INFORMATION

All documents submitted in response to this Request for Proposal shall become the property of the Regional District and as such will be subject to the disclosure provisions of the *Freedom of Information and Protection of Privacy Act* and any requirement for disclosure of all or a part of a Proposal under that Act.

The requirement for confidentiality shall not apply to any Proposal that is incorporated into a Contract for the Work. Further, the Regional District may disclose the top scoring proponent's aggregate pricing to the Regional District Board at a public meeting, when making a recommendation for the award of the Contract.

For more information on the application of the Act, go to http://www.cio.gov.bc.ca/cio/priv_leg/index.page.

1.17 AWARD OF CONTRACT

The Purchasing Policy at the Regional District offers contracts to businesses through an open, fair and consistent competitive bidding process. This ensures that the Regional District will receive the best overall value for the goods and services it requires. The Regional District reserves the right to cancel, award all or part of the scope of work described in this document to a single Proponent or may split the award with multiple Proponents.

All awards are subject to Board approval that meets the needs as determined by the Board. The Regional District, in receipt of a submission from a Proponent, may in its sole discretion consider the Proponent to have accepted the terms and conditions herein, except those expressly excluded or changed by the Proponent in writing.

The RFP shall not be construed as an agreement to purchase goods or services. The lowest priced or any proposal will not necessarily be accepted. The RFP does not commit the Regional District in any way to award a contract and that no legal relationship or obligation regarding the procurement of any good or service will be created between Regional District and the proponent unless and until Regional District and the proponent execute a written agreement for the Deliverables

1.18 COST OF PROPOSAL

The Proponent acknowledges and agrees that the Regional District will not be responsible for any costs, expenses, losses, damage or liability incurred by the Proponent as a result of or arising out submitting a Proposal for the proposed contract or the Regional

District's acceptance or non-acceptance of their proposal. Further, except as expressly and specifically permitted herein, no Proponent shall have any claim for any compensation of any kind whatsoever, as a result of participating in this RFP, and by submitting a proposal each Proponent shall be deemed to have agreed that it has no claim.

1.19 PROPONENT'S RESPONSIBILITY

It is the Proponent's responsibility to ensure that the terms of reference contained herein are fully understood and to obtain any further information required for this proposal call on its own initiative. The Regional District reserves the right to share, with all proponents, all questions and answers related to this bid call.

1.20 EVALUATIONS

Proposals will be evaluated in private, including proposals that were opened and read in public, if applicable. Proposals will be assessed in accordance with the evaluation criteria.

If only one Proposal is received, the Regional District reserves the right to open the Proposal in private or if the total bid price exceeds the estimated budget for the Contract, the Regional District may cancel and re-tender, accept, not accept and cancel or re-scope the Work seeking a better response, with or without any substantive changes being made to the solicitation documents. If more than one Proposal is received from the same Proponent, the last Proposal received, as determined by the Regional District, will be the only Proposal considered.

1.21 ACCEPTANCE OF TERMS

The submission of the Proposal constitutes the agreement of the Proponent that all of the terms and conditions of the RFP are accepted by the Proponent and incorporated in its Proposal, except those conditions and provisions which are expressly excluded and clearly stated as excluded by the Proponent's proposal.

1.22 MANDATORY REQUIREMENTS

Proposals not clearly demonstrating that they meet the mandatory requirements will receive no further consideration during the evaluation process.

1.23 INSURANCE & WCB

The Proponent shall obtain and continuously hold for the term of the contract, insurance coverage with the Regional District Listed as "Additional Insured" the minimum limits of not less than those stated below:

(a) Commercial General Liability – not less than $5,000,000 per occurrence
(b) Motor Vehicle Insurance, including Bodily Injury and Property Damage in an amount no less than $2,000,000 per accident from the Insurance Corporation of British Columbia on any licensed motor vehicles of any kind used to carry out the Work.
(c) Error & Omissions Insurance – not less than $5,000,000 per occurrence
(d) A provision requiring the Insurer to give the Owners a minimum of 30 days' notice of cancellation or lapsing or any material change in the insurance policy;

The Proponent must comply with all applicable laws and bylaws within the jurisdiction of the work. The Proponent must further comply with all conditions and safety regulations of the Workers' Compensation Act of British Columbia and must be in good standing during the tern of any contract entered into from this process.

1.24 COLLUSION

Except otherwise specified or as arising by reason of the provisions of these documents, no person, or corporation, other than the Proponent has or will have any interest or share in this proposal or in the proposal contract which may be completed in respect thereof. There is no collusion or arrangement between the Proponent and any other actual or prospective Proponent in connection with proposals submitted for this project and the Proponent has no knowledge of the context of other proposals and has no comparison of figures or agreement or arrangement, express or implied, with any other party in connection with the making of the proposal.

1.25 CONFLICT OF INTEREST

Proponents shall disclose in its Proposal any actual or potential conflict of interest and existing business relationship it may have with the Regional District, its elected or appointed officials or employees.

1.26 LIABILITY FOR ERRORS

While the Regional District has used considerable efforts to ensure an acute representation of information in these bid documents, the information contained is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Regional District nor is it necessarily comprehensive or exhaustive.

1.27 TRADE AGREEMENTS

This RFP is covered by trade agreements between the Regional District and other jurisdictions, including the following:

a) Canadian Free Trade Agreement; and
b) New West Partnership Trade Agreement.

1.28 LAW

This contract and any resultant award shall be governed by and construed in accordance with the laws of the Province of British Columbia, which shall be deemed the proper law thereof.

1.29 REPRISAL CLAUSE

Tenders will not be accepted by the Regional District from any person, corporation, or other legal entity (the "Party") if the Party, or any officer or director of a corporate Party, is, or has been within a period of two years prior to the tender closing date, engaged either directly or indirectly through another corporation or legal entity in a legal proceeding initiated in any court against the Regional District in relation to any contract with, or works or services provided to, the Regional District; and any such Party is not eligible to submit a tender.

1.30 FORCE MAJEURE (ACT OF GOD)

Neither party shall be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control including but not limited to acts of God, war, strikes or labour disputes, embargoes, government orders or any other force majeure event. The Regional District may terminate the Contract by notice if the event lasts for longer than 30 days.

1.31 CONFIDENTIAL INFORMATION OF PROPONENT

A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by Regional District. The confidentiality of such information will be maintained by Regional District, except the total proposed value, which must be publicly released for all proposals, or otherwise required by the Freedom of Information and Protection of Privacy Act ("FOIPPA"), law or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to advisers retained by Regional District to advise or assist with the RFP process, including the evaluation of proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the RFP Contact.

1.32 DISPUTE RESOLUTION

All unresolved disputes arising out of or in connection with this Proposal or in respect of any contractual relationship associated therewith or derived therewith shall be referred to and finally resolved by arbitration as prescribed by Mediate BC services pursuant to its rules, unless otherwise mutually agreed between the parties.

1.33 DEBRIEFING

At the conclusion of the RFP process, all Proponents will be notified. Proponents may request a debriefing meeting with the Regional District.

2. INTRODUCTION

2.1 Purpose

The Regional District is seeking proposals from professional, qualified, and experienced firms to facilitate the detailed design of, and to provide professional services for, the development of a new community hall (the Project) in Connor Park located at 8108 Northwood Road, Halfmoon Bay, BC. The construction management / construction budget for this project is approximately $2.7 million exclusive of design and professional services.

The Project will aim to leverage a cohesive design-build team to produce a community space that is inviting to the public, functional in its design, and provides maximum value for the budget. The construction of the Project should have minimal impact on the natural environment in which it is to be sited, and the lifecycle operations of the hall should be designed for efficiency and simplicity.

3. SITUATION/OVERVIEW

3.1 Background

The Regional District operates and maintains several community halls through its Community Parks Service. These community halls facilitate activities and events for residents to attend and provide space for the delivery of services to the rural communities. The existing community hall in Halfmoon Bay has reached its end of life and it is slated to be replaced.

In 2017 work began to develop a scope of work and budget for the project. In 2021 a federal grant was awarded to partially fund the new hall. The original intention was to replace the existing hall currently located within Coopers Green Park; however, a site investigation identified the potential of oceanic flooding at that location. It was determined that mitigation of the hazard would be exceedingly costly, and an alternative location (Connor Park) was identified for the new community hall. The Regional District would like to highlight that it is an active site, please review the Pre-Design Report for context.

A topographic survey, geotechnical subsurface review, archaeological Preliminary Field Reconnaissance and an environmental assessment of Connor Park have been conducted and no significant concerns have been identified. The result of this work has been synthesised through a comprehensive pre-design effort which has culminated in the production of Pre-Design Report to inform the siting, scope, and function of the Hall within Connor Park.

The Pre-Design Report assessed several potential locations within Connor Park and recommended ‘Option D’. This option will potentially have impacts on the existing bicycle skills area and the existing playground. An existing washroom structure is also located near the proposed building site. This facility has an existing septic field which may be able to be incorporated into servicing the new community hall. Utility services available at the site include water, natural gas, and electricity. The existing parking area at the hall is a gravel surfaced area with minimal delineation of parking spots.

The Project is funded partially through an ICIP Grant which has requirements around fair procurement, Project scope and timelines. These will be provided to the successful Proponent.

3.2 Project Objectives

The objective of the Project is to design and build a community hall with a footprint of approximately 2100 square feet that will provide a gathering space for up to 100 people. The Project design should facilitate a variety of community uses while considering cost efficient construction. The Project will have a kitchen that is approved by Vancouver Coastal Health (no Operating Permit required) and washrooms. Landscaping work to remediate construction impacts and provide accessible access to the facility are included. The Project will be designed to be 'Net Zero Ready'.

3.3 Scope

The following stages of the Project are identified as a guide to the many tasks required in successfully completing the Project. These stages are not intended to be limiting or exhaustive. The Consultant will identify tasks, sub tasks or issues necessary for the satisfactory completion of the Project.

Stage 1 – Preconstruction

The Regional District will:

a) Engage with a Construction Manager to provide input during the design process to ensure design aligns with project schedule and budget.

The Consultant will at a minimum:

a) Lead the design process.
b) Attend project meetings.
c) Produce, for review by the Regional District, a minimum of two (2) conceptual designs informed by the attached Project Definition Report.
d) Work with the Regional Districts Project Team (which may include other consultants) to produce a schematic design based on the preferred conceptual design suitable for the project schedule/budget.
e) Work with the Regional Districts Project Team to produce a detailed design suitable for tender documents/ Issued for Construction drawings.

Stage 2 – Construction

The Consultant will at a minimum:

a) Attend regular project meetings, maintain communication with the Regional Districts Project Team.
b) Coordinate and provide construction review as needed. Minimum number of reviews needed to ensure construction meets design requirements should be included in project costs.
c) Work with the Regional District's Project Team to resolve unexpected project issues in a timely manner.

Stage 3 – Post Construction

The Consultant will at a minimum:

a) Provide assurance that the construction was completed as per design.
b) Facilitate the commissioning of the Hall.

Optional Work

The Regional District may request the Consultant to perform additional design work for projects within the park at the sole discretion of The Regional District. The additional work will include:

a) The existing park has a rudimentary bicycle skills playground that may be impacted the construction of a new hall. Facilitating the relocation of this facility may require design work.
b) The existing park has a small playground facility proximal to the proposed construction site. Assistance with layout or redesign may be required.
c) Beyond the creation of an accessible parking space, upgrades to the existing gravel parking lot to facilitate traffic flow and increase/improve available park capacity may be required. This may require additional design work if it occurs.

4. CONTRACT

4.1 General Contract Terms and Conditions

Proponents should review carefully the terms and conditions set out in the General Service Contract, including the Schedules. The selected Proponent will be requested to enter into direct contract negotiations to finalize an agreement. The terms and conditions found The General Contract terms can be found at: www.scrd.ca/bid. and are to form the basis for commencing negotiations between the Regional District and the selected Proponent.

4.2 Service Requirements

The Consultants responsibilities will include the following:

a) All work will comply with all relevant codes/regulations and ICIP grant requirements.
b) Ensuring design work is completed by qualified Professionals where needed.
c) Working with the Regional District Project team which will include a Construction Manager.
d) Providing Professional assurances that the Project is constructed to the design specifications.

4.3 Related Documents

The following related documents are available for review in the appendices:

- Appendix 1 Geotechnical Subsurface Review.
- Appendix 2 Topographic Survey.
- Appendix 3 Environmental Assessment.
- Appendix 4 Pre-Design Report.

5. REQUIREMENTS

In order for a proposal to be considered, a Proponent must clearly demonstrate that they meet the mandatory requirements set out in Section 7.1 (Mandatory Criteria) of the RFP.

This section includes “Response Guidelines” which are intended to assist Proponents in the development of their proposals in respect of the weighted criteria set out in Section 7.2 of the RFP. The Response Guidelines are not intended to be comprehensive. Proponents should use their own judgement in determining what information to provide to demonstrate that the Proponent meets or exceeds the Regional District’s expectations.

Please address each of the following items in your proposal in the order presented. Proponents may find it helpful to use the individual Response Guidelines as headings for proposal responses.

5.1 Capabilities

5.1.1 Relevant Experience

The Proponents team should include a design professional with minimum of 10 years within the past 15 years providing services of a similar scope and complexity. Any subconsultants included in its proposal should have a minimum of 5 years within the last 10 years providing similar scope and complexity. Similar scope and complexity is defined as:

a) Non-residential design projects with a construction cost greater than $1 Million
b) Prior experience with public projects.
c) Prior experience working with the Regional District would be beneficial.

5.1.2 Qualifications

Proponents need to confirm and provide evidence that:
a) Team members are accredited for the work they are responsible for.
b) Provide qualifications for the key personal and any subconsultants that have already been identified as part of the project team.

5.1.3 References

Proponents need to provide a minimum of 3 references (i.e. names and contact information) of individuals who can verify the quality of work provided specific to the relevant experience of the Proponent and of any subcontractors named in the proposal. References from the Proponent’s own organization or from named subcontractors are not acceptable.

The Regional District reserves the right to seek additional references independent of those supplied by the Proponent, including internal references in relation to the Proponent’s and any subcontractor’s performance under any past or current contracts with the Regional District or other verifications as are deemed necessary by it to verify the information contained in the proposal and to confirm the suitability of the Proponent.

5.2 Sustainable Social Procurement

A factor in the Regional District evaluation process is sustainable social procurement and the evaluation of proposals will take this into consideration.

As part of any submission the Proponent is encouraged to identify how they may contribute to the following key social, employment and economical goals, but not limited to the following:

a) Contribute to a stronger local economy by:
- promoting a Living Wage
- Using fair employment practices;
- Increase training and apprenticeship opportunities;

b) Local expertise knowledge by:
    a. Being locally owned;
    b. Utilization of local subcontractors;
c) Environmental Cost of Ownership;
d) Energy efficient products;
e) Minimal or environmental friendly use of packing materials; and
f) Reducing hazardous materials (toxics and ozone depleting substances).

5.3 Approach

Proponents should outline their role in each phase of the project as well Proponents should at a minimum provide details on

a) Any procurement activities proposed and confirm that they will meet the grant requirements.
b) How they will effectively work with the Regional Districts Project Team and ensure the project remains on schedule.
c) Their proposed approach for the optional items (Bicycle Park, Playground, and the gravel parking lot.)

5.4 Value Add

Proponents should provide details about any value-added services that they offer which can include but is not limited to: public engagement, working with other local government etc. Identify if these services are included in the price or if there are additional costs associated.

5.5 Price

Proponents need to submit a fee proposal that sets out the separate costs of each milestone / phase described as well as an all-inclusive cost for all the projects; the proposal should include a Gantt chart with breakdown of the fix prices including time, travel, hourly billable rates and material costs.

Prices quoted will be deemed to be:

- in Canadian dollars ;
- inclusive of duty, FOB destination, and delivery charges where applicable; and
- exclusive of any applicable taxes.

Proponents need to provide separate fixed prices for the additional construction site reviews, optional work, the prices should include a breakdown of time, travel, labour and material costs.

6. PROPOSAL FORMAT

Proponents should ensure that they fully respond to all requirements in the RFP in order to receive full consideration during evaluation.

The following format, sequence, and instructions should be followed in order to provide consistency in Proponent response and ensure each proposal receives full consideration. All pages should be consecutively numbered.

a) Signed cover page (see section 7.1 Mandatory Criteria).
b) Table of contents including page numbers.
c) A short (one or two page) summary of the key features of the proposal.
d) The body of the proposal, including pricing, i.e. the “Proponent Response”.
e) Appendices, appropriately tabbed and referenced.
f) Identification of Proponent (legal name)
g) Identification of Proponent contact (if different from the authorized representative) and contact information.

7. EVALUATION

Evaluation of proposals will be by a committee formed by the Regional District and may include other employees and contractors.

The Regional District’s intent is to enter into a Contract with the Proponent who has met all mandatory criteria and minimum scores (if any) and who has the highest overall ranking.

Proposals will be assessed in accordance with the entire requirement of the RFP, including mandatory and weighted criteria.

The Regional District reserves the right to be the sole judge of a qualified proponent.

The Evaluation Committee may, at its discretion, request clarifications or additional information from a Proponent with respect to any Proposal, and the Evaluation Committee may make such requests to only selected Proponents. The Evaluation Committee may consider such clarification or additional information in evaluating a Proposal.

7.1 Mandatory Criteria

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration during the evaluation process.

Mandatory Criteria
The proposal must be received at the Closing Location before the Closing Time.
The proposal must be in English.
The proposal must be submitted using one of the submission methods set out on the cover page of the RFP

Mandatory Criteria
The proposal must either (1) include a copy of the Confirmation of Proponent's Intent to be Bound that is signed by an authorized representative of the Proponent, this is also required for email submissions or (2) be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP

7.2 Weighted Criteria

Proposals meeting all of the mandatory criteria will be further assessed against the following weighted criteria.

Weighted Criteria	**Weight (%)**
Qualifications and Experience	40
Approach	30
Sustainable Social Procurement	5
Added value	5
Price	20
TOTAL	**100**

7.3 Price Evaluation

The lowest priced Proposal will receive full points for pricing. All other prices will be scored using the following formula: lowest priced proposal/price of this proposal* total points available for price.

Appendix 1 Geotechnical Subsurface Review

FRONTERA GEOTECHNICAL

1 – 38920 Queens Way
Squamish, BC, V8B 0K8
604-898-1093

Sunshine Coast Regional District
1975 Field Rd
Sechelt, BC
V7T 0A8

July 13, 2023
File: 2031-Rev1

Attention: Mr. Kyle Doyle, P.Eng

RE: Geotechnical Recommendations, Proposed Community Hall, 8108 Northwood Road, Halfmoon Bay, BC

1.0 INTRODUCTION

We understand that it is proposed to construct a new community hall on the property at 8108 Northwood Road in Halfmoon Bay, BC. The property has the legal description of PID 015-936-317.

We understand the siting and architectural design of the building has not yet been determined, however we anticipate that the proposed structure will be a one- to two-storey building with relatively light foundation loads. The new community hall will be located in the southeast corner of the property.

This report provides a summary of our site investigation, and provides geotechnical recommendations for the design and construction of the project.

This report has been prepared exclusively for our client, for their use, the use of others on their design team and the Sunshine Coast Regional District for use in the development and permitting process although it remains the property of Frontera Geotechnical Inc.

2.0 SITE DESCRIPTION

Connor Park is a Regional Park, which has an area of approximately 43 acres and is approximately rectangular in shape. The property is bound to the north and west by undeveloped lands, to the east by Halfmoon Bay Elementary School, and to the South by Northwoods Road. The property is improved with a grass field with lighting, a public washroom, parking area and dirt jumps. The proposed building location is in the southeastern corner of the property, in the area of the existing public washroom and dirt jumps.

The proposed building site slopes down across the site from north to south with grades ranging from 120 m at the top of the bike jumps down to 110 m geodetic elevation adjacent to Northwoods Road.

3.0 SITE INVESTIGATION

Frontera conducted a geotechnical investigation at the proposed building location on June 22, 2023. The investigation included 5 test pits in the area of the proposed community hall.

Prior to investigation, a BC OneCall was carried out to identify existing underground services in the area. The selected hole locations were confirmed to be clear of underground utilities by a subcontracted utility locate contractor.

The test pits were up to 2.0 m deep. The soils were logged in the field and samples were collected for further review. The approximate locations of the test holes are shown on the attached site plan, Drawing No. 2031-01.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

With reference to the geological survey prepared by McCammon[1], the local surficial geology is described as marine and glacio-marine deposits, consisting of varied gravelly, sandy, stoney, clay and clay veneer, normally over till. A general description of the soils encountered during test pitting is as follows:

TOPSOIL

Sandy organic topsoil was noted in 4 of 5 test pits. This stratum has similar properties to the underlying sand, however it is dark brown in colour and appears to have a high organic content and was noted up to 0.3 m in depth.

SAND

Fine to medium grained, compact to dense sand was noted below the topsoil layer. The sand contains a trace of subangular gravel and cobbles, and was moist.

4.2 Groundwater Conditions

Groundwater was not encountered during our site investigation, and we expect groundwater levels to be well below the proposed foundation depths. Some perched groundwater may be encountered within the glacial soils over the less permeable layers within the deposit.

5.0 DISCUSSION

5.1 General Comments

In general, the soil conditions consist of up to 0.3 m of sandy topsoil with some organics overlying fine to medium grained sand, with traces of gravels and cobbles to the full depth of our investigation. The soil conditions encountered are considered suitable to support the proposed community hall on conventional reinforced concrete foundations.

6.0 PRELIMINARY DESIGN RECOMMENDATIONS

All recommendations should be considered preliminary only and should be reviewed and updated as required once a design for the project is available.

[1] McCammon, J.W., 1975. *Sand and Gravel Deposits on the Sunshine Coast Port Mellon to Powell River, British Columbia*, Geology, Exploration and Mining in B.C., Open File GEM1974-20.

6.1 Site Preparation

6.1.1 Stripping

Site stripping beneath the proposed building includes removing any existing services, pipes, organics, topsoil, variable fill materials, and any other material considered to compromise the design recommendations stated herein to expose the underlying native granular soils.

Site stripping should extend beyond the outer edge of the foundations by a distance equal to the total thickness of fill required. For example, if 1 meter of fill is to be placed below foundations, then stripping should extend a minimum distance of 1 meter beyond the outside edge.

6.1.2 Compaction

The stripped subgrade should be compacted in place with a ride on roller prior to the placement of any engineered fill or formwork.

Frontera must be contacted to review the compacted subgrade.

6.1.3 Engineered Fill

Any grade reinstatement beneath foundations, grade supported slabs, pavement sections or hard landscaping areas should be completed with “engineered fill”. In the context of this report “engineered fill” is defined as clean sand and gravel fill, compacted in 300 mm loose lifts to a minimum standard of 95% of its Modified Proctor Maximum Dry Density (ASTM D1557) while at a moisture content that is within 2% of its optimum for compaction.

All fill materials should be placed and compacted under the review of Frontera.

6.2 Foundation Recommendations

6.2.1 Spread Foundations

Following the recommended site preparation, the native sand and gravel or engineered fill would be considered suitable to support conventional spread foundations at serviceability limit state (SLS) bearing pressure of up to 125 kPa and a factored ultimate limit state (ULS) of 250 kPa.

All foundation subgrades must be reviewed by Frontera prior to foundation construction.

6.2.2 Settlement

Post construction settlements are estimated to be less than 25 mm with differential settlements of less than 1 in 300.

6.2.3 Seismic Design of Foundations

We recommend a seismic site classification response classification for this site of “Site Class C” in accordance with Table 4.1.8.4.A of the 2018 BCBC.

The underlying soils are not considered susceptible to liquefaction triggering in consideration of the 2018 BCBC probabilistic seismic hazard, due to their density and moisture content.

6.2.4 Frost Depth

All foundations should be located at least 0.45 m below finished grades for frost protection.

6.3 Concrete Slab on Grade

All grade supported concrete slabs should be underlain by a minimum of 150 mm of 19 mm clear crushed gravel placed over the stripped subgrade or compacted “engineered fill” as described in this report. The gravel should be lightly tamped in place under the review of Frontera.

We recommend that a poly moisture barrier be placed over the gravel beneath the grade supported slabs to help reduce moisture levels within the concrete.

6.4 Site and Foundation Drainage Systems

We recommend that the building design include a conventional perimeter drainage system to help intercept and control any water at foundation level. The under-slab fill should have a hydraulic connection to the perimeter drain to help ensure water does not build up below the slab or adjacent to foundation walls. This can be achieved with weep holes or by placing gravel below foundations.

6.5 Backfill

Backfill adjacent to the foundations should be completed with free draining material such as clean sand and gravel or crushed rock fill containing less than 5% fines. The backfill should be compacted in maximum 300 mm lifts. In areas where the backfill will support hard landscaping or pavement areas the material should be compacted to a minimum of 95% of its Modified Proctor Maximum Dry Density while at a moisture content that is within 2% of its optimum for compaction.

6.6 On-site Pavement Structures

Following the recommended site preparation outlined in this report, the following pavement structure is considered sufficient to carry the vehicular loading for on-site parking areas.

Table 1: Recommended minimum pavement structure for parking areas.

Material	Thickness (mm)
Asphalt	75
19 mm minus crush gravel base	150
75 mm minus, well graded, clean, sand and gravel sub-base course	300

In areas where heavy traffic loading is expected we recommend that the asphalt thickness be increased to 100 mm.

All base and sub-base materials should be compacted to a minimum of 95% of their Modified Proctor Maximum Dry Density (ASTM D1557) at a moisture content that is within 2% of optimum for compaction.

7.0 FIELD REVIEWS

As is normally required for Municipal Letters of Assurance, Frontera Geotechnical Inc. should be asked to carry out sufficient field reviews during construction to ensure that the Geotechnical Design

recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way effect the contractor's obligations to perform under the terms of their contract.

It is the contractors' responsibility to advise Frontera Geotechnical Inc. (a minimum of 24 hours in advance) that a field review is required. Geotechnical field reviews are normally required at the time of the following:

1.	Stripping	Review of stripped subgrade prior to any fill placement
2.	Compaction	Review of compacted subgrade prior to filling
3.	Filling	Review of any engineered fill to raise grades
4.	Subgrade	Review of prepared foundation subgrade
5.	Slab-on-grade	Review of slab-on-grade preparation
6.	Backfill / frost depth	Review of adequacy of backfill and frost protection.

It is critical that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also critical that contractors working on the site view this document in advance of any work being carried out so that they become familiarized with the sensitive aspects of the works proposed. It is the responsibility of the developer to notify Frontera Geotechnical Inc. when conditions or situations not outlined within this document are encountered.

8.0 CLOSURE

This report is prepared solely for use by our client and their design team for this project as described to the general standards of similar work for similar projects in this area and no other warranty of any kind is expressed or implied. Frontera Geotechnical Inc. accepts no responsibility for any other use of this report.

We are pleased to assist you with this project, and we trust this information is helpful and sufficient for your purposes at this time. Please do not hesitate to call the undersigned if you require clarification or additional details.

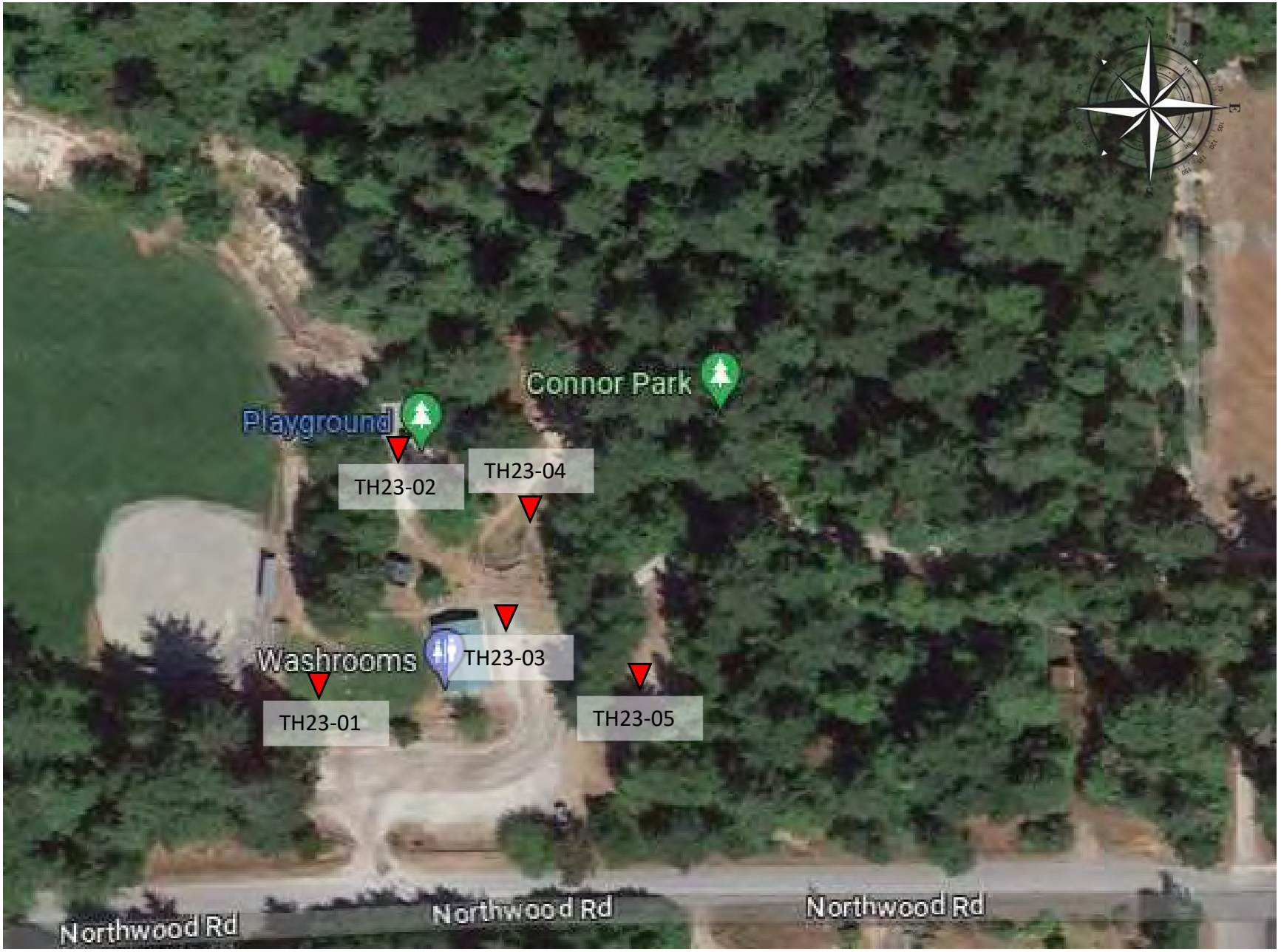
Yours truly,

Frontera Geotechnical Inc.

Reviewed by:

Kevin Hamersley, EIT
Geotechnical Engineer

Ralph Burden, P.Eng., PhD
Geotechnical Engineer



Geotechnical Investigation Plan
Proposed Community Hall
Connor Park, Halfmoon Bay, BC

FILE NO. 2031

DWG NO. 2031-01

LEGEND

▼ Test Pit Locations

Date: 2023-07-04

Drawn By:	Approved By:	Reviewed By:
KH	RB	

Scale: NTS, Locations Approximate

FRONTERA GEOTECHNICAL

APPENDIX A

TEST PIT LOGS

Test Pit Log: TH23-01

Project No.: 2031 **Client:** SCRD

Project Title: Proposed Community Hall

Project Address: 8108 Northwood Road

Geographic Coordinates: 435661.72428, 5481437.71616

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Sample Type	Water Content (%)	Comments / Additional Notes
		Ground Surface EL 0 m			
0		**TOPSOIL**			
		Fine-grained silty sand, some organics, brown, damp, compact 0.15 m EL -0.15 m			
		SAND			
		Fine to medium grained sand, trace silt, well graded, brown, damp, dense.			Layer of rounded cobbles
1					Trace rootlets to 1.1 m depth.
		1.6 m EL -1.6 m			
		Test Hole Terminated at 1.7 m			
2					
3					
4					
5					

Date of Test Pitting: July 4, 2023 **Datum:**

Excavation Method: 303 Excavator

Logged By: KH

Test Pit Log: TH23-02

Project No.: 2031 **Client:** SCRD

Project Title: Proposed Community Hall

Project Address: 8108 Northwood Road

Geographic Coordinates: 435661.43967, 5481437.37727

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Sample Type	Water Content (%)	Comments / Additional Notes
		Ground Surface EL 0 m			
0		**SAND** Fine to medium grained sand, trace silt, trace subrounded cobbles, brown, damp, dense.			Trace roots.
1					
		1.6 m EL -1.6 m			
		Test Hole Terminated at 1.6 m			
2					
3					
4					
5					

Date of Test Pitting: July 4, 2023

Datum:

Excavation Method: 303 Excavator

Logged By: KH

Test Pit Log: TH23-03

Project No.: 2031 **Client:** SCRD

Project Title: Proposed Community Hall

Project Address: 8108 Northwood Road

Geographic Coordinates: 435661.43967, 5481437.37727

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Sample Type	Water Content (%)	Comments / Additional Notes
		Ground Surface EL 0 m			
0		**TOPSOIL** Fine grained silty sand, some organics, brown, damp, compact 0.1 m EL -0.1 m			
		SAND Fine to medium grained sand, trace subangular cobbles and boulders, some roots, well-graded, dark brown, damp, compact to dense. 1.1 m EL -1.1 m			
1		**SAND** Fine to medium grained sand, trace gravel, well-graded, brown, damp, compact to dense. 1.4 m EL -1.4 m			
		Test Hole Terminated at 1.4 m			
2					
3					
4					
5					

Date of Test Pitting: July 4, 2023 **Datum:**

Excavation Method: 303 Excavator

Logged By: KH

Test Pit Log: TH23-04

Project No.: 2031 **Client:** SCRD

Project Title: Proposed Community Hall

Project Address: 8108 Northwood Road

Geographic Coordinates: 435661.43967, 5481437.37727

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Sample Type	Water Content (%)	Comments / Additional Notes
		Ground Surface EL 0 m			
0		**SAND** Fine to medium grained sand, trace subrounded gravel, trace silt, well-graded, brown-grey, damp, dense.			Rootlets
1					
		1.7 m EL -1.7 m			
		Test Hole Terminated at 1.7 m			
2					
3					
4					
5					

Date of Test Pitting: July 4, 2023

Datum:

Excavation Method: 303 Excavator

Logged By: KH

Test Pit Log: TH23-05

Project No.: 2031 **Client:** SCRD

Project Title: Proposed Community Hall

Project Address: 8108 Northwood Road

Geographic Coordinates: 435661.43967, 5481437.37727

FRONTERA GEOTECHNICAL
#1 - 38920 Queens Way
Squamish, BC V8B 0K8
604-898-1093
www.fronterageo.ca

Depth (m)	Strata	Description	Sample Type	Water Content (%)	Comments / Additional Notes
		Ground Surface EL 0 m			
0		**SAND** Fine to medium grained sand, trace subrounded gravel, well-graded, brown, damp, dense.			
1					Rootlets to 0.9 m.
		1.3 m EL -1.3 m Test Hole Terminated at 1.3 m			Test pit terminated on hardpan.
2					
3					
4					
5					

Date of Test Pitting: July 4, 2023 **Datum:**

Excavation Method: 303 Excavator

Logged By: KH **Page:** 1 of 1

Appendix 2 Topographic Survey

TOPOGRAPHIC PLAN OF PART OF BLOCK A DISTRICT LOT 1623 G.1 NWD – CONNOR PARK

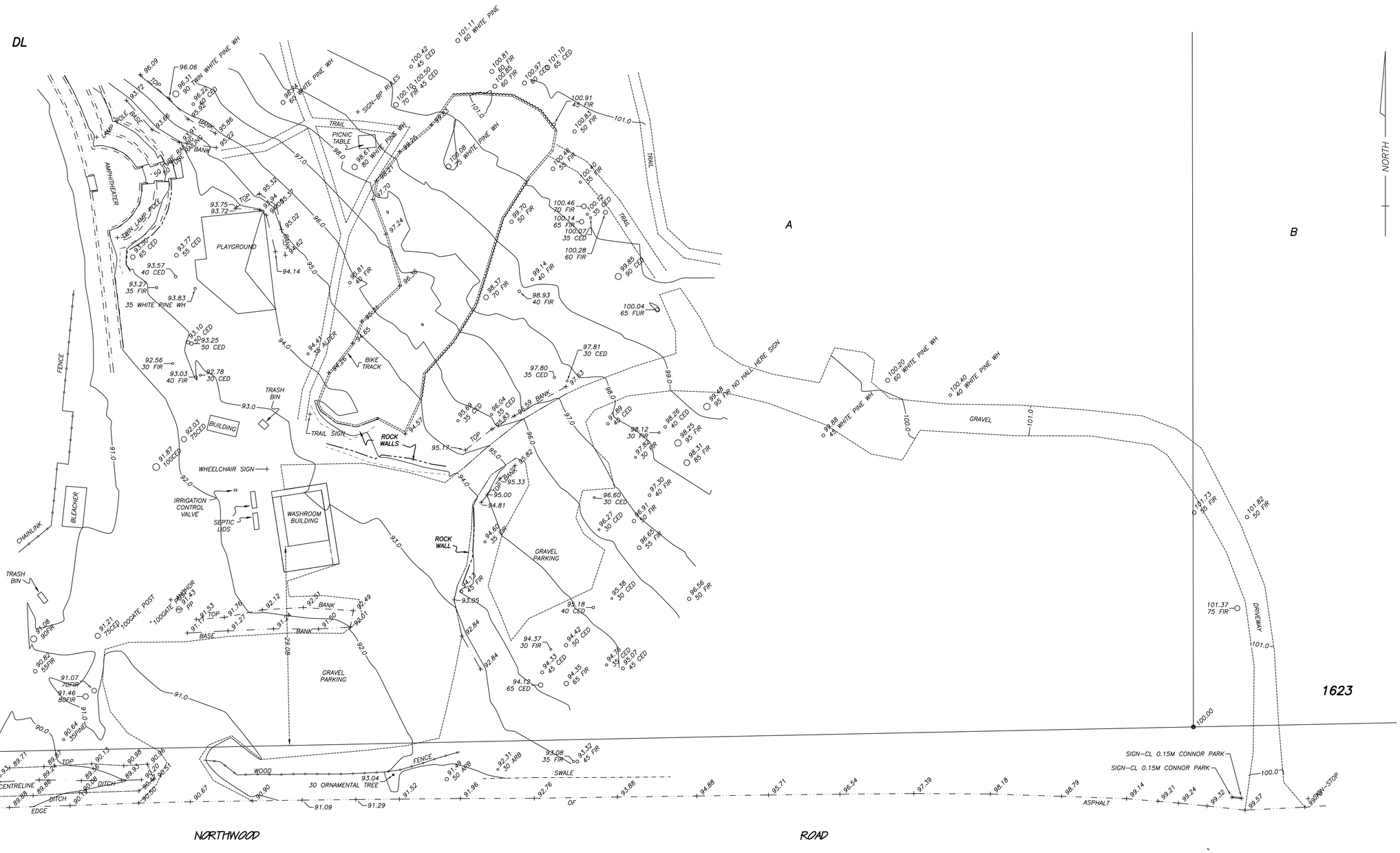
5 0 5 10 15 20

SCALE – 1:300 (METRES)

LOCATION: 8108 NORTHWOOD ROAD, HALFMOON BAY, BC
PID: 015–936–317

LEGEND:

- 100.00 — DENOTES A STANDARD IRON POST FOUND
- x94.14 — DENOTES GROUND ELEVATION
- 98.37 70 FIR — DENOTES TREE, SPECIES AND SIZE (ø, CM) LISTED
- DENOTES A FENCE
- DENOTES EDGE OF CLEARING



NOTE:

ALL DISTANCES ARE IN METRES.

CONTOUR INTERVAL IS 1m.

ELEVATIONS ARE IN METRES AND REFERENCED TO AN ASSUMED DATUM.

THIS PLAN IS FOR PRELIMINARY DESIGN PURPOSES ONLY AND REPRESENTATIVE OF FEATURES AND STRUCTURES AT THE TIME OF THE SURVEY. FINAL BUILDING LOCATIONS MUST BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.

TREE SPECIES AND DIMENSIONS SHOULD BE VERIFIED BY A QUALIFIED ARBORIST PRIOR TO DESIGN AND PERMIT APPLICATION.

LOT DIMENSIONS ARE DERIVED FROM FIELD MEASUREMENTS AND FROM REGISTERED LTO PLANS.

DIMENSIONS ARE TO EXTERIOR OF MAIN WALL.

THIS PLAN WAS PREPARED FOR THE EXCLUSIVE USE OF SCRD.

DATE OF SURVEY:
JUNE 28, 2023

STRAIT LAND SURVEYING INC.
SEAMUS POPE, BCLS
BOX 61 (5689 DOLPHIN ST)
SECHELT, BC V0N 3A0
T. 604.885.3237

23114–807

Appendix 3 Environmental Assessment

Note:
Coastal Raintree Consulting will not respond to any inquiries about this report. All communication must be directed to the contact information on the cover page.

ENVIRONMENTAL IMPACT ASSESSMENT REPORT TO SUPPORT THE FUTURE DEVELOPMENT OF C**H'EMALAK (C**ONNOR) PARK, HALFMOON BAY, BC

Prepared for:

Sunshine Coast Regional District (SCRD)

Prepared by:

COASTAL RAINTREE CONSULTING, Ltd.

Gibsons, British Columbia

July 2023

TABLE OF CONTENTS

LIMITATIONS OF THIS REPORT 4
1. INTRODUCTION 5
2. SITE DESCRIPTION 6
2.1 Project Area 6
3.0 PAST AND PROPOSED ACTIVITIES 6
3.1 Past Development 6
3.2 New Proposed Development 7
4.0 NATURAL FEATURES 7
4.1 Biological Assessment 7
4.1.1 Biogeoclimatic zone 7
4.1.2 Sensitive, unique, and/or protected species within the boundaries of the proposed Project Area. 8
4.1.2.1 Sensitive, unique, and/or protected bird species. 9
4.1.2.2 Sensitive, unique, and/or other protected animal species. 13
4.2 Ecological Values Within the Project Area 14
4.2.1 Vegetation cover, including tree species, dominant species, and presence of invasive species. 14
4.2.2 Wildlife signs, including scat, wildlife trees etc. 17
4.2.3 Visual inspection for potential watercourses within the project area. 17
4.3 Marking of Sensitive and/or Protected Trees Within the Project Area 17
5.0 POTENTIAL THREATS TO THE ECOSYSTEM OF THE PARK RELATED TO THE PROPOSED DEVELOPMENT AND MITIGATION STRATEGIES 18
5.1 Potential Threats to the Ecosystem of the Park 18
5.2 Guidance on Mitigation Strategies and General Recommendations 19
5.2.1 Site Selection for the Proposed Development 19
5.2.2 Tree Protection Areas (TPAs) for Large and Very Large Trees 20
5.2.3 Protection of Potential Species-At-Risk 21
5.2.4 Invasive Plant Species 24
5.2.5 Spill Prevention 25
5.2.6 Environmental Permitting 25
5.2.7 Additional Recommendations 25

6. PROFESSIONAL OPINION 27
7. REFERENCES 28
8. SIGNATURES 30
FIGURES 31
APPENDIX A 43
APPENDIX B 45

LIMITATIONS OF THIS REPORT

This report and its contents are intended for the sole use of Sunshine Coast Regional District (SCRD) and their agents. Coastal Raintree Consulting, Ltd. does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in this report when the report is used or relied upon by any Party other than Sunshine Coast Regional District (SCRD) or for any project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Coastal Raintree Consulting, Ltd.'s General Conditions are provided in Appendix A of this report.

1. INTRODUCTION

On June 2nd , 2023, Kyle Doyle, on behalf of the Sunshine Coast Regional District (SCRD), sent to Coastal Raintree Consulting, Ltd. (CRC) a Request For Proposal (RFP) for completing an Environmental Impact Assessment (EIA) to support the proposed construction of a new Community Hall for Halfmoon Bay in ch'emelak (Connor) Park (hereafter referred to as Connor Park). The EIA is needed to determine potential short- and/or long-term impacts of the proposed new Community Hall (hereafter referred to as the *Proposed Development*) within Connor Park, located at 8101 Northwood Rd., Halfmoon Bay, BC (PID 015-936-317; Figure 1). Halfmoon Bay is one of the five electoral areas of the SCRD.

Specifically, the SCRD required the EIA to fulfill the objectives listed below:

1) Identify and record any sensitive, unique, and/or protected species and ecosystems within the boundaries of the proposed Project Area (Figure 2),

2) Identify ecological values within the Project Area, including:

- Vegetation cover, including tree species, dominant species, and presence of invasive species,
- Wildlife signs, including scat, wildlife trees etc.,
- Conduct a visual inspection for potential watercourses within the project area.

3) Mark onsite with flagging tape any sensitive and/or protected timber in the proposed project area.

4) Identify any potential threats to the ecosystem of the park related to the *Proposed Development* and develop guidance on mitigation strategies.

5) Provide SCRD with a report that includes a summary of findings, possible impacts of the *Proposed Development*, and potential strategies/ recommendations to mitigate those impacts.

CRC completed and submitted the RFP for the present EIA on June 14, 2023, and received authorization from Kyle Doyle to proceed on June 29, 2023. A General Service Contract between the SCRD and CRC providing applicable terms and schedules was completed and submitted by CRC on July 11, 2023.

None of the statements, recommendations or professional opinions within this EIA shall be understood, expressly or impliedly, as an authorization to initiate any construction, development, or landscaping activity inside or outside the proposed project area. Such activities shall only commence after designated authorities by the SCRD grant the necessary approvals and permits.

The present EIA focuses exclusively on the biological components listed above within the proposed Project Area. Other biological components not listed within this assessment, as well as geotechnical and/or hydrological factors and risks, such as soil erosion or flooding, that may potentially arise during the site preparation, construction, or landscaping phases of the *Proposed Development*, are expressly excluded.

2. SITE DESCRIPTION

2.1 Project Area

The Project Area is a rectangular land polygon with an approximate area of 11,970 m^2 (1.2 ha) located on the Southeast corner of Connor Park (Figure 2). Connor Park, together with its sister site, the Welcome Woods Wilderness Park, is one of the three main parks administered by the SCRD within Halfmoon Bay (SCRD, 2014*a*). The park has an approximate area of 176,200 m^2 (17.6 ha) and falls within the Community Recreation & Conservation and Agricultural Land Reserve designations (SCRD, 2014*b*). The Project Area represents 6.8% of Connor Park. For the preparation of this EIA, the Project Area and adjacent areas within Connor Park were visited on July 8 and 15, 2023.

The Project Area retains approximately 64% of its tree cover. A detailed description of the tree cover and vegetation is presented in Section 4 of this document. The remaining 36% is occupied by access and service areas, including parking space, washrooms, a playground and skill areas, and a gravel access road to a cellphone tower. The location of these areas is presented in Figure 2.

The streets and properties surrounding the Project Area are described as follows:

North side – Hiking and bike trails within Connor Park.
West side – A sport field within Connor Park.
East side – Halfmoon Bay elementary school.
South side – Northwood Rd.

3.0 PAST AND PROPOSED ACTIVITIES

3.1 Past Development

A review of the digital repository of aerial photographs hosted by the provincial Base Map Online Store (BMOS) and/or the SCRD GIS platform suggests that the area

occupied today by Connor Park was fully forested in 1976. Early development of the sports field and the West corner of the Project Area appear to have started between 1980 and 1982. With the exception of the current washroom facility, likely built c. 2012, most of the general areas listed in the previous section are clearly visible on images from 2009 (Figure 3).

3.2 New Proposed Development

The proposed new Community Hall is currently planned to be a 2,000 sq ft (approx.) facility designed to facilitate small-medium gatherings and provide a community kitchen. Details regarding the location of this structure have not been finalized, but the SCRD intends to select a site within one of the existing disturbed areas of the park, aiming to minimize potential impacts on mature trees and forested areas (K. Doyle, SCRD, email communication, June 2, 2023).

4.0 NATURAL FEATURES

4.1 Biological Assessment

CRC completed two field surveys to characterize the main natural features of the Project Area and adjacent sections within Connor Park. The first survey, completed on July 8, 2023, focused on identifying species-at-risk and sensitive habitats. The second visit, on July 15, 2023, focused on identifying sensitive plant species and documenting the general composition and structure of the vegetation. Trees recommended to be protected were identified and marked with flagging tape during the second survey. Methodological details and rationale used during these tasks are presented in the following sections.

A summary of the biogeoclimatic characteristics of the Project Area, as well as the findings documented during the two field surveys, are presented below, following the structure requested by the SCRD for this EIA.

4.1.1 Biogeoclimatic zone

In order to better understand, catalogue and monitor the physical and biological characteristics of the Province of British Columbia, the BC Ministry of Forest established the Bioclimatic Ecosystem Classification (BEC) system in 1976. Using key features of climax vegetation communities, the BEC system divides the province into 16 distinct large geographical areas with a relatively uniform climate, known as

biogeoclimatic (BGC) zones, which are named after key climax species (CFCG*a*, n.d.), including the Coastal Douglas Fir (CDF) zone, where the Project Area is located.

The CDF zone is one of the smallest zones in the province, covering only 0.3% of BC, and it is limited to a small part on the southeastern of Vancouver Island, the Gulf Islands, the northwest of Texada Island and a narrow strip of the adjacent mainland, including a small section of the Sechelt peninsula (CFCG*b*, n.d). The CDF zone is home to the highest number of species and ecosystems at risk in BC, many of which are ranked globally as imperilled or critically imperilled and contain the highest diversity of plant species in the province and the highest diversity of over-wintering bird species in Canada (CDFCP, 2022*a*).

4.1.2 Sensitive, unique, and/or protected species within the boundaries of the proposed Project Area.

CRC commissioned the biological assessment components related to species at risk, including a bird survey to M.Sc. Brent Matsuda from Biodiversity West Environmental Consulting (Biodiversity West). Mr. Matsuda is a Registered Professional Biologist (RPBio) and senior-level ecologist/environmental scientist with over 30 years of experience in the natural resources sector. His work has a special focus on surveys, monitoring, habitat and impact assessment for birds, amphibians, small mammals, invertebrates and fish. His experience also includes designing and overseeing the collection, synthesis, quality control, and analysis of data and survey methods, including habitat mapping, rating, and modelling, as well as writing, editing, and senior review of proposals, reports, and memos under Canadian and American regulatory requirements.

A desktop assessment of the project site indicated no wildlife species listed under the Federal Species at Risk Act (SARA) occurring within the Project Area or within Connor Park. A search of the Provincial database program (iMap, BC CDC, 2023) noted two occurrences of Northern Red-legged Frog (*Rana aurora*; SARA Special Concern) within 2 kilometres (km) of Connor Park recorded at the northern and southern portions of Sargeant Bay Provincial Park – one occurrence to the southeast between Redroofs Road and Sargeant Bay, and the other occurrence at Triangle Lake to the northeast. Triangle Lake has also been classified as Critical Habitat for the Western Painted Turtle Pacific Coast population (*Chrysemys picta bellii*; SARA Threatened). In addition, there are masked occurrences (i.e., confidential data/specific locations undisclosed) for Little Brown Myotis (*Myotis lucifugus*; SARA Endangered) and other non-SARA-listed bat species occurring within the Halfmoon Bay area.

Connor Park occurs within the range of the Northern Goshawk, *laingi* subspecies (*Accipiter gentilis laingi*) and Western Screech-Owl, kennicottii subspecies

(*Megascops kennicottii kennicottii*), both of which are SARA Threatened and provincially Blue-listed (i.e., any native species or ecological community considered to be of Special Concern in BC). However, given the level of disturbance and close proximity to ongoing anthropogenic activities occurring in Connor Park, limited nesting habitat, and SCRD's expressed intention of not removing large trees, if possible (K. Doyle, SCRD, email communication, June 2, 2023), it was determined that surveys for these species would not be needed as there is a low likelihood of nesting occurring at the site.

The first site visit was conducted on July 8, 2023, by Senior Wildlife Biologist Brent Matsuda, RPBio. of Biodiversity West, accompanied by Senior Forest Ecologist David Galvez, PhD, RPBio of CRC. As the site occurs in a public park managed by the SCRD, it was readily accessed by car, parking in the gravel parking lot by one of the existing permanent structures on the Project Area (*i.e.*, the washroom facility) and walking the trails networking the site and surrounding area.

Any visual indicators of wildlife presence were noted during the site visit (*e.g.*, tracks, scat, tree cavities), including sightings and vocalizations of any wildlife species (*e.g.*, birds, mammals) while assessing the habitat for potential wildlife occupancy or use, and watching for indications of habitat use by any SAR.

The complete report detailing the methodology and results of the assessment completed by RPBio. Matsuda is included in Appendix B. A synthesis of the main findings and recommendations from his report is presented below.

4.1.2.1 Sensitive, unique, and/or protected bird species.

Two breeding bird stations were established – one station between the existing larger building (washrooms) and the sports playing field, and a second one as far away as possible (~170 m) at the northeastern corner of the Project Area to try to avoid double-counting of the same birds. Variable radius point count surveys were conducted for five minutes at each station as this methodology can accommodate a wide range of bird species that possess different singing styles that may occur in different habitats.

Surveyors waited at least one minute upon arriving at each station to allow for bird activity to resume before beginning the survey. During this time, habitat and weather variables were recorded for the station. Care was taken not to disturb birds when approaching the survey station. Birds were then recorded by sight or call for five minutes at each station. For each bird detected, the distance and direction from the station center to each bird was estimated from the location where it was first

detected. Bird location was recorded onto a detection circle in a field notebook similar to that used on the Point Count Form from MOELP (1999). The detection circle is subdivided into concentric rings of 10 m intervals to aid in marking detection locations, with the number of birds recorded, along with observation type (visual or vocal) and flight path in cases of flyovers. All birds detected were counted and recorded regardless of their distance from the point of detection. Birds not recorded during the five-minute interval but detected before or after the survey time were noted as incidental observations.

While the distance between the stations was slightly less than the recommended minimum 200 m interstation distance for breeding bird point count surveys (MOELP 1999), there was a relatively low risk of double-counting birds during surveys as it was audibly clear which birds were recorded at the first station as they continued singing during the walk to the second station. Regardless, double-counted birds would also be inconsequential as the objective was to detect species potentially breeding at the site and not assess any population parameters (e.g., density, abundance).

From the first breeding bird survey station (Station A; UTM 10U - 435641 5481436), the team walked along the gravel road intersecting the site to the northeastern portion of the lot and walked approximately 5 m into the forest along a vegetated trail to establish the second station (Station B; UTM 10U - 435775 5481467). The location and habitat details for each of the bird survey stations are presented in Table 1.

Table 1. Bird Survey Station Details.

Survey Station	Location UTM	Habitat Description
Station A	10U - 435641 5481436	Open edge habitat in mowed grassy area beside washroom facility and between baseball diamond and gravel parking lot; large surrounding trees included Douglas-fir and Western Redcedar.
Station B	10U - 435775 5481467	Station located on a forested trail within 5-m of a gravel road going through the site. Overhead canopy consisted of Western Redcedar, Western Hemlock, Lodgepole and White Pine, and Red Alder; understory of Salal, Bracken Fern, and Red Huckleberry.

After the bird surveys, the team walked along the perimeter of the Project Area and traversed the site multiple times to assess the habitat within. The team then

continued along the J-Lo trail to the north to evaluate habitat in the surrounding area that could potentially influence wildlife habitat use and occupancy. This included Colvin Creek, which is the nearest watercourse, located approximately 600 m northeast of the project site, to assess whether any wildlife or habitat associated with riparian zones may have any bearing on species occurring in the area relevant to the proposed development activities.

There were 16 bird species visually or auditory detected during the site assessment combining the point count surveys and incidental observations (Table 2). None of the birds observed were sensitive species or species at risk. The conservation status of all 16 species in BC is listed as Yellow. Yellow listed species Includes species or ecological communities that are apparently secure and not at risk of extinction.

Table 2. Bird species detected during the site assessment on July 8, 2023.

	Common Name	Scientific Name	Conservation status (BC)	Observation Location
1	American Crow	*Corvus brachyrhynchos*	Yellow	Incidental
2	American Robin	*Turdus migratorius*	Yellow	Station A, B, Incidental
3	Black-headed Grosbeak	*Pheucticus melanocephalus*	Yellow	Incidental
4	Brown Creeper	*Certhia americana*	Yellow	Station B
5	Canada Goose	*Branta canadensis*	Yellow	Incidental
6	Chestnut-backed Chickadee	*Poecile rufescens*	Yellow	Incidental
7	Common Raven	*Corvus corax*	Yellow	Incidental
8	Dark-eyed Junco	*Junco hyemalis*	Yellow	Incidental
9	Hammond's Flycatcher	*Empidonax hammondii*	Yellow	Incidental
10	Pileated Woodpecker	*Dryocopus pileatus*	Yellow	Incidental
11	Red-breasted Nuthatch	*Sitta canadensis*	Yellow	Incidental
12	Spotted Towhee	*Pipilo maculatus*	Yellow	Station A, B
13	Swainson's Thrush	*Catharus ustulatus*	Yellow	Station A, B
14	Turkey Vulture	*Cathartes aura*	Yellow	Incidental
15	Warbling Vireo	*Vireo gilvus*	Yellow	Incidental
16	Yellow-rumped Warbler	*Setophaga coronata*	Yellow	Incidental

While no Pileated Woodpecker (*Dryocopus pileatus*) was seen or heard, occurrence was noted based on the number of Pileated Woodpecker feeding excavations observed on site. As the largest woodpecker in BC, their feeding excavations have a very distinctive rectangular shape (Figure 4). Feeding holes of other woodpecker species were also observed throughout the site and surrounding area, likely the result of sapsuckers (*Sphyrapicus sp.)* (Figure 5) which typically make vertical rows of machinegun bullet-hole-like patterns. However, the site and surrounding forest provide suitable feeding and nesting habitat for several woodpecker species, which identification based on feeding excavations can be very difficult.

Given the time of day in which the point counts were conducted, the point count survey findings should not be considered a reliable indicator of all bird species potentially breeding at the site (*i.e.*, some bird species may be more active at earlier or later times during the day). The number of bird species detected incidentally exceeded the number of species detected during the point counts indicating that time of day likely had a bearing on bird activity. However, this assessment provides insight as to which species occur at the site and thus could potentially be nesting during the breeding season.

Based on the nesting calendar query tool provided by Birds Canada (Birds Canada, n.d.), there are 312 bird species known to nest within the Georgia Lowland Ecodistrict, which extends from Bowen Island near West Vancouver to Lund north of Powell River and includes the Sunshine Coast. Most of these species (90%) nest between March 15 and July 31, with only two species, Golden Eagle (*Aquila chrysaetos*) and Bald Eagle (*Haliaeetus leucocephalus*), potentially nesting prior to March, and one species, Turkey Vulture (*Cathartes aura*), potentially nesting into early September. However, Golden Eagles and Turkey Vultures are unlikely to nest in the vicinity of the project site due to the absence of sufficient habitat.

No birds appeared to be using the two small building (washroom) structures on site for nesting. The smaller of the two buildings located closest to the playing fields did have numerous small gaps within the wooden structure, which could potentially be accessed by bats (Figure 6). However, as these are the old, decommissioned washrooms, the building was locked and could not be accessed for further assessment of its interior. It is recommended that both buildings be checked for bat presence if either are to be demolished as part of the development project. If bats are detected, then the BC Ministry of Environment and Climate Change Strategy should be immediately contacted regarding mitigation measures.

4.1.2.2 Sensitive, unique, and/or other protected animal species.

Connor Park occurs within the range of several amphibian species, including SARA Special Concern species such as the Western Toad (*Anaxyrus boreas*) and Red-legged Frog. These species would likely only transit through the assessment area, if at all, given the lack of any freshwater habitat and proximity to any suitable breeding sites. Common species, such as the Pacific Treefrog (*Pseudacris regilla*), are the most likely amphibian species that would occur at the site. This species is highly mobile and flexible in its life history strategy and will not pose any issues to the project if it does occur on-site.

The nearest watercourse, a tributary of Colvin Creek, consisted of stagnating water pools with little to no flow (Figure 7), some of which will likely dry up in the coming weeks in the absence of rain. While it may be suitable as a movement corridor for wildlife (*e.g.*, Red-legged Frog), with some pools providing potential breeding habitat for amphibians such as Pacific Treefrog, Northwestern Salamander (*Ambystoma gracile*) and Long-toed Salamander (*Ambystoma macrodactylum*), the habitat is not suitable for Western Painted Turtle. This creek will have no bearing on the project from a wildlife perspective.

A gartersnake, likely a Common Gartersnake (*Thamnophis sirtalis*), was briefly glimpsed on the School Daze trail outside the Project Area (UTM 10U 435789 5481672) but within Connor Park. BC's other two gartersnake species, the Western Gartersnake (*T. elegans*) and the Northwestern Gartersnake (*T. ordinoides*), also likely occur within Connor Park and adjacent areas. However, none should pose any issues to the project unless a hibernaculum is discovered within the Project Area, in which case a relocation salvage may be required to avoid contravention of the BC Wildlife Act. Based on the habitat observed during the site visit, suitable hibernacula habitat does not occur within the Project Area, but any of these species may use the area for summer foraging.

There are no Species at Risk invertebrates (e.g., insects, arachnids, mollusks) known to occur within the Project Area or in close proximity. Cursory observations of Swallowtail Butterfly (*Papilio sp.*), Ten-lined June beetle (*Polyphylla decemlineata*), and a Yellowjacket (*Vespula sp.*) nest in the top of the existing washroom structure were noted around the structure, but an insect survey was not conducted as it was beyond the scope needed for this assessment.

4.1.3 Sensitive, unique, and/or protected ecosystems within the boundaries of the proposed Project Area.

There are 29 ecological communities within the Coastal Douglas Fir (CDF) biogeoclimatic zone in BC, with eight catalogued as forest communities (CDFCP, 2022*b*). One of these communities, the Grand Fir / Three-leaved Foamflower (GF/FF) Ecological Community, occurs in the Northeast corner of Connor Park outside the Project Area (Figure 8). According to the BC Conservation Data Centre (2009), mature and old forests of the GF/FF Ecological Community are dominated by Western Redcedar (*Thuja plicata*) and Grand fir (*Abies grandis*) with a moderate cover of Douglas-fir (*Pseudotsuga menziesii*) and, in some cases, Western hemlock (*Tsuga heterophylla*). The tree layer may also include a low cover of Western flowering dogwood (*Cornus nuttallii*), Bigleaf maple (*Acer macrophyllum*), and Western yew (*Taxus brevifolia*). Common species of the sparse shrub layer include Dull Oregon grape (*Mahonia nervosa*) and occasionally salal (*Gaultheria shallon*). The two dominant species of the herb layer are Sword fern (*Polystichum munitum*) and Three-leaved foamflower (*Tiarella trifoliata*). With the exception of sword fern, the herb layer generally has a low cover. Oregon beaked moss (*Kindbergia oregana*), and palm tree moss (*Leucolepis menziesii*) are frequently found in the moss layer. This layer is not well developed (Nuszdorfer *et al*., 1991).

The GF/FF Ecological Community is considered Red listed in British Columbia with an S1 conservation rank. The province assigns specific conservation status to species and ecosystems to help set conservation priorities. Based on their conservation status, species and ecosystems are added to the red, blue or yellow provincial list. The provincial Red list includes any species or ecosystem at risk of being lost (extirpated, endangered or threatened), while the S1 rank indicates *Critically imperilled* (Government of British Columbia, n.d.).

The Douglas-fir / Dull Oregon-grape community, another Red listed plant ecological community within the CDF biogeoclimatic zone, occurs within 1,000 m from the Project Area, outside Connor Park (Figure 8).

4.2 Ecological Values Within the Project Area

4.2.1 Vegetation cover, including tree species, dominant species, and presence of invasive species.

The site contained a mix of coniferous and deciduous tree species dominated by Douglas-fir (*Pseudotsuga menziesii*), Western Redcedar (*Thuja plicata*), Western Hemlock (*Tsuga heterophylla*), Red Alder (*Alnus rubra*) and Bigleaf Maple (*Acer macrophyllum*) interspersed with Western White Pine (*Pinus monticola*) and Lodgepole Pine (*Pinus contorta*) and sporadic Paper Birch (*Betula papyrifera*) and Arbutus (*Arbutus menziesii*). Numerous Western White Pine trees were found already labelled with large signage identifying their common names. An ornamental Maple

tree (*Acer sp*.), Common Hawthorn (*Crataegus monogyna*), and Cherry trees (*Prunus sp*.) were growing along the edge of the parking lot. Dominant native understory vegetation included Salal (*Gaultheria shallon*), Oregon Grape (*Mahonia aquifolium*), Red Huckleberry (*Vaccinium parvifolium*), Salmonberry (*Rubus spectabilis*), and Bracken Fern (*Pteridium aquilinum*). Prominent non-native species occurring around open disturbed areas (*e.g.*, along the trail beside Northwood Road, parking lot, and near the cellular tower) included Himalayan Blackberry (*Rubus armeniacus*), Hairy Cat's Ear (*Hypochaeris radicata*) both invasive plant species and Common Plantain (*Plantago major*), Common Dandelion (*Taraxacum officinale*) and unidentified grass species.

No rare plant species or communities are known to occur at the Project Area, and none were observed. All vegetation species that could be identified, whether native or non-native, were recorded and are presented in Table 3. A total of 27 species were incidentally noted during the assessment, although more species will occur than were detected by our cursory vegetation assessment.

Table 3. Vegetation species observed during the site visit on July 8, 2023

	Common Name	Scientific Name
1	Arbutus	*Arbutus menziesii*
2	Bigleaf Maple	*Acer macrophyllum*
3	Birch, Paper	*Betula papyrifera*
4	Cherry	*Prunus sp.*
5	Common Hawthorn	*Crataegus monogyna*
6	Hairy Cat's Ear	*Hypochaeris radicata*
7	Dandelion, Common	*Taraxacum officinale*
8	Douglas-fir	*Pseudotsuga menziesii*
9	Fern, Bracken	*Pteridium aquilinum*
10	Fern, Sword	*Polystichum munitum*
11	Fern, Wood	*Dryopteris sp.*
12	Grand Fir	*Abies grandis*
13	Hawksbeard, Smooth	*Crepis capillaris*
14	Himalayan Blackberry	*Rubus armeniacus*
15	Oregon-grape	*Mahonia nervosa*
16	Pine, Lodgepole/Shore	*Pinus contorta*
17	Pine, Western White	*Pinus monticola*
18	Plantain, Common	*Plantago major*
19	Plantain, Rattlesnake	*Goodyera oblongifolia*
20	Red Alder	*Alnus rubra*
21	Red Huckleberry	*Vaccinium parvifolium*

	Common Name	Scientific Name
22	Rose Campion	*Silene coronaria*
23	Salal	*Gaultheria shallon*
24	Salmonberry	*Rubus spectabilis*
25	Thimbleberry	*Rubus parviflorus*
26	Western Hemlock	*Tsuga heterophylla*
27	Western Redcedar	*Thuja plicata*

To facilitate a detailed characterization of the dominant plant species and key vegetation features of the Project Area, treed areas were divided into three polygons, referred to in this document as the Northwest Corner, North and South sections (Figure 9).

During the second field visit, completed on July 15, 2023, Senior Restoration Ecologist Anayansi Cohen-Fernandez, PhD, RPBio. and Senior Ecologist David Galvez, PhD, RPBio. from CRC, traversed multiple times each of the three treed sections identified in the Project Area to describe the species composition and structure of the vegetation. Trees with a diameter at breast height (DBH) between 60 cm and 100 cm and Western white pines and Arbutus trees with a DBH equal to or larger than 30 cm are referred to as *Large Trees* in the sections below. Trees with a DBH larger than 100 cm are referred to as *Very Large Trees*. Details and rationale for this stratification are presented in Section 4.3 of this document. A description of the vegetation in the Northwest corner, North and South sections of the Project Area is presented below.

Northwest corner Section

The Northwest corner of the Project Area has a tree cover of approximately 849.7 m^2 (i.e., 11.1% of the total forested area). One *Very Large Tree* (a Western Redcedar) and six *Large Trees* (three Western Redcedar, two Western white pine and one Arbutus)(Figure 9) were recorded in this section. Western Redcedar is the dominant tree species. Small salal bushes (i.e., less than 1 m tall) are abundant in the understory. Red huckleberry (*Vaccinium parvifolium*) and bracken ferns (*Pteridium aquilinum*) were also observed in this section.

North Section

The North Section has a tree cover of approximately 2942.7 m^2 (i.e., 38.3% of the total forested area). Two *Very Large Trees* (both Western Redcedars) and thirteen *Large Trees* (eight Douglas-fir and five Western white pines) (Figure 9) were recorded in this section. Douglas-fir is the dominant tree species. The understory of the North Section contains a mostly dense matrix of young Douglas-fir, Western Redcedar, Western white pine, Shore pine (*Pinus contorta* var. *contorta*) and Red

alder (*Alnus rubra*) saplings, as well as abundant salal, dull Oregon grape and bracken fern. One large Scotch Broom (*Cytisus scoparius*) and a few small bushes of Himalayan blackberries (*Rubus armeniacus*), both invasive plant species, were observed in this section.

South Section

The South Section has a tree cover of approximately 3885.3 m^2 (i.e., 50.6% of the total forested area). Two *Very Large Trees* (both Douglas-fir) and twelve *Large Trees* (five Douglas-fir, two Western Redcedar and four Arbutus) (Figure 9) were recorded. Douglas-fir is the dominant tree species. The tree coverage in the South Section is partially interrupted by two small gaps colonized by dense thickets of salal and a communication tower and its service area. The species composition and structure of the understory of the South Section are similar to those observed in the North Section, containing a mostly dense matrix of young Douglas-fir, Western Redcedar, Western white pine, Shore pine (*Pinus contorta* var. *contorta*) and Red alder (*Alnus rubra*) saplings, as well as abundant salal, dull Oregon grape and bracken ferns. Small bushes of Himalayan blackberries are also present in this section.

4.2.2 Wildlife signs, including scat, wildlife trees etc.

Coyote (*Canis latrans*) scat was observed outside the Project Area within Connor Park (UTM 10U 435722 5481577; Figure 10). Black Bear (*Ursus americanus*), Columbian Black-tailed Deer (*Odocoileus hemionus columbianus*), and Grey Wolf (*Canis lupus*) are known to occur throughout the area but were not observed during the field visit. The only mammal detected during the site visit was a Douglas Squirrel (*Tamiasciurus douglasii*), and squirrel middens were observed within the site and throughout the surrounding area. It is likely that the site is also used or occupied by other rodents, mustelids (weasels, mink), and insectivores such as shrews and moles.

4.2.3 Visual inspection for potential watercourses within the project area.

CRC personnel did not identify any creek, pond, wetland or seasonal watercourses or wet areas within the Project Area during any of the two site visits completed during the preparation of this report. During the site visit completed on July 8, 2023, B. Matsuda and D. Galvez followed the trail network of Connor Park, starting from the J-Lo trail on the North Section of the Project Area, for approximately 600 m until reaching a seasonal tributary of Colvin Creek, outside the park. This seasonal water course was deemed unsuitable for supporting fish or fish habitat or habitat for the Pacific Coast population of Western Painted Turtle (*Chrysemys picta*).

4.3 Marking of Sensitive and/or Protected Trees Within the Project Area

During the field visit completed on July 15, 2023, CRC personnel traversed multiple times each of the three treed sections identified in the Project Area to identify and geolocate all trees with a diameter at breast height (DBH; approximately 1.3 m (4.3 ft) above ground) equal to or larger than 60 cm. Western white pines (*Pinus monticola*) and Arbutus trees *(Arbutus menziesii*), both Yellow-listed species in BC (*i.e.*, the species are apparently secure and not at risk of extinction; BC Species & Ecosystem Explorer, 2023) with a DBH equal to or larger than 30 cm were also identified, geolocated and measured since both species have an expected percent cover in natural forests lower than 1% (CFCGc, n.d.). DBH measurements were completed by recording the DBH of each tree at perpendicular points with a Haglof Mantax Blue tree calliper (Figure 11). The Geolocation data was captured using a Garmin GPSMAP 64ST handheld device with an accuracy of +/- 3.65 m.

5.0 POTENTIAL THREATS TO THE ECOSYSTEM OF THE PARK RELATED TO THE PROPOSED DEVELOPMENT AND MITIGATION STRATEGIES

CRC considered two phases of the proposed development to assess the potential threats to the ecosystem of the park and possible mitigation measures: the operation and construction phases.

5.1 Potential Threats to the Ecosystem of the Park

Operation phase: CRC did not identify any significant threat associated with the normal operation of the *Proposed Development*, as described in Section 3.2. It is expected that the potential effects of activities associated with the operation of the *Proposed Development* will remain similar in type and scale to current operation activities of the existing facilities and constructed areas within the Project Area. These activities include regular cleaning and maintenance by SCRD staff of the washrooms, parking, playground, skills area and green areas, including trails within the treed areas. The recreational activities within the Project Area will also remain similar to current uses, except for new cultural, educational and social activities that may occur within the Community Hall. Although is expected that the operation of the *Proposed Development* will result in an increased number of visitors to the Project Area during programmed events, it is considered that the regular operation and maintenance activities or the sporadic increase of visitors does not pose a threat to the function or structure of the plant or animal communities observed within the Project Area, the adjacent sections of Connor Park or the area indicated as Grand Fir / Three-leaved Foamflower Ecological Community on the northeast corner of Connor Park.

Construction phase: The construction work and landscaping activities likely needed to complete the *Proposed Development* (*e.g.*, vegetation removal, land recontouring, excavation and backfilling work, concrete pouring, use of heavy equipment, temporal storage and/or generation of construction waste and landscaping chemicals and fertilizers) have the potential of negatively impacting ecosystem attributes in the Project Area, including plant composition and structure, wildlife habitat, effects on soil and water characteristics and increased threats such contamination or introduction of invasive species.

The potential impacts on vegetation at the Project Area include direct removal, damage and destruction of plants, as well as indirect effects due to impediment of rain infiltration and damage to the critical root zone of trees due to soil compaction. The removal of vegetation and soil excavation could have a negative effect on wildlife if a nesting, breeding site or hibernacula, are to be present at the development site once selected.

Construction and landscaping activities also have the potential to generate waste and chemical contaminants that could unintentionally permeate into the water table and groundwater. For example, soil and water contamination could occur by the unintentional spill of hydrocarbon-based compounds (e.g., motor oil, fuel, paint, and primers) if improperly used or stored on-site or if service or maintenance of construction equipment is completed on the property.

To avoid or mitigate the potential risks associated with the construction and landscaping activities of the *Proposed Development*, CRC strongly advises the SCRD and its designated contractors to adhere to the recommendation listed in the following section of this document.

5.2 Guidance on Mitigation Strategies and General Recommendations

5.2.1 Site Selection for the Proposed Development

CRC advises the SCRD to select a site for the *Proposed Development* within a location of the Project Area already denuded of vegetation and outside the Tree Protection Areas (TPAs) illustrated in Figure 12. Details on the criteria and rationale for the establishment of these TPAs are presented in the following section. Special consideration should be given to selecting a site that is also adjacent to the on-site access and service infrastructure (*e.g.*, the area where the washroom facility is currently located). If areas already denuded of vegetation are deemed unsuitable for the *Proposed Development*, a site adjacent to denuded areas and outside the TPAs illustrated in Figure 12 should be selected. Figure 12 includes a black polygonal

shape with an approximate area of 2,000 sq ft (*i.e.*, the area of the *Proposed Development* currently considered by the SCRD) to facilitate visualizing possible locations for the *Proposed Development* outside the recommended TPAs.

5.2.2 Tree Protection Areas (TPAs) for Large and Very Large Trees

Large and very large trees provide multiple aesthetic, cultural and ecological critical roles to forests within the Coastal Douglas-Fir biogeoclimatic zone, including climate change mitigation services via carbon storage, water management and provision of habitat and preservation of genetic material. It is important to notice that large and very large trees are not inherently better, but they are inherently different from smaller and younger trees since they provide support for different species, niches and biological processes. Additionally, these trees are the foundational rock of ecosystem resilience and self-regulation since they store genetic material associated with physical and biological traits shaped over decades of natural disturbance regimes and local environmental conditions (Doll, 2022).

In order to protect the crown and root areas of the large (DBH between 60 cm and 100 cm) and very large (DBH larger than 100 cm) trees identified within the Project Area, CRC recommends that the SCRD establish a Tree Protection Area (TPA) around all large and very large trees adjacent to the *Proposed Development* construction site once its final location is selected. The recommended Tree Protection Area should include the ground, aboveground vegetation and overhanging branches within a circle with a radius of 10 m for large trees and 15 m for very large trees, measured from the trunk of the tree to be protected. A TPA with a radius of 10 m should also be established for Western White Pines and Arbutus trees with a DBH equal to or larger than 30 cm. A schematic representation of the proposed TPAs for all the large and very large trees found at the Project Area is presented in Figure 12, to help with the site selection and construction mitigation planning.

The TPAs proposed for large and very large trees in areas adjacent to the *Proposed Development* site should be protected by installing and maintaining protection fencing on the perimeter of the TPAs. Installation and maintenance of protection fencing will reduce the possibility of unintended soil compaction or damage to the root system, boles, branches, and crowns of large and very large trees, caused by foot traffic and machinery.

The recommended tree protection fencing should be constructed following best practices, including:

(a) Constructed using 2" x 4" untreated vertical posts, at least 1.2 m high, with top and bottom rails and cross-bracing. Untreated cylindrical vertical posts may be used with a minimum diameter of 90 mm.
(b) Vertical posts must be firmly driven into the ground at a minimum depth of 45 cm, with a maximum span of 3 m between posts.
(c) Fencing material (e.g., black rolled plastic, orange mesh screening or silt fabric) should be securely attached to the full height and length of the fence.
(d) Installed before construction begins and in place until landscape construction is complete.
(e) Fencing must be maintained in good condition throughout the project.
(f) No soil disturbance or storage, dumping, cleaning of materials, or any activity that may cause soil compaction, is permitted within the tree protection fencing area.
(g) No change to surface grade within the tree protection fencing area should occur during development activities.
(h) Signage must be displayed indicating that the area within the protective fencing is a *Tree Protection Area* and stating that no encroachment, storage of materials or damage to trees is permitted within the *Tree Protection Area*.
(i) Following construction activities, changes to grade within the *Tree Protection Area* to suit landscape plans should be designed in consultation with and approved by a Qualified Environmental Professional (QEP) or a Qualified Arborist.

5.2.3 Protection of Potential Species-At-Risk

Although there were no species at risk identified onsite, it should be kept in mind that lack of detection does not imply lack of presence, as occurrence will vary depending on the time of year and several other factors, and conditions can readily change with climatic variability. As only one site visit was completed for the bird survey, the assessment pertains to this particular day and period in time and is subject to change depending on environmental conditions and any species responses to such, including changes to distribution, abundance, or density that may make a species more (or less) susceptible to any proposed project activities. For example, different bird species will migrate into the area and breed at different times depending on environmental conditions. As such, a single site visit will not reflect an exhaustive inventory of all wildlife species use or presence during the breeding season (*e.g.*, for birds).

To reduce the risk of any contraventions to the Migratory Birds Convention Act, Migratory Birds Regulations, or BC Wildlife Act, it is recommended that any habitat alteration, such as vegetation clearing, take place outside the breeding bird window. The SCRD has stated that their objective is to minimize the impact on the natural space at Connor Park and will strive not to impact any mature timber if possible (Kyle Doyle, SCRD, email communication, June 2, 2023). This should entail not conducting any habitat-altering activities during the bird nesting season between March 15 and August 15.

Given the species known to occur in the area, if any habitat alteration, such as vegetation clearing, is necessary, it should be conducted outside the March 15 to August 30 breeding bird timeframe. Raptors such as Bald Eagles and some owl species may nest prior to this window, so it would be prudent to conduct a raptor nest sweep prior to the removal of any large trees from mid-January onward. If an active raptor nest is found, then the BC Ministry of Environment and Climate Change Strategy should be contacted regarding mitigation measures, as some raptor nests are protected year-round under the BC Wildlife Act, regardless of whether the nest is active (*i.e.*, occupied).

As per the 2022 amendments to the Migratory Birds Regulations (Minister of Justice 2022), Pileated Woodpecker nests are also protected year-round for 36 months after formal reporting of a nest cavity being unoccupied.

If vegetation clearing must occur between March 15 and August 15, then it is advisable to conduct a pre-clearing nest sweep survey prior to any habitat disturbance. Birds can and will nest in disturbed areas, including on the ground and within idle heavy machinery that has been inactive and parked on site for several days. Given the size and habitat complexity at the site, it is recommended that at least three nest sweeps be conducted, ideally on consecutive days under ideal survey conditions, by an experienced, Qualified Environmental Professional (QEP) knowledgeable about nesting behaviour of the species known or likely to occur at the site. Clearing or brushing activities should then commence within 72 hours of the nest sweep completion.

In the absence of a QEP, if any nests or birds displaying nesting behaviour (*e.g.*, carrying nesting material or food in their mouths) are observed within the active work zone or within close proximity to areas potentially affected by project activities (i.e., within 30 m), observations should be noted with photo documentation if possible and provided to a QEP to assess nest activity status. In such situations, a non-disturbance buffer around the nest is typically delineated until the nest fledges. Buffer size will be at the discretion of the QEP, depending on species, life stage, topography, tolerance

levels, and other considerations. For raptor nests, Provincial best management practices (BMPs) recommend a 100 m setback distance/non-disturbance buffer during the nesting season in rural settings for high tolerance species and 200 m for moderately tolerant raptors and an additional 100 m "quiet" buffer during the breeding season regardless of tolerance level (MOE 2013). This buffer distance may be adjusted at the discretion of the QEP depending on the tolerance levels of the nest, which may also be offset by topography. While there were no raptor nests observed during the assessment, the possibility could exist in some of the larger trees or in the surrounding area during the breeding season, as vegetative growth obscured visibility during the site visit.

For work crews, it is important that they be diligent and watch for any wildlife, and follow general BMPs regarding birds on-site during the nesting season, including the following:

- Be vigilant for birds and bird nests.
- Do not damage, destroy, remove, or disturb any active bird nests.
- Nests under construction (i.e., no eggs or chicks present) should be considered to be active and live. If adult birds are present, they cannot be intentionally flushed from the nest. The QEP should be contacted about any nests discovered or suspected.

Work crews should be aware that except for crows, nests of some bird species are protected year-round, active or inactive, under the Federal Migratory Birds Convention Act or the BC Wildlife Act, and that disturbance to the birds, whether adults, chicks, or eggs, including harassment, flushing, or other stress, is a federal violation.

Similarly, with the exception of some specific non-native species (e.g., Norway Rat, European Starling), most native vertebrate wildlife in BC is also protected under the BC Wildlife Act. This includes native small mammals (e.g., rodents, weasels, bats, shrews), amphibians, and reptiles. While a salvage (i.e., relocation) may not be required for these groups prior to habitat alteration, exceptions may be required under rare circumstances such as the discovery of a snake or bat hibernaculum, active den, or similar situation that may arise during vegetation clearing or construction activities. As such, the building structures should be thoroughly inspected for potential bat use (e.g., roosting, hibernation) if the intent is to demolish them during the course of the project.

For vegetation, some plants have later phenologies (seasonal variations), and weather fluctuations such as extended precipitation may result in some plants

appearing earlier or later than under average conditions (RISC 2018). Thus, the cursory observations of the vegetation species should be considered preliminary and not as an exhaustive or complete inventory of the site.

Vegetation inventories, particularly for rare plants, should ideally be conducted at least twice a year by a qualified vegetation specialist during the growing season when the diagnostic features to identify plants are most visible (RISC 2018). This usually involves an early- and a late-season field survey to detect different species. However, since there are no rare plants or rare plant communities known to occur at the site and given the level of disturbance at the site and the prevalence of non-native plant species, there is a low to nil risk for any rare plant issues.

The assessment noted the presence of several mature and old-growth trees on site (e.g., DBH> 60 cm). These should be retained as much as possible as measures taken to protect any large, older trees on site (*e.g.*, Western Redcedar) serve to enhance the ecological value of the site (*e.g.*, provide wildlife habitat). If site development can avoid the removal of these trees, the site will benefit from both an aesthetic and ecologically functional preservation perspective. Similarly, the retention of any tree snags with cavities will also preserve wildlife habitat.

5.2.4 Invasive Plant Species

A few instances of three invasive plant species, Himalayan Blackberry (*Rubus armeniacus*), Hairy Cat's Ear (*Hypochaeris radicata*) and Scotch broom (*Cytisus scoparius*) were observed around open disturbed areas (*e.g.*, along the trail beside Northwood Road, parking lot, and near the cellular tower). Although invasive plant species are not considered a problem of concern within the Project Area at this time, future landscaping plans should consider specific monitoring efforts to ensure invasive plant species are removed and controlled if their presence is identified in newly opened areas created by the *Proposed Development*. It is recommended to include an Invasive Plant Species Management Plan to the Standard Operation Procedures (SOPs) of the Park's management and maintenance schedules or expand on the plan if it already exists. The Invasive Plant Species Management Plan should include guidelines and recommendations for responsible control (e.g., mechanical methods should be preferred over chemical methods), disposal (e.g., seeds and other potential propagules must not be disposed of with regular green waste), preventive treatment (e.g., native plant species could be introduced in decolonized spaces) and monitoring. The Invasive Plant Species Management Plan should be prepared by a QEP with experience and expertise in dealing with invasive species.

5.2.5 Spill Prevention

The unintentional release of hazardous and toxic materials, collectively referred to as Environmental Spills, have the potential to contaminate terrestrial and aquatic ecosystems directly and indirectly as well as to seriously damage and functionally destroy soils, vegetation and habitats of plant and animal species.

In order to adequately prepare for accidental environmental spills, environmental expectations, and preventive and mitigation measures must be included in the Construction Environmental Management Plan (CEMP) of the *Proposed Development* (see Section 5.2.7 for details). At a minimum, the following recommendations should be implemented and monitored during the construction phase of the project:

- All hazardous and toxic substances must be appropriately labelled, stored and contained.
- All work areas and machinery must remain as clean and free of excess oil, grease and leaks as practically possible.
- Required training for project personnel on environmental awareness and emergency/spill response has been carried out prior to work.
- Emergency contact lists must be kept on-site in an area accessible to all personnel.
- Spill kits must be adequately stocked and located at all active work areas and at sites where hazardous and toxic substances are stored or used, in a location readily accessible to the Project's personnel.
- Maintenance and fueling of equipment must take place in appropriately designated areas.

5.2.6 Environmental Permitting

The SCRD and their designated contractors and Project Management team should ensure all construction and landscaping activities associated with the Proposed Development comply with guidelines and regulations of the Official Community Plan of Electoral Area B – Halfmoon Bay and applicable Provincial and Federal regulations. Particular attention should be given to construction and landscaping work that could negatively impact the potential habitat of Species-At-Risk, including raptors protected under the BC Wildlife Act (See section 5.2.3 for details).

5.2.7 Additional Recommendations

CRC recommends that the SCRD implement and maintain the following additional recommendations and best practices to minimize further the possibility of unintentional damage to the vegetation, encroachment of TPAs, or the wildlife trees in the Project Area.

- It is highly recommended that the services of a QEP are retained to complete a Construction Environmental Management Plan (CEMP) for the *Proposed Development*. The CEMP should serve as the primary document to guide the environmental management and best practices to be implemented during the development activities associated with the project. Key objectives of the CEMP include:
    - Identify sensitive environmental features and areas of potential environmental concern within the Study Area.
    - Delineation of Environmental Protection Plans and protocols including, Equipment, Materials and Waste Management, Spill Prevention and Emergency Response, Erosion and Sediment Control, Protection of Wildlife (especially if development activities are scheduled to occur during the nesting season of birds known to potentially occupy the Project Area), Vegetation and Invasive Species Management and Archaeological Mitigation and Monitoring.
    - Ensuring a Wildfire Protection Plan is in place, especially if development activities are expected to occur during Summer and early Fall.
    - Identify key environmental personnel and contacts during day-to-day activities and in the event of an emergency.
    - Ensuring activities proceed in accordance with all environmental regulatory requirements and best management practices.
    - Mitigation of environmental impacts during development activities.
    - Monitoring and reporting during key development phases of the project.

- Reasonable efforts should be made to avoid accidentally disturbing, trampling, damaging, destroying or removing native plant species in the Project Area.

- If vegetation removal is deemed necessary, a QEP should review proposed removal protocols to minimize potential impacts to adjacent vegetation, especially to wildlife trees and large and very large trees and their corresponding Tree Protection Areas (TPAs).

- Stockpiles of soil, gravel, construction, or waste materials with the potential to be displaced or dislodged by rain, wind or gravity into the vegetated sections of the Project Area or neighbouring properties should be covered with plastic tarps.

- Construction and landscaping work with the potential to release sediments and solid or liquid waste into the vegetated sections of the Project Area should be completed during favourable weather conditions whenever possible.

• Neither construction nor waste materials must be stored on the vegetated sections of the Project Area.

• The vegetated sections of the Project Area should not be used to service or store machinery or store hydrocarbon-based products such as fuel, lubricants, paints, primers or chemical compounds.

• Removal of invasive plant species on the Project Area should be completed using manual and mechanical methods to reduce possible health risks to humans and wildlife associated with the use of herbicides and other chemical methods,

• Removed biomass from invasive plant species (e.g., entire plants, mats, leaves, stems, roots, fruits and other fragments) should be appropriately managed and disposed of or destroyed to avoid relocating invasive plant species removed from the Project Area.

• If invasive plant species are removed from the Project Area, native plant species should be introduced and maintained in areas previously colonized by invasive species.

• Only native plant species should be used in any future landscaping work planned for the Project Area.

• The general vigour and establishment success of re-introduced native plants, as well as the re-emergence of invasive plant species, should be monitored throughout the operation phase. Re-emerging invasive plant species should be removed and replaced using only native plant species.

6. PROFESSIONAL OPINION

Based on the plant and wildlife communities observed during the field visits to the Project Area, the preliminary footprint, general characteristics and expected construction and operation activities of the *Proposed Development*, as well as other information reviewed during the preparation of this report, it is our professional opinion that:

1) The Project Area is not located within any of the documented Forest Ecological Plant Communities identified within the Coastal Douglas-Fir biogeoclimatic zone,
2) No Red-Listed, vulnerable or imperiled plant or animal species were observed

on or suspected to currently occupy the Project Area,

3) The construction and normal operation of the *Proposed Development*, as described in Section 3.2, does not pose a significant threat to the function or structure of the plant or animal communities observed within the Project Area or adjacent sections of Connor Park if all the guidelines and recommendations listed in this environmental assessment are correctly implemented and regularly maintained and monitored.

It is important to notice that, since the *Proposed Development* has not yet occurred, this environmental assessment (EA) does not constitute a formal environmental impact assessment (EIA) detailing project effects but was meant to identify potential environmental issues associated with the *Proposed Development* based on available information at the time of writing.

7. REFERENCES

B.C. Conservation Data Centre. 2023. CDC iMap web application. Victoria, British Columbia, Canada. Online at: https://maps.gov.bc.ca/ess/hm/cdc/. Accessed on July 14, 2023.

B.C. Conservation Data Centre (BC CDC). 2009. Ecological Community Summary: *Abies grandis / Tiarella trifoliata*. B.C. Victoria, British Columbia, Canada. Online at: https://a100.gov.bc.ca/pub/eswp/. Accessed on July 14, 2023.

B.C. Species and Ecosystems Explorer. 2023. B.C. Minist. of Environ. Victoria, B.C. Online at: https://a100.gov.bc.ca/pub/eswp/. Accessed Jul 19, 2023.

B.C. Species and Ecosystem Explorer. n.d. B.C. Minist. of Environ. Victoria, B.C. Generalized Locations - Abies grandis / Tiarella trifoliata (grand fir / three-leaved foamflower). Online at: https:// a100.gov.bc.ca/pub/eswp/ eoMap.do?id=20776. Accessed on July 14, 2023.

Birds Canada. n.d. Nesting Calendar Query Tool. Online at: https://naturecounts.ca/apps/rnest/index.jsp?lang=EN. Accessed on July 23, 2023.

CFCG (Centre for Forest Conservation Genetics). n.d. *a*. About BEC and BGC units. The University of British Columbia. Online at: https://cfcg.forestry.ubc.ca/resour ces/cataloguing-in-situ-genetic-resources/about-bec-and-bgc-units/. Accessed on July 14, 2023.

CFCG (Centre for Forest Conservation Genetics). n.d. *b*. Coastal Douglas Fir Zone. The University of British Columbia. Online at: https://cfcg.forestry.ubc.ca/ resources/cataloguing-in-situ-genetic-resources/cdf-zone/. Accessed on July 14, 2023.

CFCG (Centre for Forest Conservation Genetics). n.d. *c*. Species range maps with *in situ* conservation statistics. Online at: https://cfcg.forestry.ubc.ca/resources/

species-reports/species-range-maps-with-conservation-statistics/. Accessed on July 19, 2023.

Coastal Douglas-Fir and Associated Ecosystems Conservation Partnership (CDFCP). 2022*a*. About the CDFCP. Online at: https://www.cdfcp.ca/about-the-cdfcp/. Accessed on July 14, 2023.

Coastal Douglas-Fir and Associated Ecosystems Conservation Partnership (CDFCP). 2022*b*. Ecological Communities within the Coastal Douglas-fir Conservation Partnership Boundaries. Online at: https://www.cdfcp.ca/wp-content/uploads/2022/06/Ecological-Communities-within-the-CDFCP-Boundary-Draft-2.pdf. Accessed on July 14, 2023.

Doll, S. 2022. The story of Coastal Douglas-fir forests: An ecosystem on the edge. Available online at: https://www.raincoast.org/2022/04/the-story-of-coastal-douglas-fir-forests-an-ecosystem-on-the-edge/. Accessed on July 20, 2023.

Government of British Columbia. Base Map Online Store (BMOS). 2022. Available online at: https://a100.gov.bc.ca/ext/mtec/public/products/airPhoto. Accessed on July 16, 2023.

Government of British Columbia. n.d. Red, Blue & Yellow Lists. Online at: https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/red-blue-yellow-lists. Accessed on July 14, 2023.

HabitatWizard. 2023. The Province of British Columbia. Online at: https://maps.gov.bc.ca/ess/hm/habwiz/. Accessed on July 16, 2023.

Minister of Justice. 2022. Migratory Birds Regulations, 2022. SOR/2022-105. Current to June 21, 2023 Last amended on July 31, 2022. Published by the Minister of Justice. Available online at: http://laws-lois.justice.gc.ca. Accessed on July 23, 2023.

MOE (BC Ministry of Environment). 2013. Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia, 2013: A companion document to Develop with Care 2012. Available online at: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/raptor_conservation_guidelines_2013.pdf. Accessed on July 23, 2023.

MOELP (British Columbia Ministry of Environment, Lands and Parks). 1999. Inventory Methods for Forest and Grassland Songbirds. Standards for Components of British Columbia's Biodiversity No.15. Prepared by Ministry of Environment, Lands and Parks Resources Inventory Branch for the Terrestrial Ecosystems Task Force Resources Inventory Committee. March 16, 1999. Version 2.0. 37 pp.

Nuszdorfer, F.C., K. Klinka, and D.A. Demarchi. 1991. Redcedar — Grand fir — Foamflower Association. Chapter 5. Coastal Douglas-fir zone. In: Ecosystems of British Columbia. Special report series, ISSN 0843-6452; no. 6. P. 87. Online at: https://www.for.gov.bc.ca/hfd/pubs/docs/srs/Srs06/chap5.pdf. Accessed on July 13, 2023.

RISC (Resources Information Standards Committee) 2018. Inventory and Survey Methods for Rare Plants and Lichens. Standards for Components of British Columbia's Biodiversity No. 43. Prepared by the Ministry of Environment and Climate Change Strategy, Ecosystems Branch, For the Resources Information Standards Committee. May 2018. Version 1.0.

Sunshine Coast Reginal District. 2014a. Halfmoon Bay Official Community Plan. Bylaw 675. Online at: https://www.scrd.ca/wp-content/uploads/2022/12/2018-Sep-27-Consolidated-Bylaw-675-with-BL-675.4.doc-Combined-Print-Copy.pdf. Accessed on July 13, 2023.

Sunshine Coast Reginal District. 2014b. Halfmoon Bay Official Community Plan. Landuse Designations Map. Online at: https://www.scrd.ca/wp-content/uploads/2022/12/Map1_LU_Designations_675.1-adopted-26-Jun-2014.pdf. Accessed on July 13, 2023.

8. SIGNATURES

This report, titled "ENVIRONMENTAL ASSESSMENT REPORT TO SUPPORT THE FUTURE DEVELOPMENT OF CONNOR PARK, HALFMOON BAY, BC" was completed in general accordance with current professional practices and reporting standards. No other warranty is made, either expressed or implied. Professional judgment has been applied in developing the conclusions stated in this report.

We trust this information will prove useful. If you have any questions or concerns, please do not hesitate to let us know.

Sincerely,

Anayansi Cohen Fernandez, PhD., RPBio.
Qualified Environmental Professional (QEP)
Cell Phone: (778) 239-9231
E-mail: anayansi@coastalraintreeconsulting.ca

David Galvez Alcaraz, PhD., RPBio.
Qualified Environmental Professional (QEP)
Cell Phone: (778) 538-9345
E-mail: david@coastalraintreeconsulting.ca

FIGURES

Figure 1. Location of Connor Park and the Project Area. Connor Park, indicated by the green rectangle on the image above, is adjacent to the Welcome Woods Wilderness Park and the Halfmoon Bay elementary school (blue and yellow polygons, respectively). The Project Area, the section of Connor Park assessed for this report, is indicated by the red polygon on the Southeast corner of the park. The *Proposed Development*, a 2,000 sq. ft (approx.) facility designed to facilitate small-medium gatherings and provide a community kitchen, is intended to be built within the Project Area. *Image modified from the SCRD Maps Online platform (base image and property boundaries) by Coastal Raintree Consulting, Ltd (coloured polygons).*

Figure 2. Boundaries and permanent structures within the Project Area. Approximately 64% of the Project Area, delineated by the red dashed line rectangle, is occupied by vegetation characteristic of secondary forests within the Coastal Douglas-Fir biogeoclimatic zone. The remaining 36% is occupied by access and service areas, including parking space (1), washrooms (2), playground (3) and skill areas (4), as well as a gravel access road (5) to a cellphone tower (6). *Image modified from the SCRD Maps Online platform (base image) by Coastal Raintree Consulting, Ltd.*

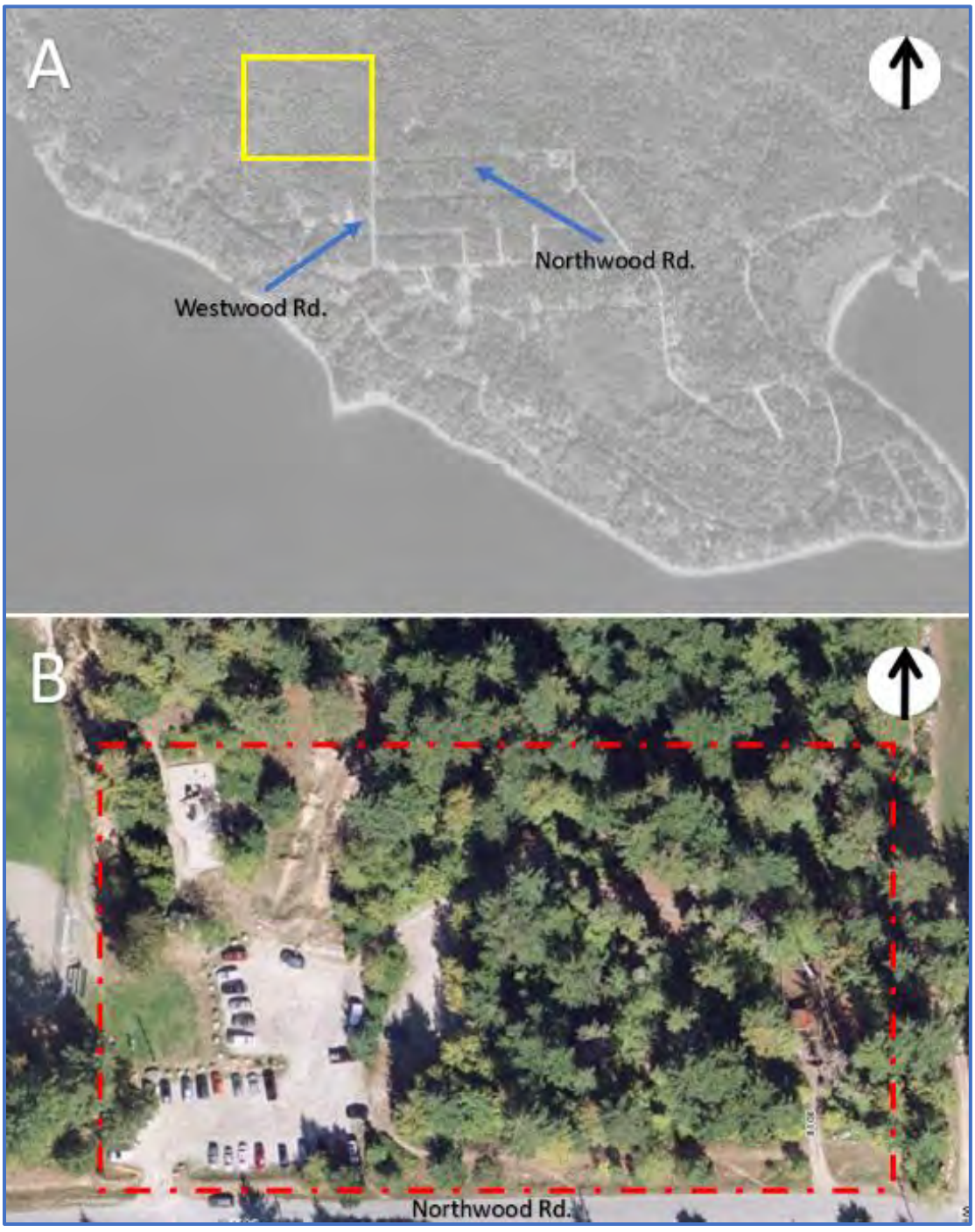


Figure 3. Historical images of Connor Park and the Project Area. A review of historical photographs suggests the area occupied today by Connor Park (approximated location indicated by the yellow rectangle in A) was undeveloped in 1976. Most of the facilities and service areas present today in the Project Area (indicated by the red rectangle in B) are clearly visible in images from 2009 (B). *Image modified from the Base Maps Online Store of BC (A, base image) and the SCRD Maps Online platform (B, base image) by Coastal Raintree Consulting, Ltd.*

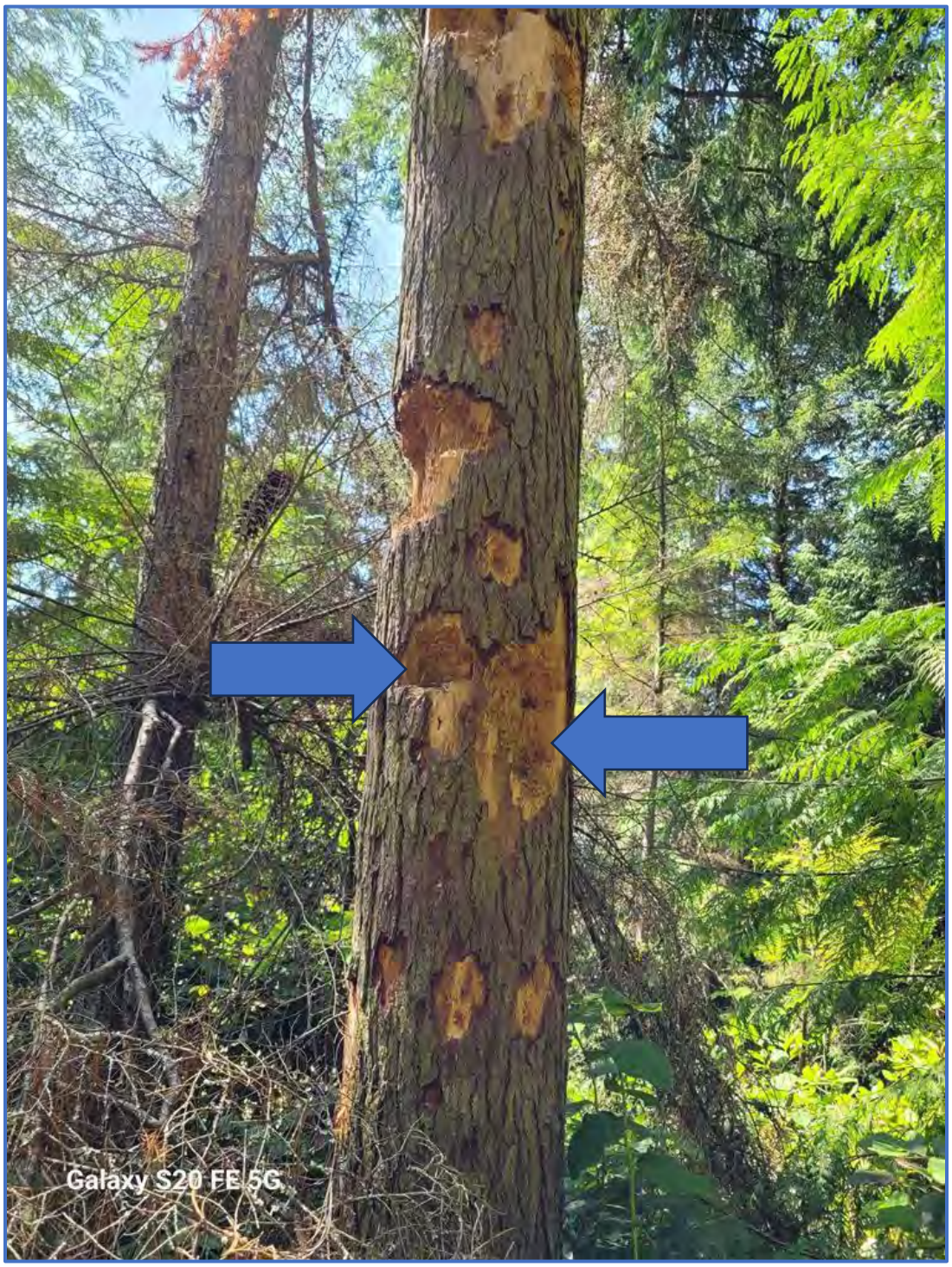


Figure 4. Pileated Woodpecker feeding excavations observed in the Project Area. Feeding excavations have a very distinctive rectangular shape (indicated by the blue arrows for reference). *Image by Brent Matsuda captured on July 8, 2023, modified by Coastal Raintree Consulting, Ltd.*

Figure 5. Feeding holes of other woodpecker species observed in the Project Area and surrounding area. The vertical rows of machinegun bullet-hole-like patterns, indicated by blue arrows, suggest the presence of sapsuckers (*Sphyrapicus sp.*) *Image by Brent Matsuda captured on July 8, 2023, modified by Coastal Raintree Consulting, Ltd.*

Figure 6. Openings on the upper part of decommissioned washrooms. These openings, indicated by blue arrows, are potentially accessible to bats. *Image by Brent Matsuda captured on July 8, 2023, modified by Coastal Raintree Consulting, Ltd.*

Figure 7. General appearance of Colvin Creek area during the field visit completed on July 8, 2023. The watercourse of the creek was reduced to stagnating water pools with little to no flow. These conditions may be suitable as a movement corridor for wildlife (*e.g.*, Red-legged Frog), with some pools providing potential breeding habitat for amphibians such as Pacific Treefrog, Northwestern Salamander (*Ambystoma gracile*) and Long-toed Salamander (*Ambystoma macrodactylum*). This habitat is not suitable for Western Painted Turtle. *Image by Brent Matsuda captured on July 8, 2023.*

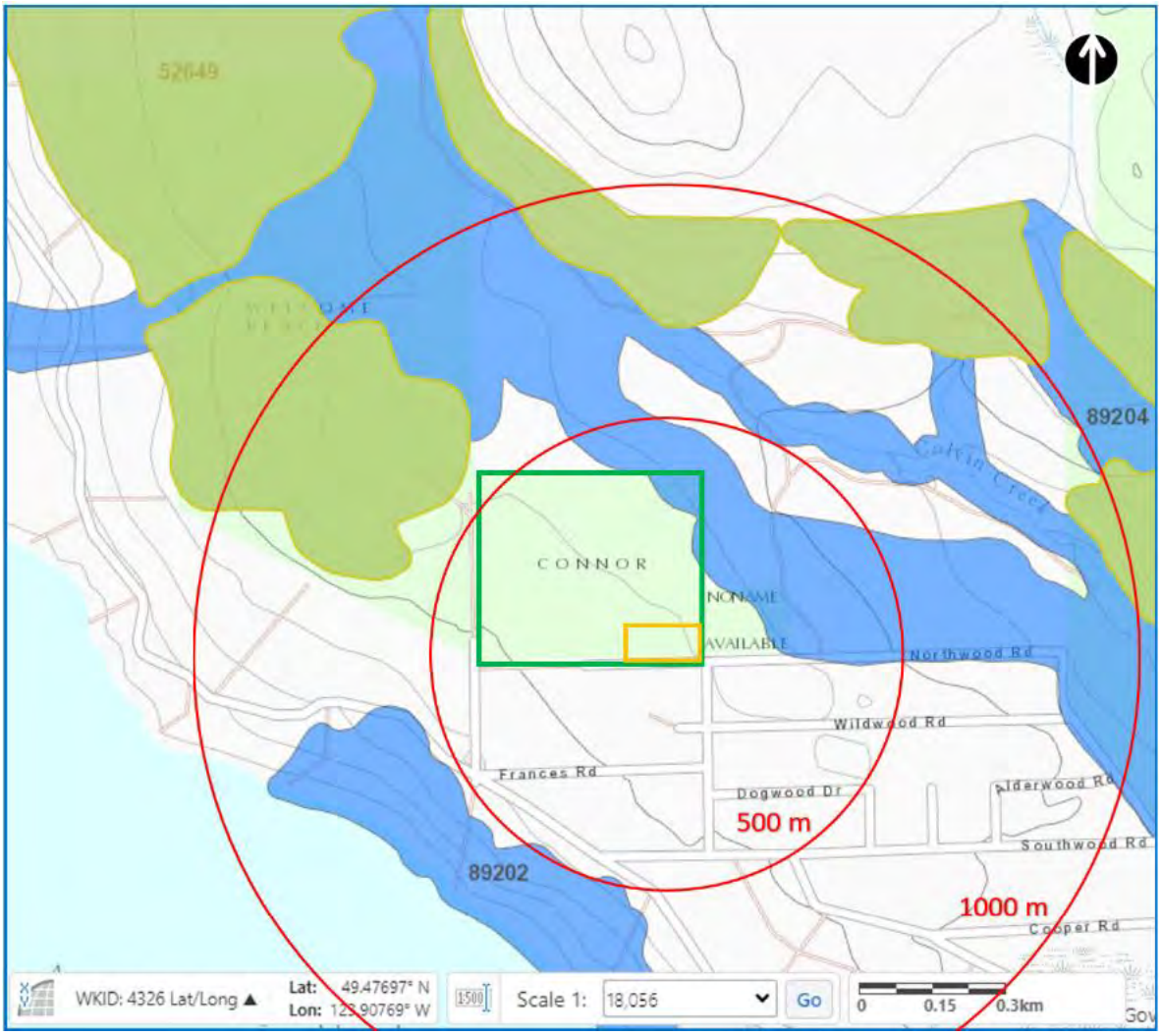


Figure 8. Location of the Grand Fir / Three-leaved Foamflower Ecological Community (GF/FF Ecological Community). The Project Area, indicated by the yellow rectangle at the center of the image above, is outside the Red-listed GF/FF Ecological Community. This Ecological Community (indicated by blue areas), occurs on the Northeast corner of Connor Park, indicated by the green rectangle above. The Douglas-fir / Dull Oregon-grape Ecological Community (indicated by green areas), another Red-listed Forest plant community within the CDF biogeoclimatic zone, occurs within 1,000 m from the Project Area, outside Connor Park. *Image modified from HabitatWizard (base image and coloured layers) by Coastal Raintree Consulting, Ltd.*

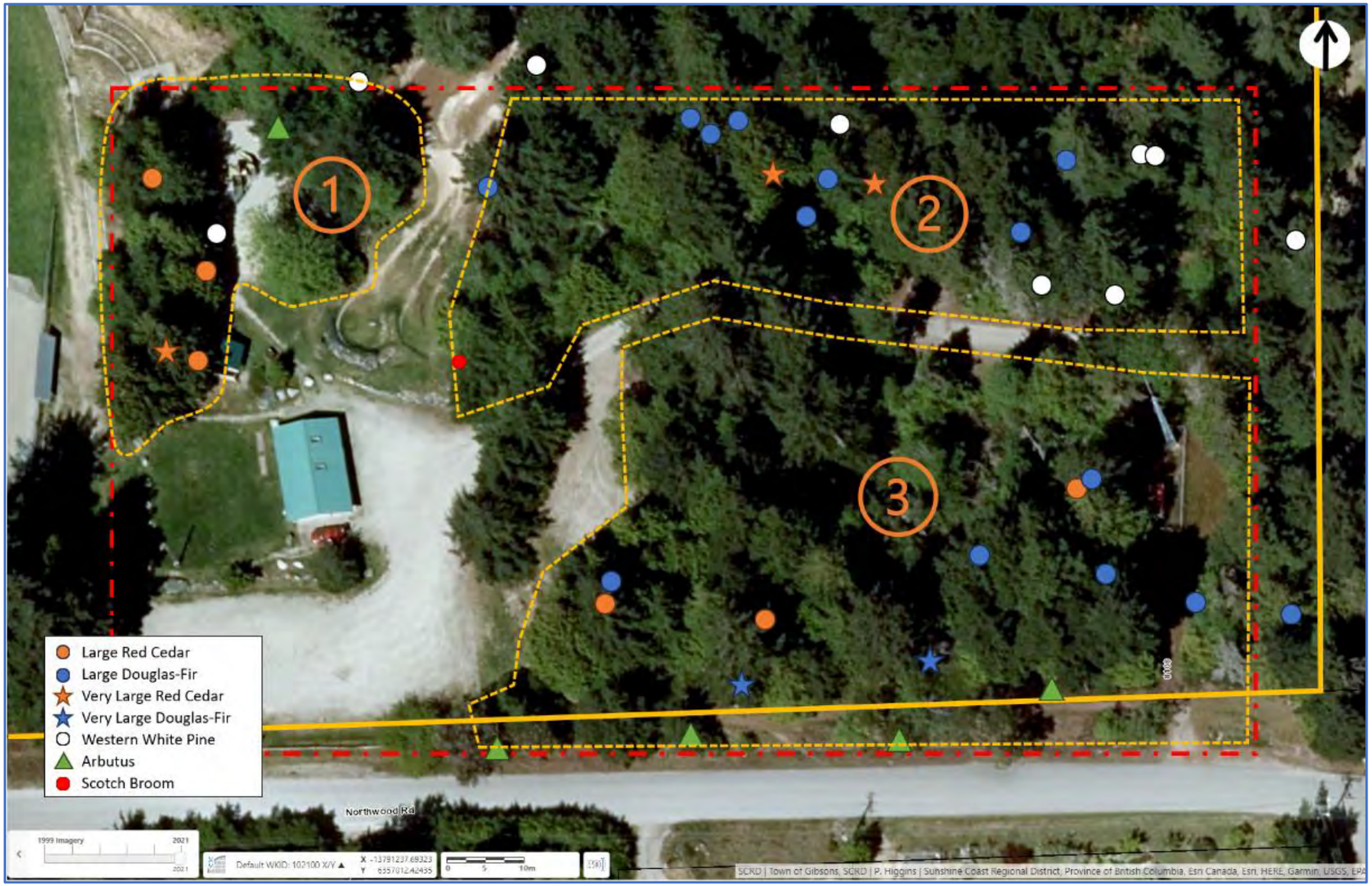


Figure 9. Vegetation polygons in the Project Area. To facilitate characterizing the dominant plant species and key vegetation features within the Project Area, outlined by the red dashed line rectangle, treed areas were divided into three irregular polygons, indicated by the yellow dashed lines. These polygons are referred to in this document as the Northwest corner (1) and the North (2) and South (3) sections. The approximate location of Large (DBH between 60 to 100 cm) and Very Large (DBH greater than 100 cm) Redcedar and Douglas-Fir trees, as well as the location of Western White Pines and Arbutus trees with a DBH equal to or greater than 30 cm are indicated as per the symbols in the figure legend. The location of a large Scotch Broom, an invasive plant species, is indicated by the red dot. *Image modified from the SCRD Maps Online platform (base image) by Coastal Raintree Consulting, Ltd.*

Figure 10. Scats of Coyote (*Canis latrans*) were observed outside the Project Area within Connor Park during the first field visit. *Image by Brent Matsuda captured on July 8, 2023.*

Figure 11. All trees with a diameter at breast height (DBH; approximately 1.3 m (4.3 ft) above ground) equal to or larger than 60 cm and Western white pines (*Pinus monticola*) and Arbutus trees *(Arbutus menziesii*) with a DBH equal to or larger than 30 cm were identified, geolocated and measured during the second field visit. *Image by A. Cohen-Fernandez captured on July 15, 2023.*

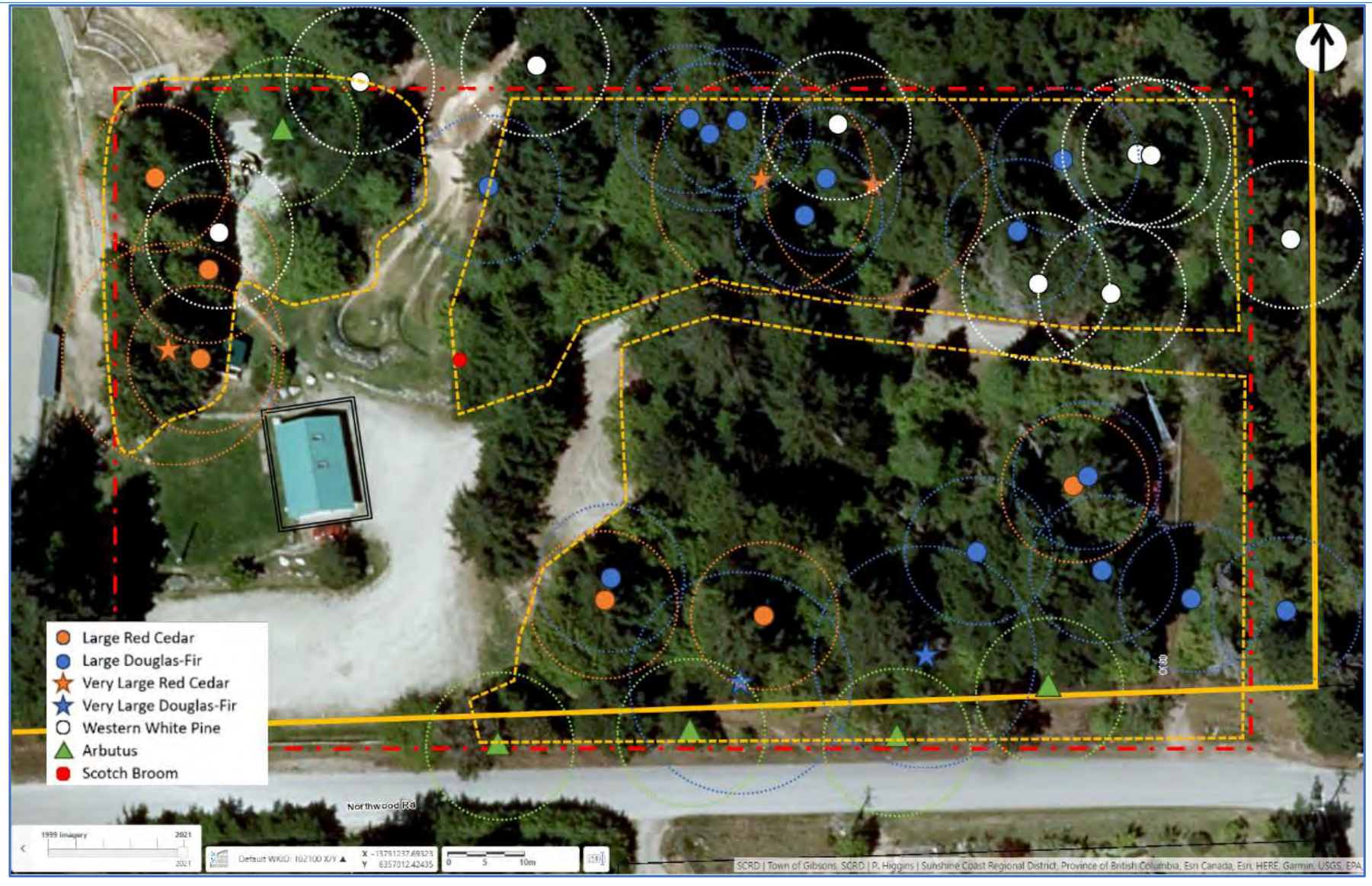


Figure 12. Tree Protection Areas for Large and Very Large trees. In order to protect Large and Very Large trees located in the treed sections (yellow dashed line polygons) within the Project Area (red dashed line rectangle), Tree Protection Areas (TPAs) should be established around these trees. The TPAs should include the ground, aboveground vegetation and overhanging branches within a circle with a radius of 10 m for Large trees and 15 m for Very Large trees, measured from the trunk of the tree to be protected. TPAs with a radius of 10 m should also be established for Western White Pines and Arbutus trees. A rectangle with an approximate area of 2000 sq ft (i.e., the approximate area currently considered for the *Proposed Development*) is shown around the washroom facility as a visual reference to facilitate selecting a possible location for the future Community Hall, outside the recommended TPAs. *Image modified from the SCRD Maps Online platform (base image) by Coastal Raintree Consulting, Ltd.*

APPENDIX A
General Conditions of This Report

This report incorporates and is subject to the following General Conditions.

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Coastal Raintree Consulting, Ltd.'s client. Coastal Raintree Consulting, Ltd. does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Coastal Raintree Consulting, Ltd.'s Client unless otherwise authorized in writing by Coastal Raintree Consulting, Ltd.

Any unauthorized use of the report is at the sole risk of the user. This report is subject to copyright and shall not be reproduced either wholly or in part without the prior written permission of Coastal Raintree Consulting, Ltd. Additional copies of the report, if required, may be obtained upon request.

2.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed, and the client agrees that notification to such bodies or persons as required may be done by Coastal Raintree Consulting, Ltd. in its reasonably exercised discretion.

3.0 INFORMATION PROVIDED TO COASTAL RAINTREE CONSULTING BY OTHERS

During the performance of the work and the preparation of the report, Coastal Raintree Consulting, Ltd. may rely on information provided by persons other than the Client. While Coastal Raintree Consulting, Ltd. endeavours to verify the accuracy of such information when instructed to do so by the Client, Coastal Raintree Consulting, Ltd. accepts no responsibility for the accuracy or the reliability of such information, which may affect the report.

APPENDIX B
Connor Park Wildlife and Wildlife Habitat Assessment Report

Connor Park
Wildlife and Wildlife Habitat Assessment Report
Halfmoon Bay, British Columbia

July 8, 2023

Brent M. Matsuda
Biodiversity West Environmental Consulting
Burnaby, BC

Disclaimer

This report has been prepared by Biodiversity West Environmental Consulting (Biodiversity West) for Coastal Raintree Consulting Ltd's (CRCL) wildlife and wildlife habitat assessment of ch'emalak (Connor Park) located at 8108 Northwood Road, Halfmoon Bay, British Columbia (BC). Specifically, an approximately 1.15 hectare (ha) portion of the 17.6 ha park located in the southeast portion of Connor Park between the playing field and Halfmoon Bay Elementary School. No person may rely on it for any other purpose without Biodiversity West and CRCL's prior approval. Should a third party use this report without such approval, Biodiversity West and CRCL accepts no responsibility for loss or damages suffered by any third party as a result of decisions made or actions taken based on this report.

- This report is based on facts and opinions contained within the referenced documents, including the results of any data collection programs carried out in relation to this report. We have attempted to identify and consider facts and documents relevant to the scope of work, accurate as of the time period during which we conducted this assessment. However, the results, our opinions, or recommendations may change if environmental conditions change, new information becomes available, or if information we have relied on is altered.
- We applied accepted professional practices and standards in developing and interpreting data and conducting this assessment. While we used accepted professional practices in interpreting data provided by third-party sources (e.g., BC iMap program), we cannot verify the accuracy of any such data.
- This report must be considered as a whole; selecting only portions of this report may result in a misleading view of the results, our opinions, or recommendations.

TABLE OF CONTENTS

Disclaimer ii
1.0 Introduction 1
2.0 Methodology 2
2.1 Breeding Bird Point Count Surveys 3
3.0 Findings 5
4.0 Recommendations and Other Considerations 9
5.0 Closure 12
6.0 References 13
7.0 Site Photos 14

LIST OF FIGURES

Figure 1. Proposed Project Development Area 1

LIST OF TABLES

Table 1. Bird Survey Station Details 4
Table 2. Bird species detected during the site assessment on July 8, 2023 5
Table 3. Vegetation species observed during the site visit July 8, 2023 7

LIST OF APPENDICES

Appendix 1. Brent Matsuda Field Notes 21

1.0 Introduction

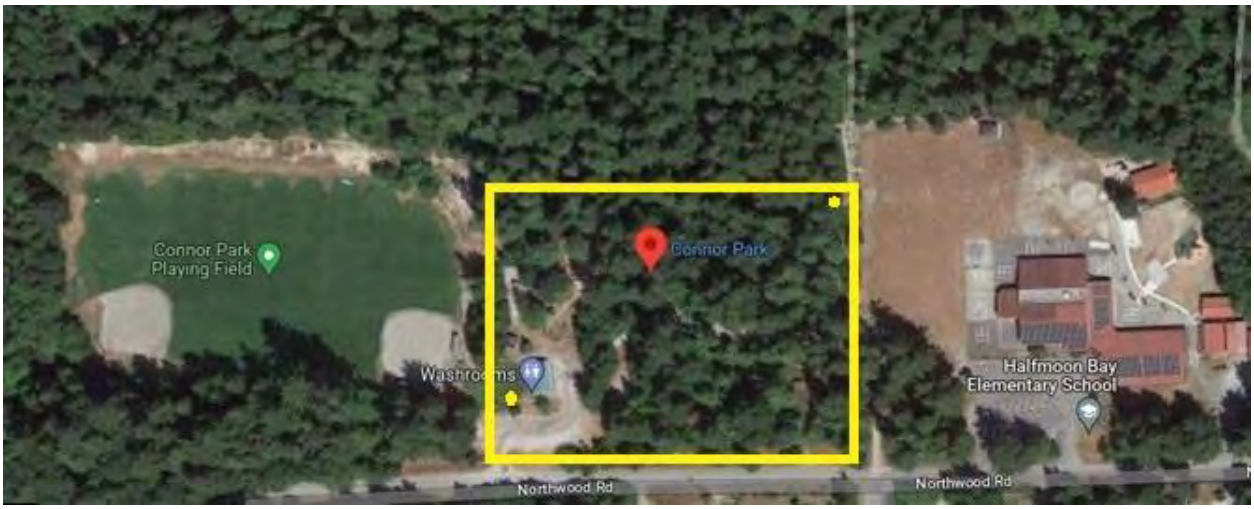
Coastal Raintree Consulting Ltd. (CRCL) retained Biodiversity West Environmental Consulting (Biodiversity West) to conduct a Wildlife and Wildlife Habitat Assessment of a small portion of ch'emalak̲ (Connor Park) located at 8108 Northwood Road, Halfmoon Bay, British Columbia (BC).

While Connor Park is 17.6 ha, the site assessed only comprises ~1.15 ha in the southeastern portion of the park between the playing field and Halfmoon Bay Elementary School. The information from this assessment will be used by CRCL to complete a larger environmental impact assessment for the Sunshine Coast Regional District (SCRD) to determine potential short/long term impacts of a proposed development of an approximately 2000 square foot community hall within Connor Park (Kyle Doyle, SCRD, email communication, June 2, 2023).

Connor Park occurs within the Coastal Douglas-fir moist maritime (CDFmm) biogeoclimatic subzone (Green and Klinka 1994). The proposed project site is surrounded by second growth forest, rural development (i.e., houses, sports playing field, elementary school), and subject to ongoing human activities (e.g., parking lot, washroom facilities, mountain bike/hiking trails). The parking lot and trails within Connor Park provide easy access to the Welcome Woods Wilderness Park comprising the northern and western park boundaries. Halfmoon Bay Elementary School forms the eastern boundary of the project site and Northwood Road forms the southern boundary for the entire park (Figure 1).

The yellow outline in Figure 1 below shows the approximate area of the project site within the larger Connor Park. To assess any potentially negative effects of the proposed development of a community hall on terrestrial habitat, including any Species at Risk (SAR) wildlife, a site assessment was conducted by Biodiversity West accompanied by CRCL on July 8, 2023. This Report provides details of the assessment with recommendations to address any potential issues.

Figure 1. Proposed Project Development Area



Note: Yellow dots indicate Breeding Bird Survey Stations.

2.0 Methodology

A desktop assessment of the project site indicated no wildlife species listed under the federal *Species at Risk Act* (SARA) occurring within the proposed project development site or within Connor Park. A search of the Provincial database program (iMap BC) noted two occurrences of Northern Red-legged Frog (*Rana aurora*; SARA Special Concern) within 2 kilometres (km) of Connor Park recorded at the northern and southern portions of Sargeant Bay Provincial Park – one occurrence to the southeast between Redroofs Road and Sargeant Bay, and the other occurrence at Triangle Lake to the northeast. Triangle Lake has also been classified as Critical Habitat for the Western Painted Turtle Pacific Coast population (*Chrysemys picta bellii*; SARA Threatened). In addition, there are masked occurrences (i.e., confidential data/specific locations undisclosed) for Little Brown Myotis (*Myotis lucifugus*; SARA Endangered) and other, non-SARA-listed bat species occurring within the Halfmoon Bay area.

Two provincially Red-listed[1] Ecological Communities occur to the north and east of Connor Park within the Welcome Woods Wilderness Park: Grand Fir/Three-leaved Foamflower (*Abies grandis/Tiarella trifoliata*) and Douglas-fir/dull Oregon-grape (*Pseudotsuga menziesii/Mahonia nervosa*).

Connor Park occurs within the range of the Northern Goshawk, *laingi* subspecies (*Accipiter gentilis laingi*) and Western Screech-Owl, *kennicottii* subspecies (*Megascops kennicottii kennicottii*), both of which are SARA Threatened and provincially Blue-listed[2]. However, given the level of disturbance and close proximity to ongoing anthropogenic activities occurring in Connor Park, limited nesting habitat (i.e., large diameter trees), and SCRD stating that they do not intend to remove any mature timber if possible (Kyle Doyle, SCRD, email communication, June 2, 2023), it was determined that surveys for these species would not be needed as there is a low likelihood of nesting occurring at the site.

The site visit was conducted by Senior Wildlife Biologist, Brent Matsuda, R.P.Bio., of Biodiversity West, accompanied by Senior Ecologist David Galvez of CRCL. As the site occurs in a public park managed by SCRD, it was readily accessed by car, parking in the gravel parking lot by the existing structure proposed for development (currently public washrooms and a locked-up storage area), and walking the trails networking the site and surrounding area.

The site visit was conducted on July 8, 2023 beginning at 10:09 hours under sunny conditions, ~40% cloud cover, wind gusts Beaufort 3-4, air temperature 18°C, and no precipitation.

[1] Red-listed Ecological Communities are communities that have, or are candidates for, Extirpated, Endangered, or Threatened status in BC. Endangered species and ecological communities are facing imminent extirpation or extinction. Threatened species and ecological communities are likely to become endangered if limiting factors are not reversed.
[2] Blue-listed species includes any native species or ecological community considered to be of Special Concern in BC. Species or ecological communities of Special Concern have characteristics that make them particularly sensitive or vulnerable to human activities or natural events (https://a100.gov.bc.ca/pub/eswp/search.do).

Any visual indicators of wildlife presence were noted during the site visit (e.g., tracks, scat, tree cavities), including sightings and vocalizations of any wildlife species (e.g., birds, mammals) while assessing the habitat for potential wildlife occupancy or use, and watching for indications of habitat use by any SAR.

Two small buildings on site (current washrooms and smaller decommissioned washrooms immediately west of it) were visually assessed for potential bird nesting and bat use.

Plants were initially identified visually based on knowledge of the regional flora and supported by use of a smart phone plant app (i.e., iNaturalist Seek; https://www.inaturalist.org/pages/seek_app). Recognizing the limitations of a smart phone app biased toward American naming conventions, further confirmation of identifications specific to the region was done using Pojar and Mackinnon (1994). Plants were recorded incidentally throughout the site as a more complete vegetation survey was conducted by CRCL prior to this site visit.

In general, the site assessment included:

- Documenting any wildlife observed (visually or auditory) or potential nest sites (e.g., tree cavities), or other suitable nesting habitat (e.g., large snags);
- Observing bird behaviour indicating potential nesting or territory establishment;
- Watching for potential hibernacula sites (e.g., for snakes or bats);
- Watching for mammal burrows or dens (e.g., for bears), and mineral licks for ungulates;
- Documenting all wildlife observed or signs of wildlife presence (e.g., tracks, scat, scrapes, browsed vegetation, bedding); and
- Identifying all vegetation species observed as best as possible.

2.1 Breeding Bird Point Count Surveys

Two breeding bird stations were established – one station between the existing larger building (washrooms) proposed for development and the sports playing field, and the other station as far away as possible (~170 m) at the northeastern corner of the project site to try to avoid double-counting of the same birds (see yellow dots in Figure 1). Variable radius point count surveys were conducted for five minutes at each station as this methodology can accommodate a wide range of bird species that possess different singing styles that may occur in different habitats.

Surveyors waited at least one minute upon arriving at each station to allow for bird activity to resume before beginning the survey. During this time, habitat and weather variables were recorded for the station. Care was taken to not disturb birds when approaching the survey station. Birds were then recorded by sight or call for five minutes at each station. For each bird detected, the distance and direction from the station center to each bird was estimated from the location where it was first detected. Bird location was recorded onto a detection circle in a field notebook similar to that used on the Point Count Form from MOELP (1999). The detection circle is subdivided into

concentric rings of 10 m intervals to aid in marking detection locations, with number of birds recorded, along with observation type (visual or vocal,) and flight path in cases of flyovers. All birds detected were counted and recorded regardless of their distance from the point of detection. Birds not recorded during the five minute interval but detected before or after the survey time were noted as incidental observations.

While the distance between the stations were slightly less than the recommended minimum 200 m interstation distance for breeding bird point count surveys (MOELP 1999), there was a relatively low risk of double-counting birds during surveys as it was audibly clear which birds were recorded at the first station as they continued singing during the walk to the second station. Regardless, double-counted birds would also be inconsequential as the objective was to detect species potentially breeding at the site and not assess any population parameters (e.g., density, abundance).

From the first breeding bird survey station (Station A; UTM 10U 435641 5481436; Photos 1-4), the team walked along the gravel road intersecting the site to the northeastern portion of the lot and walked approximately 5 m into the forest along a vegetated trail to establish the second station (Station B; UTM 10U 435775 5481467; Photos 5-8).

Location and habitat details for each of the bird survey stations are presented in Table 1 with representative photographs of each station in Section 7.0.

Table 1. Bird Survey Station Details

Survey Station	Location UTM	Habitat Description
Station A (Photos 1-4)	10U 435641 5481436	Open edge habitat in mowed grassy area beside washroom facility and between baseball diamond and gravel parking lot; large surrounding trees included Douglas-fir and Western Redcedar.
Station B (Photos 5-8)	10U 435775 5481467	Station located on a forested trail within 5-m of a gravel road going through the site. Overhead canopy consisted of Western Redcedar, Western Hemlock, Lodgepole and White Pine, Red Alder; understory of Salal, Bracken Fern, Red Huckleberry.

After the bird surveys, the team walked along the perimeter of the project site and traversed the site multiple times to assess the habitat within the proposed project area. The team then continued along J-Lo trail to the north to evaluate habitat in the surrounding area that could potentially influence wildlife habitat use and occupancy. This included Colvin Creek which is the nearest watercourse, located approximately 600 m northeast of the project site, to assess whether any wildlife or habitat associated with riparian zones may have any bearing on species occurring in the area relevant to the proposed development activities.

3.0 Findings

There were 16 bird species visually or auditory detected during the site assessment combining the point count surveys and incidental observations (Table 2). None of the birds observed were sensitive species or species at risk.

While no Pileated Woodpecker (*Dryocopus pileatus*) was seen or heard, occurrence was noted based the number of Pileated Woodpecker feeding excavations observed on site. As the largest woodpecker in BC, their feeding excavations have a very distinctive rectangular shape (Photo 9). Feeding holes of other woodpecker species were also observed throughout the site and surrounding area, likely the result of sapsuckers (*Sphyrapicus* sp.) which typically make horizontal rows of machinegun bullet-hole-like patterns. However, the site and surrounding forest provides suitable feeding and nesting habitat for several woodpecker species in which identification based on feeding excavations can be very difficult (Photo 10).

Table 2. Bird species detected during the site assessment on July 8, 2023

	Common Name	*Scientific Name*	*Observation Location*
1	American Crow	*Corvus brachyrhynchos*	Incidental
2	American Robin	*Turdus migratorius*	Station A, B, Incidental
3	Black-headed Grosbeak	*Pheucticus melanocephalus*	Incidental
4	Brown Creeper	*Certhia americana*	Station B
5	Canada Goose	*Branta canadensis*	Incidental
6	Chestnut-backed Chickadee	*Poecile rufescens*	Incidental
7	Common Raven	*Corvus corax*	Incidental
8	Dark-eyed Junco	*Junco hyemalis*	Incidental
9	Hammond's Flycatcher	*Empidonax hammondii*	Incidental
10	Pileated Woodpecker	*Dryocopus pileatus*	Incidental
11	Red-breasted Nuthatch	*Sitta canadensis*	Incidental
12	Spotted Towhee	*Pipilo maculatus*	Station A, B
13	Swainson's Thrush	*Catharus ustulatus*	Station A, B
14	Turkey Vulture	*Cathartes aura*	Incidental
15	Warbling Vireo	*Vireo gilvus*	Incidental
16	Yellow-rumped Warbler	*Setophaga coronata*	Incidental

Given the lateness in the time of day in which the point counts were conducted, the point count survey findings should not be considered a reliable indicator of all bird species potentially breeding at the site. The number of bird species detected incidentally exceeded the number of species detected during the point counts indicating that time of day likely had a bearing on bird activity. However, this assessment provides insight as to which species occur at the site and thus could potentially be nesting during the breeding season.

Based on the nesting calendar query tool provided by Birds Canada (https://www.birdscanada.org/apps/rnest/index.jsp?lang=EN), there are 312 bird species known to nest within the Georgia Lowland Ecodistrict which extends from Bowen Island near West Vancouver to Lund north of Powell River and includes the Sunshine Coast. Most of these species (90%) nest between March 15 and July 31 with only two species, Golden Eagle (*Aquila chrysaetos*) and Bald Eagle (*Haliaeetus leucocephalus*) potentially nesting prior to March, and one species, Turkey Vulture (*Cathartes aura*), potentially nesting into early September. However, Golden Eagles and Turkey Vultures are unlikely to nest in the vicinity of the project site due to absence of sufficient habitat.

No birds appeared to be using the two small, building (washroom) structures on site for nesting. The smaller of the two buildings located closest to the playing fields did have numerous small gaps within the wooden structure which could potentially be accessed by bats (Photo 11). However, as this is the old, decommissioned washrooms, the building was locked and could not be accessed for further assessment of its interior. It is recommended that both buildings be checked for bat presence if either are to be demolished as part of the development project. If bats are detected, then the BC Ministry of Environment and Climate Change Strategy should be immediately contacted regarding mitigation measures.

Coyote (*Canis latrans*) scat was observed at the site (UTM 10U 435722 5481577; Photo 12). Black Bear (*Ursus americanus*), Columbian Black-tailed Deer (*Odocoileus hemionus columbianus*), and Grey Wolf (*Canis lupus*) are known to occur throughout the area. The only mammal detected during the site visit was a Douglas Squirrel (*Tamiasciurus douglasii*) and squirrel middens were observed within the site and throughout the surrounding area. It is likely that the site is also used or occupied by other rodents, mustelids (weasels, mink), and insectivores such as shrews and moles.

Connor Park occurs within the range of several amphibian species including SARA Special Concern species such as the Western Toad (*Anaxyrus boreas*) and Red-legged Frog. These species would likely only transit through the assessment area, if at all, given the lack of any freshwater habitat and proximity to any suitable breeding sites. Common species such as the Pacific Treefrog (*Pseudacris regilla*) are the most likely amphibian species that would occur at the site. This species is highly mobile and flexible in its life history strategy and will not pose any issues to the project if it does occur on site.

As the nearest watercourse, Colvin Creek consisted of stagnating water pools with little to no flow (Photo 13), some of which will likely dry up in the coming weeks in the absence of rain. While it may be suitable as a movement corridor for wildlife (e.g., Red-legged Frog) with some pools providing potential breeding habitat for amphibians such as Pacific Treefrog, Northwestern Salamander (*Ambystoma gracile*) and Long-toed Salamander (*Ambystoma macrodactylum*), the habitat is not suitable for Western Painted Turtle. This creek will have no bearing on the project from a wildlife perspective.

A gartersnake, likely a Common Gartersnake (*Thamnophis sirtalis*) was briefly glimpsed on School Daze trail outside the project site (UTM 10U 435789 5481672) but within Connor

Park. BC's other two gartersnake species, the Western Gartersnake (*T. elegans*) and the Northwestern Gartersnake (*T. ordinoides*) also likely occur at the site. However, none should pose any issues to the project unless a hibernaculum is discovered, in which case a relocation salvage may be required to avoid contravention of the BC *Wildlife Act*. Based on the habitat observed during the site visit, suitable hibernacula habitat does not occur at the site but any of these species may use the area for summer foraging.

There are no Species at Risk invertebrates (e.g., insects, arachnids, mollusks) known to occur at the site or in close proximity. Cursory observations of Swallowtail Butterfly (*Papilio* sp.), Ten-lined June beetle (*Polyphylla decemlineata*), and a Yellowjacket (*Vespula* sp.) nest in the top of the existing washroom structure were noted around the structure, but an insect survey was not conducted as it was beyond the scope needed for this assessment.

The site contained a mix of coniferous and deciduous tree species dominated by Douglas-fir (*Pseudotsuga menziesii*), Western Hemlock (*Tsuga heterophylla*), Western Redcedar (*Thuja plicata*), Red Alder (*Alnus rubra*) and Bigleaf Maple (*Acer macrophyllum*) interspersed with Lodgepole Pine (*Pinus contorta*) and Western White Pine (*Pinus monticola*) and sporadic Paper Birch (*Betula papyrifera*) and Arbutus (*Arbutus menziesii*). Some of these trees were labeled with large signage identifying their common names. An ornamental Maple tree (*Acer* sp.), Common Hawthorn (*Crataegus monogyna*), and Cherry trees (*Prunus* sp.) were growing along the edge of the parking lot. Dominant native understory vegetation included Salal (*Gaultheria shallon*), Oregon Grape (*Mahonia aquifolium*), Red Huckleberry (*Vaccinium parvifolium*), Salmonberry (*Rubus spectabilis*), and Bracken Fern (*Pteridium aquilinum*). Prominent non-native species occurring around open disturbed areas (e.g., along the trail beside Northwood Road, parking lot, and near the cellular tower) included Himalayan Blackberry (*Rubus armeniacus*), Hairy Cat's Ear (*Hypochaeris radicata*), Common Plantain (*Plantago major*), Common Dandelion (*Taraxacum officinale*) and unidentified grass species.

No rare plant species or communities are known to occur at the proposed project site and none were observed. All vegetation species that could be identified, whether native or non-native, were recorded and are presented in Table 3. A total of 27 species were incidentally noted during the assessment although more species will occur than were detected by our cursory vegetation assessment.

Table 3. Vegetation species observed during the site visit on July 8, 2023

	Common Name	*Scientific Name*
1	Arbutus	*Arbutus menziesii*
2	Bigleaf Maple	*Acer macrophyllum*
3	Birch, Paper	*Betula papyrifera*
4	Cherry	*Prunus* sp.
5	Common Hawthorn	*Crataegus monogyna*
6	Hairy Cat's Ear	*Hypochaeris radicata*
7	Dandelion, Common	*Taraxacum officinale*

	Common Name	*Scientific Name*
8	Douglas-fir	*Pseudotsuga menziesii*
9	Fern, Bracken	*Pteridium aquilinum*
10	Fern, Sword	*Polystichum munitum*
11	Fern, Wood	*Dryopteris* sp.
12	Grand Fir	*Abies grandis*
13	Hawksbeard, Smooth	*Crepis capillaris*
14	Himalayan Blackberry	*Rubus armeniacus*
15	Oregon-grape	*Mahonia nervosa*
16	Pine, Lodgepole/Shore	*Pinus contorta*
17	Pine, Western White	*Pinus monticola*
18	Plantain, Common	*Plantago major*
19	Plantain, Rattlesnake	*Goodyera oblongifolia*
20	Red Alder	*Alnus rubra*
21	Red Huckleberry	*Vaccinium parvifolium*
22	Rose Campion	*Silene coronaria*
23	Salal	*Gaultheria shallon*
24	Salmonberry	*Rubus spectabilis*
25	Thimbleberry	*Rubus parviflorus*
26	Western Hemlock	*Tsuga heterophylla*
27	Western Redcedar	*Thuja plicata*

4.0 Recommendations and Other Considerations

Although there were no potential issues identified, it should be kept in mind that lack of detection does not imply lack of presence, as occurrence will vary depending on time of year and several other factors, and conditions can readily change with climatic variability. As the site visit was relatively short consisting of a single visit in July, the assessment pertains to this particular period in time and is subject to change depending on environmental conditions and any species responses to such, including changes to distribution, abundance, or density that may make a species more (or less) prone to any proposed project activities. For example, different bird species will migrate into the area and breed at different times depending on environmental conditions. As such, a single site visit will not reflect an exhaustive inventory of all wildlife species use or presence during the breeding season (e.g., for birds).

To reduce the risk of any contraventions to the *Migratory Birds Convention Act*, Migratory Birds Regulations, or BC *Wildlife Act*, it is recommended that any habitat alteration, such as vegetation clearing, take place outside the breeding bird window. SCRD has stated that their objective is to minimize the impact on the natural space at Connor Park and will strive to not impact any mature timber if possible (Kyle Doyle, SCRD, email communication, June 2, 2023). This should entail not conducting any habitat-altering activities during the bird nesting season between March 15 and August 15.

Given the species known to occur in the area, if any habitat alteration such as vegetation clearing is necessary, it should be conducted outside the March 15 to August 30 breeding bird timeframe. Raptors such as Bald Eagle and some owl species may nest prior to this window, so it would be prudent to conduct a raptor nest sweep prior to the removal of any large trees from mid-January onward. If an active raptor nest is found, then the BC Ministry of Environment and Climate Change Strategy should be contacted regarding mitigation measures, as some raptor nests are protected year-round under the BC *Wildlife Act*, regardless of whether the nest is active (i.e., occupied).

As per the 2022 amendments to the Migratory Birds Regulations (Minister of Justice 2022), Pileated Woodpecker nests are also protected year-round for 36 months after formal reporting of a nest cavity being unoccupied.

If vegetation clearing must occur between March 15 and August 15, then it is advisable to conduct a pre-clearing nest sweep survey prior to any habitat disturbance. Birds can and will nest in disturbed areas, including on the ground and within idle heavy machinery that has been inactive and parked on site for several days. Given the size and habitat complexity at the site, it is recommended that at least three nest sweeps be conducted, ideally on consecutive days under ideal survey conditions, by an experienced, Qualified Environmental Professional (QEP) knowledgeable with nesting behaviour of the species known or likely to occur at the site. Clearing or brushing activities should then commence within 72 hours of the nest sweep completion.

In the absence of a QEP, if any nests or birds displaying nesting behaviour (e.g., carrying nesting material or food in their mouths) are observed within the active work zone or within close proximity to areas potentially affected by project activities (i.e., within 30 m), observations should be noted with photo documentation if possible and provided to a QEP to assess nest activity status. In such situations, a non-disturbance buffer around the nest is typically delineated until the nest fledges. Buffer size will be at the discretion of the QEP depending on species, life stage, topography, tolerance levels, and other considerations. For raptor nests, Provincial best management practices (BMPs) recommend a 100 m setback distance/non-disturbance buffer during the nesting season in rural settings for high tolerance species and 200 m for moderately tolerate raptors and an additional 100 m "quiet" buffer during the breeding season regardless of tolerance level (MOE 2013). This buffer distance may be adjusted at the discretion of the QEP depending on the tolerance levels of the nest which may also be offset by topography. While there were no raptor nests observed during the assessment, the possibility could exist in some of the larger trees or in the surrounding area during the breeding season as vegetative growth obscured visibility during the site visit.

For work crews, it is important that they be diligent and watch for any wildlife, and follow general BMPs regarding birds on-site during the nesting season, including the following:

- Be vigilant for birds and bird nests.
- Do not damage, destroy, remove, or disturb any active bird nests.
- Nests under construction (i.e., no eggs or chicks present) should considered to be active and live. If adult birds are present, they cannot be intentionally flushed from the nest. The QEP should be contacted about any nests discovered or suspected.

Work crews should be aware that except for crows, nests of some bird species are protected year-round, active or inactive, under the Federal *Migratory Birds Convention Act* or the BC *Wildlife Act*, and that disturbance to the birds, whether adults, chicks, or eggs, including harassment, flushing, or other stress, is a federal violation.

Similarly, with the exception of some specific non-native species (e.g., Norway Rat, European Starling), most native vertebrate wildlife in BC is also protected under the BC *Wildlife Act*. This includes native small mammals (e.g., rodents, weasels, bats, shrews), amphibians, and reptiles. While a salvage (i.e., relocation) may not be required for these groups prior to habitat alteration, exceptions may be required under rare circumstances such as the discovery of a snake or bat hibernaculum, active den, or similar situation that may arise during vegetation clearing or construction activities. As such, the building structures should be thoroughly inspected for potential bat use (e.g., roosting, hibernation) if the intent is to demolish them during the course of the project.

For vegetation, some plants have later phenologies (seasonal variations), and weather fluctuations such as extended precipitation may result in some plants appearing earlier or later than under average conditions (RISC 2018). Thus, the cursory observations of the vegetation species should be considered as preliminary and not as an exhaustive or complete inventory of the site.

Vegetation inventories, particularly for rare plants, should ideally be conducted at least twice a year by a qualified vegetation specialist during the growing season when the diagnostic features to identify plants are most visible (RISC 2018). This usually involves an early- and a late-season field survey to detect different species. However, since there are no rare plants or rare plant communities known to occur at the site and given the level of disturbance at the site and prevalence of non-native plant species, there is a low to nil risk for any rare plant issues.

The assessment noted the presence of several mature and old growth trees on site (e.g., DBH> 60 cm). These should be retained as much as possible as measures taken to protect any large, older trees on site (e.g., Western redcedar; Photo 14) serve to enhance the ecological value of the site (e.g., provide wildlife habitat). If site development can avoid removal of these trees, the site will benefit from both an aesthetic and ecologically functional preservation perspective. Similarly, retention of any tree snags with cavities will also preserve wildlife habitat.

5.0 Closure

Overall, based on the desktop assessment and site visit conducted on July 8, 2023, there were no environmentally related issues observed that may have bearing on the proposed plan to construct a community hall from a wildlife perspective. While wildlife habitat loss will occur if any vegetation needs to be cleared, the risk of harming birds will be greatly reduced by conducting any habitat-altering activities outside of the bird breeding season. If the recommendations and mitigation considerations discussed in this report are followed, it will help to reduce the risk of any regulatory contraventions.

It should be clarified that this assessment does not constitute a formal environmental assessment detailing project effects but was meant to identify any potential Species at Risk issues gauging the feasibility of the proposed work activities from a terrestrial wildlife perspective.

We trust that the information provided in this assessment will be helpful to your decisions to proceed with the project. If you have any further questions regarding the recommendations based on our site visit, please feel free to contact us.

Thank you.

Brent Matsuda

Senior Wildlife Biologist, M.Sc., R.P.Bio.

Brent.matsuda@gmail.com

6.0 References

Green, R.N., and K. Klinka. 1994. A Field Guide to Site Identification and Interpretation for the Vancouver Forest Region. Ministry of Forests Research Program, Victoria, B.C.

Minister of Justice. 2022. Migratory Birds Regulations, 2022. SOR/2022-105. Current to June 21, 2023 Last amended on July 31, 2022. Published by the Minister of Justice at the following address: http://laws-lois.justice.gc.ca.

MOE (BC Ministry of Environment). 2013. Guidelines for Raptor Conservation during Urban and Rural Land Development in British Columbia, 2013: A companion document to Develop with Care 2012. Available at: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/raptor_conservation_guidelines_2013.pdf.

MOELP (British Columbia Ministry of Environment, Lands and Parks). 1999. Inventory Methods for Forest and Grassland Songbirds. Standards for Components of British Columbia's Biodiversity No.15. Prepared by Ministry of Environment, Lands and Parks Resources Inventory Branch for the Terrestrial Ecosystems Task Force Resources Inventory Committee. March 16, 1999. Version 2.0. 37 pp.

Pojar, J., and A. MacKinnon. 1994. Plants of coastal British Columbia including Washington, Oregon, and Alaska. B.C. Ministry of Forests and Lone Pine Publishing, Vancouver, B.C.

RISC (Resources Information Standards Committee) 2018. Inventory and Survey Methods for Rare Plants and Lichens. Standards for Components of British Columbia's Biodiversity No. 43. Prepared by Ministry of Environment and Climate Change Strategy, Ecosystems Branch, For the Resources Information Standards Committee. May 2018. Version 1.0.

7.0 Site Photos

Photo 1. Point Count Bird Survey Station A looking north

Photo 2. Point Count Bird Survey Station A looking south

Photo 3. Point Count Bird Survey Station A looking east

Photo 4. Point Count Bird Survey Station A looking west

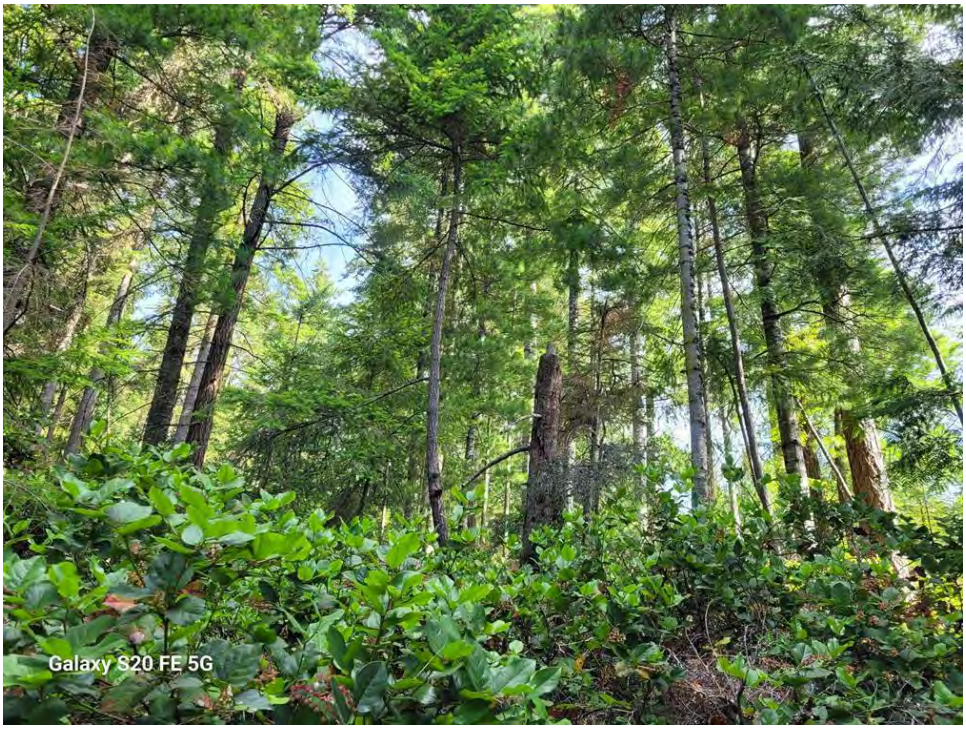


Photo 5. Point Count Bird Survey Station B looking north

Photo 6. Point Count Bird Survey Station B looking south

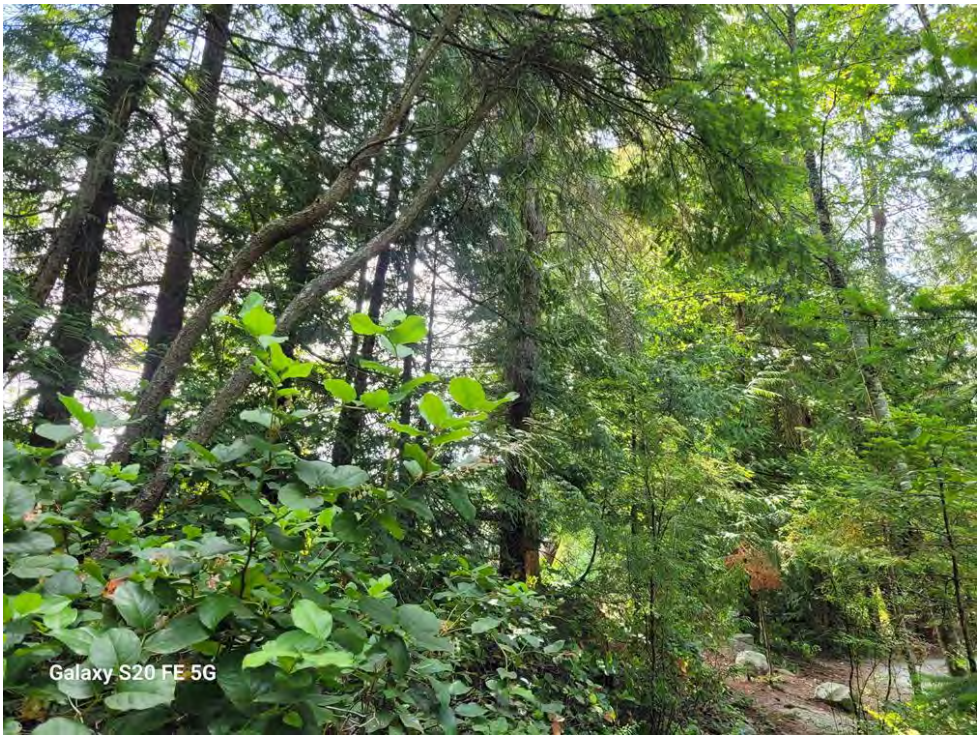


Photo 7. Point Count Bird Survey Station B looking east

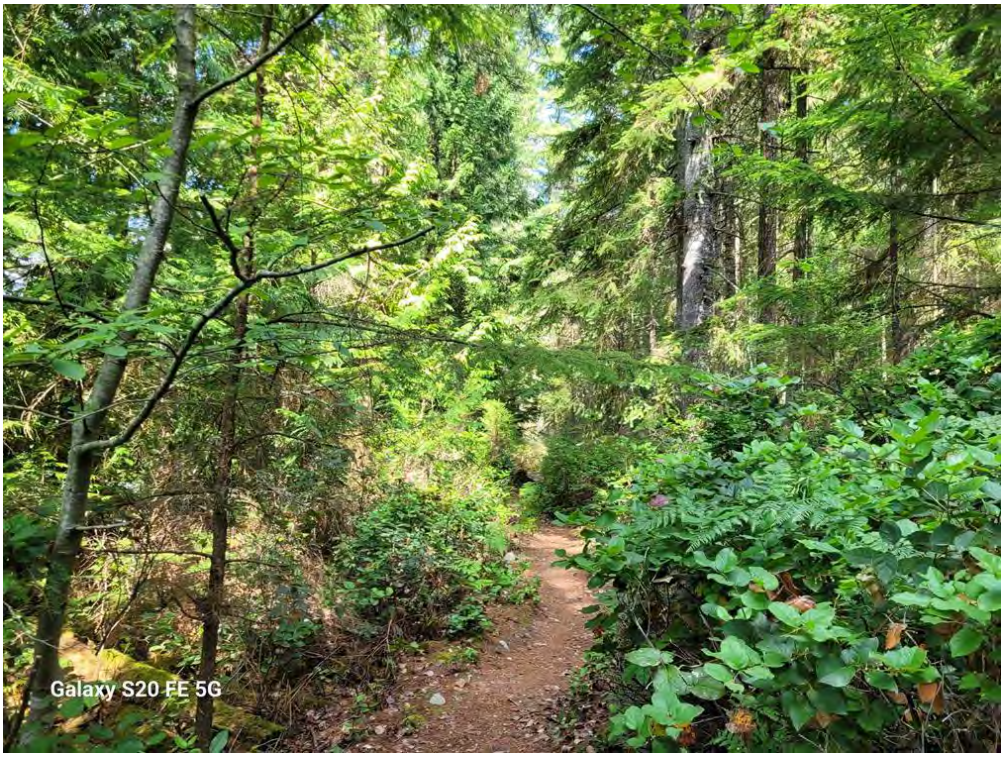


Photo 8. Point Count Bird Survey Station B looking west

Photo 9. Pileated Woodpecker feeding excavations

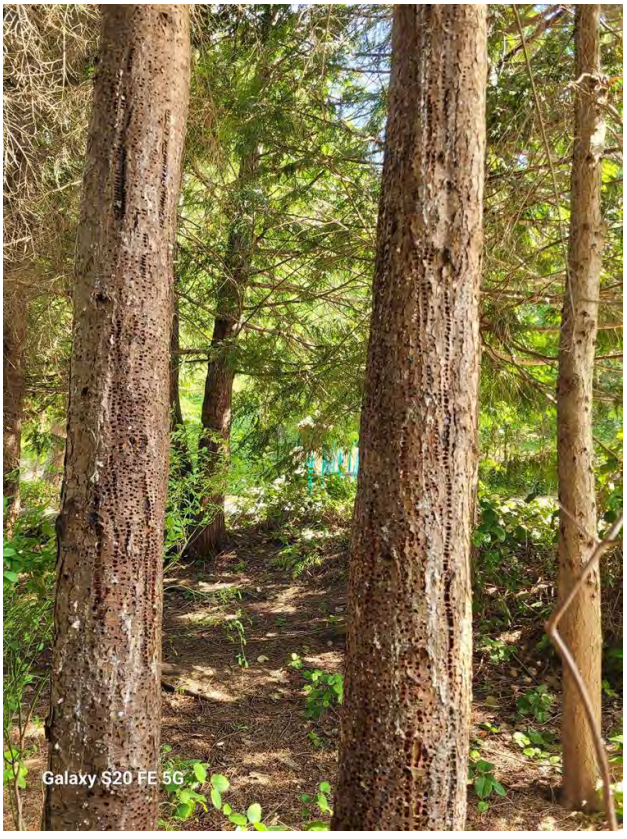


Photo 10. Other woodpecker feeding excavations

Photo 11. Decommissioned washrooms with gaps and openings potentially accessible to bats.

Photo 12. Coyote scat

Photo 13. Colvin Creek

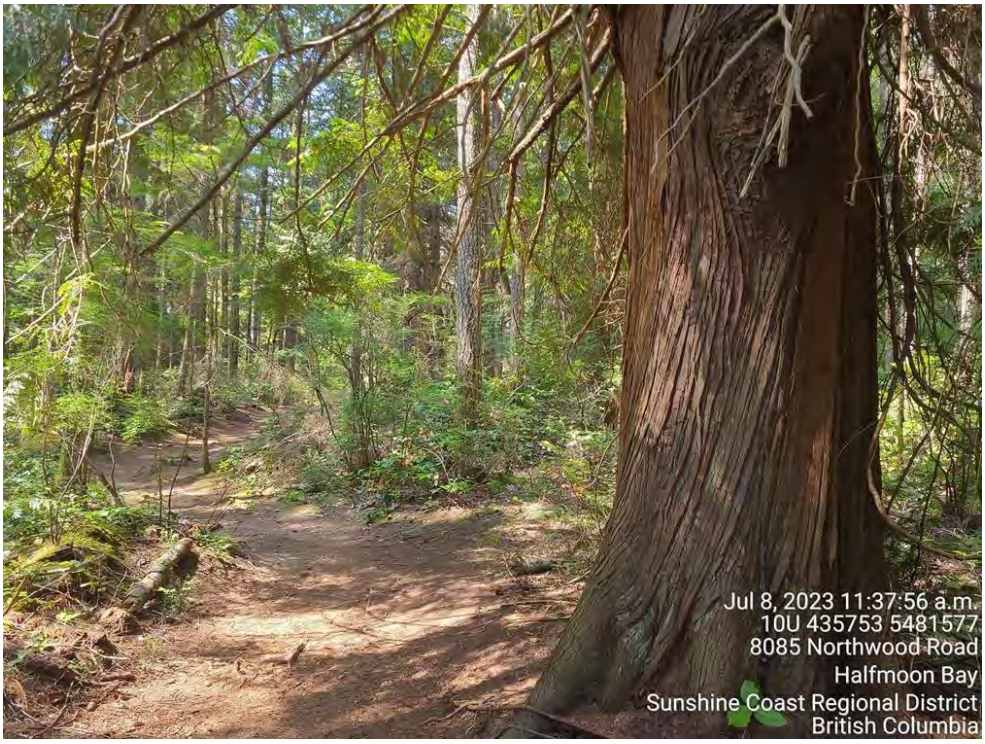
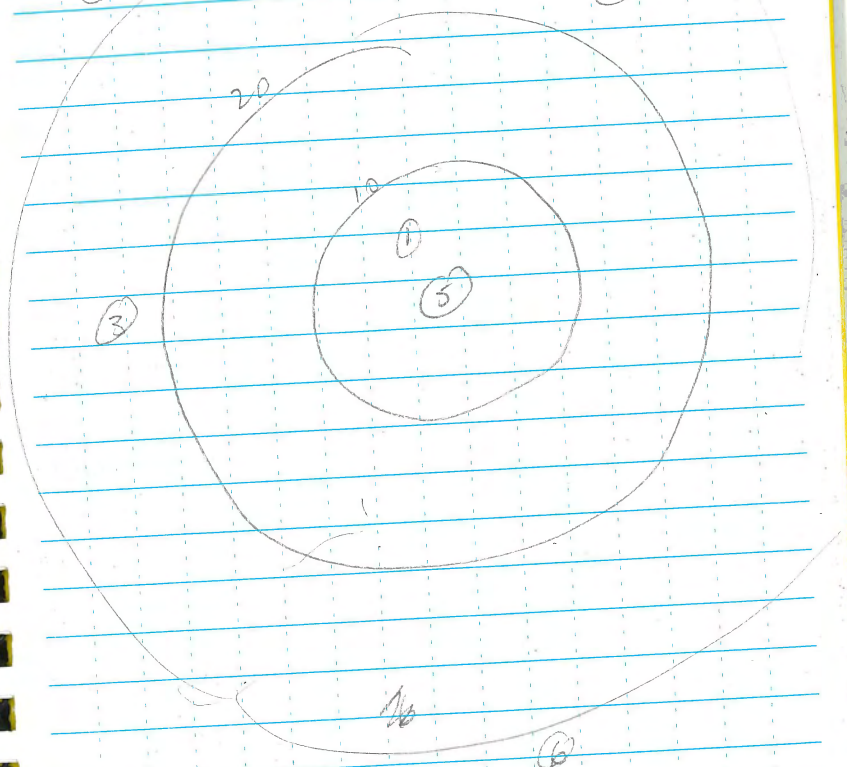


Photo 14. Large diameter mature Western Redcedar

APPENDIX 1

BRENT MATSUDA FIELD NOTES

BM David Galvan July 8/23
10:09 sunny 40% CC Connor Park
WIND BF3-4 gusty 18°C STN A:
end 10:14 N 10U 435641
5481436



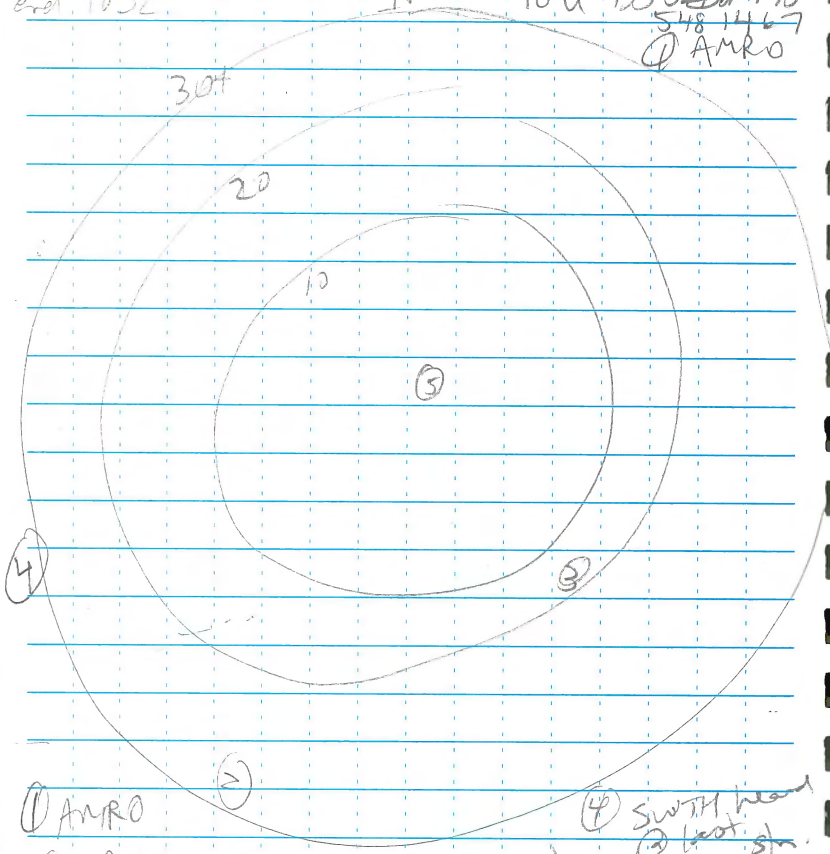
1. AMRO
2. ~~DELTA~~ SPTO
3. AMRO
4. SWTH
5. TUVU (incidental)
6. CORA (incidental)

Incidental AMRO, TUVU (after find)
Habitat: open edge, baseball diamond
cedar, gravel parking lot

Scale: 1 square = ____

Rite in the Rain

1027 WIND BF 3-5 gusts, 18°C, 42% cc
Stn 2 sunny
end 1032 N 10U 435 775
548 1467
@ AMRO



1 AMRO
2 SPTO (recorded last Stn)
3 BRCR
4 SWTH heard @ last stn.
Hab: Woodpecker foraging sign on snag - Stn - located on trail white pine
bracken fern
Habitat @ Stn: forested NE end of Stn 2 Salal, vac. parv, DF, alder

Scale: 1 square =

July 8, 2023 cont'd Conner Park
General veg: White & Shore (lodgepole) pine, alder, salal, bracken fern red cedar, DF, red huckleberry oregon grape, western hemlock, arbutus
1040 - took photos of J-L.O. bike trail wild cherry, maple (ornamental)
Took photos of sap sucker feeding holes @ 10U 435642 5487 14540
1045 AM RBNU
CBCH, CAGO, DFJU, SWTH, AMRO
Cat's ear, plantain (narrow-leaved) in parking lot
grass, birch, Silene coronaria @ SE cnr of lot (photo) Rose Champion photos @ 1055
David's plant App: PlantNet
Hawksbeard (Crepis capillaris)
Rattlesnake plantain, Wood fern
1108 photos of burls on DF tree
1110 " " PIWO excavations on snag ~ 12 m tall (old DF?)
squirrel heard Grand fir
Himalayan blackberry beside parking lot
Squirrel nuddem @ 10U 435738 5481586 ±5m
photos @ 1129 (HAFL)
1135 photos of PIWO excavations & large cedar & coyote scat @ 10U 435722 5481571

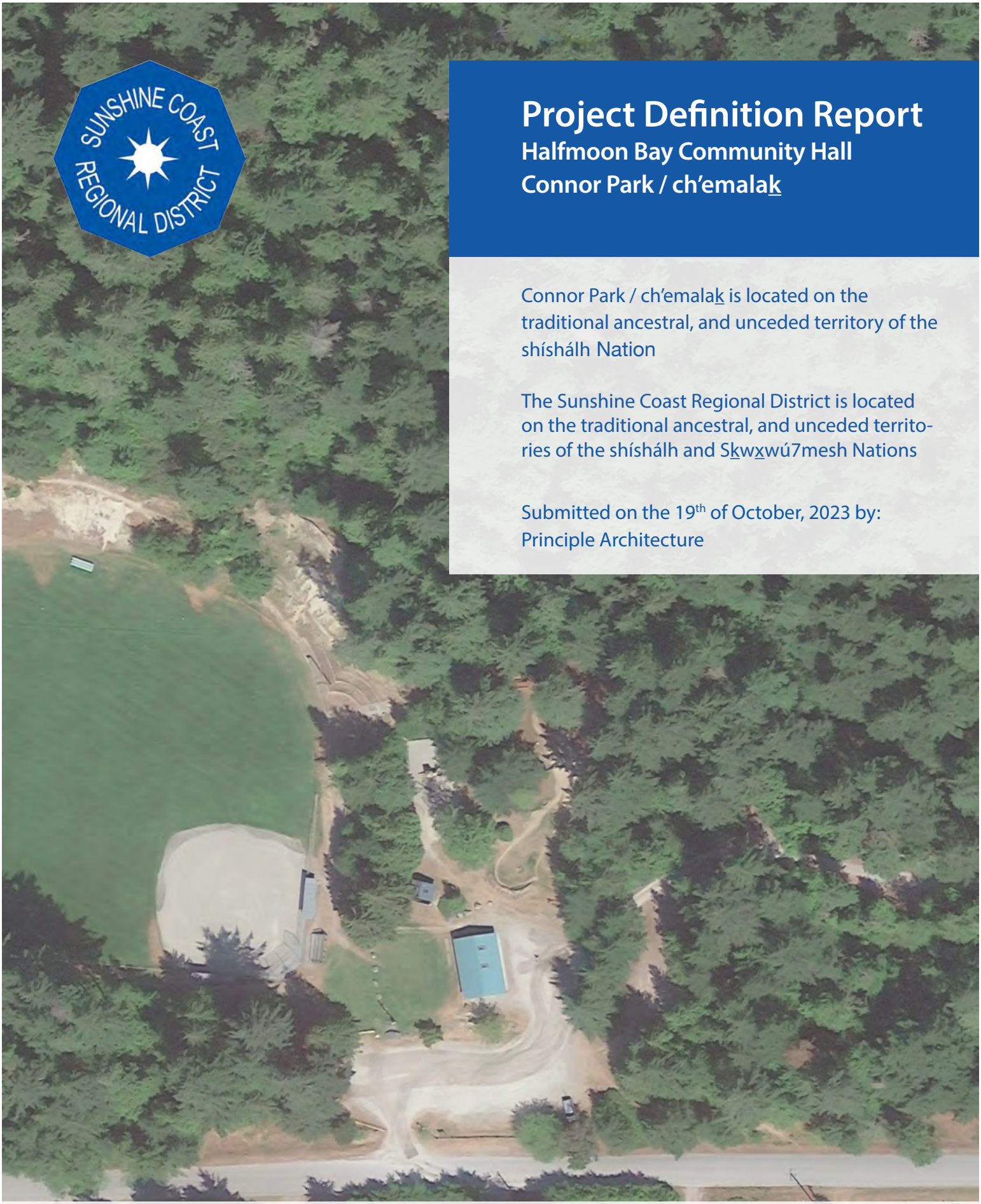
Scale: 1 square =

Rite in the Rain

Outside park - sword fern, Big leaf maple
1147 creek (Colbin) 10U 435909 5481929 ±7
Deer fern, horsetail, skunk cabbage
- not suitable for turtles
- heard SWTH, photos
- photos of velvet-footed pax on old stump 10U 435931 5481933 ±8
photos @ 1157 Oregon grape, Bracken, sword fern, slap
Vac parvi, old stumps, early pole-sapling DF forest, burn late
WASP trail - WAVI, SWTH, salmonberry, wall lettuce, raspberry
red elderberry, dogwood, thimbleberry
~~Enter scale~~ on School Daze trail
(could not ID as brief glimpse)
@ 10U 435789 5481672 ±3m
heard RBNU here, BHGR, DEJU
1230 - return to parking lot; hermit's nest on roof near skylight
- small structure ~~bats~~ openings sufficient for bats but can't access to see if suitable inside
- common Hawthorne ornamental maple, photo of June Beetle
YRWA, swallowtail butterfly

Scale: 1 square = 1245

Appendix 4 Pre-Design Report



Project Definition Report

Halfmoon Bay Community Hall
Connor Park / ch'emalak

Connor Park / ch'emalak is located on the traditional ancestral, and unceded territory of the shíshálh Nation

The Sunshine Coast Regional District is located on the traditional ancestral, and unceded territories of the shíshálh and Skwxwú7mesh Nations

Submitted on the 19th of October, 2023 by:
Principle Architecture

Principle architecture

Table of Contents

1	Executive Summary	3
2	Background Information	4
3	Public Participation	6
4	Project Vision	7
5	Scope of Work	10
6	Site Analysis	14
7	Conceptual Design Option	24
8	Risk Assessment Matrix	28
9	Project Delivery Methods	32
10	Project Budget Summary	33
11	Project Timeline and Schedule	34

Appendices

A	2007 Connor Park Concept Plan Map	37

1 Executive Summary

The pressing need for a new community hall in Halfmoon Bay is stronger than ever. The SCRD recognizes the importance for this new piece of social infrastructure to become available to the community as early as possible.

The proposed site for the new hall is located near the Southeast corner of Connor Park, along Northwood Road. This area of the park has been previously developed and will minimize the environmental impact of the new building.

Connor Park is a long time recreational destination for the residents of Halfmoon Bay. Existing Park Concept Plans have explored and demonstrated the potential for further developing Connor Park as Halfmoon Bay's recreational community hub. Its proximity to residential areas and Halfmoon Bay Elementary School makes it well suited for the future community hall.

After selecting Connor Park as the site for the new hall in the Spring of 2023, the SCRD initiated an extensive pre-design phase. Various professionals were engaged to investigate the feasibility of the project and gather technical information for the design phases to come. Additionally, the SCRD spearheaded a comprehensive community input exercise through various platforms, to connect with the public and gather input on the project.

By synthesizing the technical findings and the input from the community participation, this report defines a vision for the new community hall. A new and bright gathering space, sensitively inserted within the park natural features and amenities; environmentally conscious and respectful of its surrounding neighbourhood. With a scope similar to that of other halls operated by the SCRD, the facility will aim at complementing other amenities available in Halfmoon Bay. Affordability, durability and ease of access will also be important aspects of the design.

The project vision was then translated into a functional program which defines what the building will include and how these components will relate to each other in order to serve the community at its fullest. A net area of 205 m^2 (2,200 ft^2) with a main hall space of 112 m^2 (1,200 ft^2) for up to 100 seated occupants was found to suit the needs of the community. Support spaces for the hall will include a kitchen, washrooms, storage spaces and a covered outdoor patio opening up the hall to the park's natural setting and amenities.

Defining this functional program in details was instrumental in identifying the most suitable location for the hall within the park. Four potential sites were investigated, compared and ranked using a series of technical, programmatic and environmental parameters. The most favourable option (Site Option D) was found to be a previously disturbed area, close to the gravel lot, slightly elevated on a knoll overlooking the playing field. This option identified that no significant tree specimens would be affected by the project and that the impact on the existing park amenities could be kept to a minimum.

Once the most suitable site was identified, the functional program was unfolded into a conceptual floor plan responding and seeking opportunities from the specific siting conditions. Great potential was found to intimately connect the building to the playing field and playground.

The specifics of the building program and its siting were then tested to identify risks having the potential to affect the project delivery. These were organized into a matrix and should be referred to and addressed during subsequent project phases.

Some of the risks often encountered during building projects can be mitigated through the selection of an alternative project delivery method. Particularly those involving a construction professional's advice during the design phases. This report found that a contrustion management project delivery method to be well suited to the specifics of the Halfmoon Bay community hall project.

The final sections of this report summarize the current project budget and its anticipated allocations as well as an estimated timeline to the completetion of the new community hall building.

2 Background Information

Project history

Connor Park Concept Plans 1987-2010

In 1987, the Halfmoon Bay Recreation Association met to discuss the development of Connor Park. It was agreed that the further development of recreational amenities at Connor Park would be beneficial to the Community. Various site plans were initiated over the years and the park saw some minor upgrades throughout the 90's.

In 2002, the SCRD Board approved funding for the creation of the Connor Park Advisory Committee (CPAC), composed of 15 members from the community and tasked with the preparation of a concept site plan for the future development of recreational amenities at Connor Park. The facilities were to be integrated and complimentary with that of the adjoining Halfmoon Bay Community School, while being connected to the residential areas through bicycle and pedestrian links.

The 2003 concept plan, adopted by the SCRD in February 2003, made recommendations for the following:

- Phase 1: Land clearing, levelling, irrigation and seeding of an expanded playfield area (2 full-size baseball diamonds, 1 full-size soccer field)
- Phase 2: Construction of an access road to a new pavilion large enough to accommodate festival type events, and allow for a variety of activities to take place. Construction of a bike skill park area and a multi-purpose paved flat area.

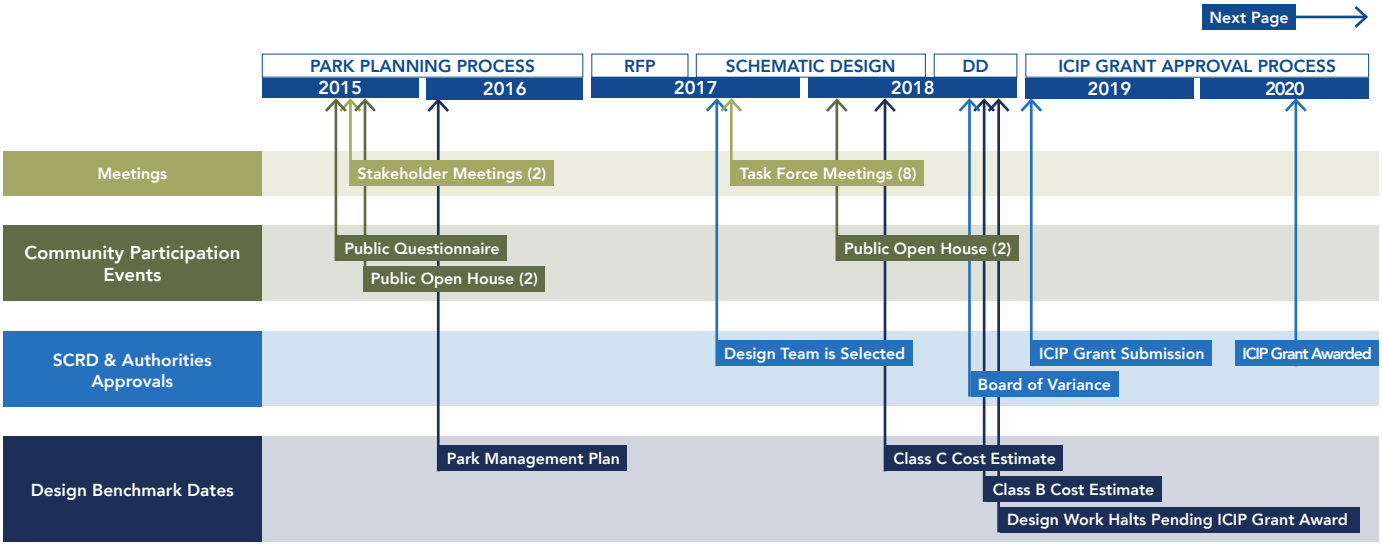
In 2005, a new playground structure was built and upgrades were made to the Park entrance and parking facilities.

In 2007, the Connor Park Concept Plan was reviewed after receiving input from the community. The consensus was that the amenities identified as priorities in 2003 remained relevant (Appendix A).

In 2009/2010, a new field washroom facility, with a covered area facing the parking lot, was constructed at the entrance of the park.

Coopers Green Park Management Plan

The 2016 Coopers Green Park Management Plan identified a Community Hall Replacement as the highest priority enhancement for the park. Planning for a new hall began in 2016. The hall, designed for the beautiful site at Coopers Green Park, was envisioned as a community space for residents and as a destination venue for a wider population.



△ *Project history timeline - Refer to section 11 for future phases*

In 2020, a grant was awarded to support the construction of a new community hall in Halfmoon Bay.

In 2022, following a mandatory review of the original geotechnical report, the elevation for the Floor Construction Level was raised and new siting guidelines were provided. These revised design parameters required design changes anticipated to increase the cost of construction and challenged the ability to meet accessibility requirements. Additional uncertainties at Coopers Green included: limited parking space and minimum setback distances requiring zoning variances, known archeological significance of the park, and congestion around the boat ramp.

These challenges prompted the Board to consider alternative locations for the new community hall. An informal survey conducted in late 2022 to consider alternative sites suggested that public opinion was split between three options. The SCRD Board chose to relocate the project to Connor Park in March 2023. A portion of the community hall project budget was reallocated for future park enhancements to be made at Coopers Green Park.

Halfmoon Bay Community Hall

The new hall, with a smaller footprint than that proposed at Coopers Green Park, will be designed to align with the size and function of other SCRD community halls. It will complement other community facilities along the coast. Its location at the entrance of the park, will be ideal to support park events and play field activities.

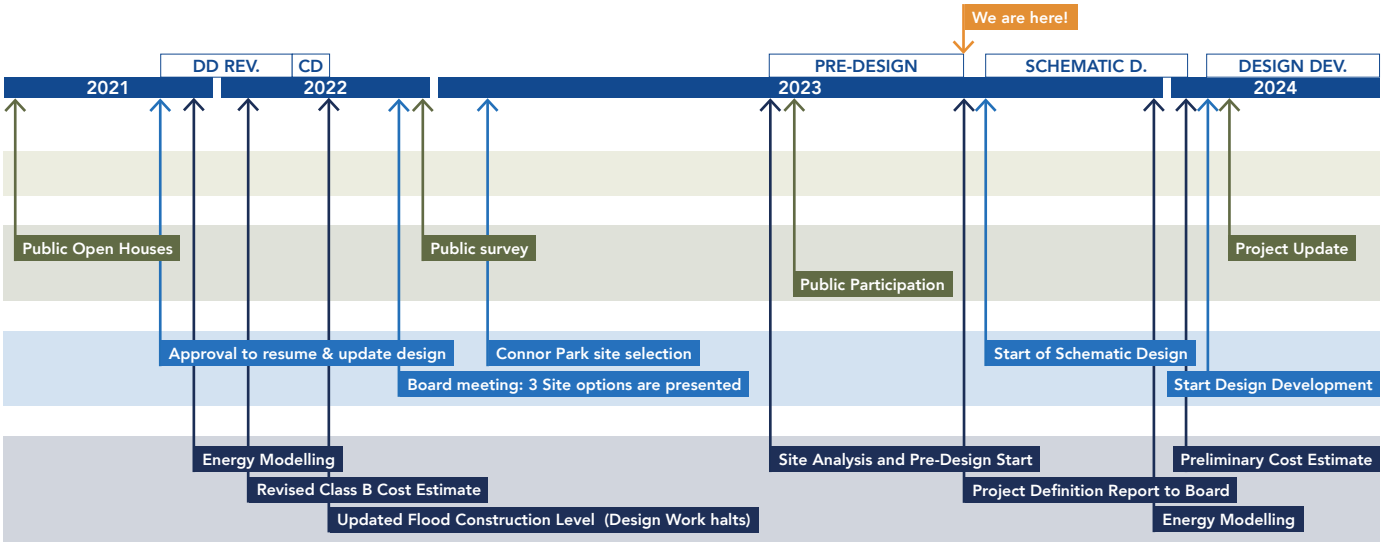
The community hall project will be designed to integrate with the existing amenities at Connor Park. Although not the festival pavilion envisioned in the 2003 Connor Park Concept Plan the community hall will be designed to intergrate with the existing amenities in the park.

For the new facility to serve the community at its fullest, the SCRD initiated a series of public participation events throughout the Summer of 2023. The intent was to gather input from the public regarding the siting and programming of the new facility. Attendees were encouraged to identify what they valued most about Connor Park and provide feedback on the new hall siting and programming. This information was recorded and used to inform the Project Vision.

Concurrently, the SCRD staff appointed various professionals to carry out pre-design due diligence studies for the Connor Park site. The extensive data collection required to start an informed design process included:

- Legal survey
- Geotechnical Report
- Environmental Impact Assessment Report
- Archaeological Preliminary Field Reconnaissance (Pre-existing from Forest Fuel Demonstration Project)

Following this pre-design phase, the ambition is to promptly start with the design and construction of the new Hall. It should be noted that a significant portion of project funding relies on the *Investing in Canada Infrastructure Program (ICIP)* grant which is set to expire by March 2025. The SCRD has submitted a request for a two-year extension and is awaiting a formal response.



3 Public Participation

Once the decision was made to relocate the new hall to Connor Park, efforts began to inform the community and to gather input on values that should help guide the vision for the new facility. Three main avenues were taken to connect with the community.

Online

The SCRD published an interative website through the Let's Talk Platform. This provided a single location to follow project updates and find all relevant documents. Over 800 visitors engaged with the site and 23 questions were answered since May 2023.

Open House

The SCRD hosted an Open House at Connor Park on June 21st 2023. This beautiful and sunny afternoon saw hundreds of community members as staff invited the public to walk the site and share their visions for the project. While many grappled with the relocation of the new hall, enthusiasm for the project grew among others. Staff answered many questions and guided community members through potential siting challenges and opportunities that exist within the park. The values identified for the hall through this event were intimate, welcoming spaces and programming that inspired learning and growth. The community strongly values the serenity of the park and wants to facilitate connections more than events.

"This is a vitally important project for the Halfmoon Bay community"

Community check-in survey respondent

Public Events

Booths were set up at both the Roberts Creek and Sechelt farmers markets throughout the summer to help share the project and solicit more input from the broader community. Staff heard from community groups excited for the future space to provide services to Halfmoon Bay residents. From education to fitness, the new community hall should facilitate community groups that seek to connect with the residents in their locale.

Other Stakeholders

This project will continue to engage with the School District, shíshálh Nation, and the Ministry of Transportation and Infrastructure to align best with their values and provision of services.

This information was presented to an SCRD committee on September 28th 2023.

△ *Public participation event at Connor Park - June 2023*

4 Project Vision

Statement of Intent & Project Evaluation Parameters

A Hall for the Community

With limited social infrastructure, Halfmoon Bay and its surrounding areas require a community hall that supports the ever-evolving lifestyles, events, and recreational activities of its residents. The ambition of this project is to provide a gathering space for the community of Halfmoon Bay and the residents of the Sunshine Coast. The hall will create opportunities for greater social connections and provide an important space for community events.

The new community hall will be bright and open, with views out to its natural surroundings. Simple in its components, the architectural program is to be arranged in a way that is easy to construct, operate and maintain while being adaptable and flexible to cater to various user groups and activity types. The program areas of the building are specific but it is understood that these spaces need to adapt to a variety of community uses and functions. The intention for the new hall is to not be redundant in its programming but to complement existing amenities like those offered at Connor Park and at the Halfmoon Bay Elementary School adjacent to the park.

A Hall within the Park

Connor Park is surrounded by mature forest and its natural diversity is important to the community of Halfmoon Bay. The community hall building will integrate with the existing outdoor facilities through careful design decisions while minimizing its impact on the park's natural setting. The siting of the new building will consider the preservation of significant trees and existing park amenities and will be central and connected to park activities. The design of the public realm surrounding the building will be an important design challenge which will ultimately enrich the experience for both hall and park users.

A Hall that is Inclusive & Universal

A community hall hosts a wide range of users with diverse needs. As such, it is important to provide spaces that are welcoming, safe and inclusive of any gender, respecting each unique individual's identity, needs, differences and characteristics. The Hall will be designed to welcome all individuals and their uniqueness. It will provide safe and non-discriminating facilities by thoughtfully integrating accessible and universal solutions throughout each step of the design and strive to eliminate barriers to mobility for all users.

A Hall that is Sustainable & Durable

As a social anchor for the community, the hall will be designed to last. Durability is an important component to sustainable design and includes the careful selection of materials and the robust detailing of their assembly.

Environmental building performance is a crucial aspect of sustainable building practices. The design will focus on providing the hall with a high-performance and long-lasting building envelope. Passive design solutions will be explored to deliver a building that stays warm in the Winter and cool in the Summer without relying on expensive equipment.

Mechanical and electrical systems will be designed to ensure the hall is easy and affordable to operate while providing outstanding environmental comfort.

Building design performance will be quantified through energy modelling tools to ensure that environmental targets and operational cost expectations are met.

Consideration will be given in the selection of products and building components to limit the embedded carbon footprint of the new facility.

A Hall that is Affordable

The current community hall project scope has been revised to suit a smaller construction budget.

The hall is now comparable in size to other SCRD facilities along the Coast. Support spaces have been reduced accordingly, making for a smaller overall building size.

The kitchen will be designed as a reheat and serve facility (refer to Section 5 for details on the Project Scope).

△ *Dining Hall Project - Conceptual Sketch*

The new site and architectural program will allow for a lower project cost and greater financial certainty.

The hall will be designed with the intention of minimizing operational costs. This will be achieved by designing a building with durable, high-performing systems and finishes. Despite its size, the materials, detailing and equipment of the building will need to be suitable for a high-traffic public building.

The reduced project scope will enable the SCRD to keep the rental fees affordable and aligned with that of other SCRD operated halls.

A Hall that is Accessible

Connor Park is accessible to the local community it aims to service. The neighbourhood density enables more than 700 parcels to be within a 30-minute walk of the new hall. Transit users will find the nearest bus stop on Southwood Road, a 650 meter walk from the new hall. Those arriving by car may access the park through one of two entrances along Northwood Road. Current parking available at Connor Park consist of informal graveled areas with one main lot and multiple smaller pockets of parking along the gravel road wrapping around the South East corner of the park.

The existing parking capacity, over 40 cars, currently provides sufficient space to accommodate park users during busy events at the playfield. This also exceeds the 12 parking stalls required by the bylaw for the new hall.

The SCRD staff has engaged with the school district to discuss the potential for use of the school parking lot for occasional overflow parking. Revised booking processes can be established to mitigate conflicts and congestion.

"teaching by the community for the community"

Resident's vision for Halfmoon Bay Community Hall

5 Scope of Work

Description of the Architectural Program and Site Improvements

Functional Program

The functional program describes what will be included in the building and how these components will relate to each other to fulfill the design objectives and respond to the project and site constraints.

The proposed project consists of a single-story building with a net area of 205m^2 (2,200 ft^2) plus along with a component of covered outdoor space.

The main hall space, with an area of 112 m^2 (1,200 ft^2) will be designed to accommodate 100 seated guests in a dining configuration. The space will have high ceilings with exposed wood finish and ample access to daylight and views of the park with large windows and glazed doors. It will offer direct access to an outdoor covered area for year-round use. The hall will accommodate a wide range of activities from seated dining events, birthdays, lectures, meetings, classes and seminars.

The SCRD understands some members of community's interest in ball sports and pickleball in particular. However, for the hall to accommodate such activities, a substantially larger floor area and ceiling clearance would be necessary compared to what is required for the current building scope. Additionally, the Halfmoon Bay Elementary School can be utilized for these types of activities.

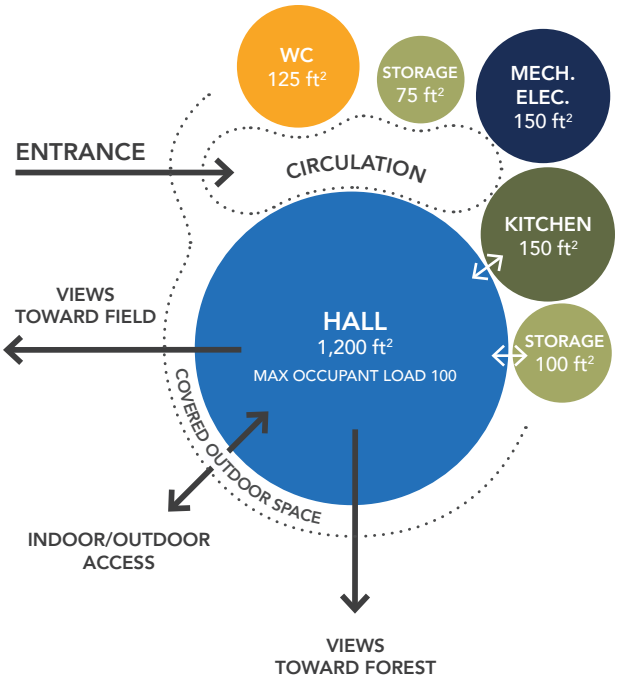
In addition to the main hall space, the new facility will integrate a series of support programs.

A kitchen will provide users with the ability to store, reheat and serve prepared meals. The kitchen is not intended for meal preparation, commercial vendors or park concession. The kitchen will be adjacent to the main hall space for ease of serving and clearing tables. It will also be fitted with conventional small kitchen appliances.

Adjacent to the main space, a small room will be dedicated to the storage of folding tables and chairs. Additional space will be provided for general storage, and custodial supplies. The hall will not be designed to accommodate user groups' storage.

The Community Hall will provide gender neutral washrooms to ensure a safe, fair, and inclusive space for all. The washroom facility will be accessible through the main circulation/lobby and located in a way that ensures privacy by obstructing direct views from the hall. Three (3) separate gender-neutral toilet rooms will be provided, two (2) of which will be designed to universal accessibility standards.

Finally, a locking service room will house the building electrical and mechanical components. The room will be adjacent to the kitchen and the hall so as minimize plumbing and duct runs. The service room must also have direct access to the outside to satisfy hydro requirements.

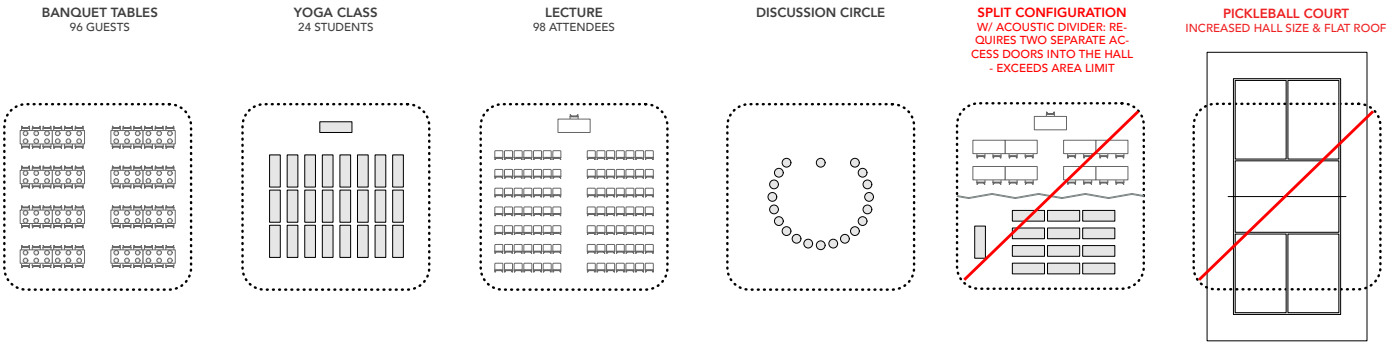


△ *Functional program adjacency diagram*

Main Hall Space

Occupant load: *100* **Net Area:** *112 m² (1200 ft²)*

- *Exposed wood finish*
- *Views to outdoor*
- *Access to outdoor covered area*
- *Audio visual rough-ins*
- *Acoustic treatment*
- *High performance windows*
- *Resilient flooring*
- *Wall protection*
- *Sloped ceiling*
- *Dedicated table and chair storage*



Kitchen

Net Area: *14 m² (150 ft²)*

- *Residential grade Dishwasher*
- *Residential grade Cooktop & oven*
- *Residential hood*
- *Double sink*
- *Locking Fridge*
- *Locking Freezer*
- *Commercial holding cabinet*
- *Custom millwork locking cabinet*
- *Tiled backsplash*
- *Stainless steel countertops*
- *Non-slip resilient flooring*
- *Acoustic tiles ceiling*
- *Small kitchen appliances*

Table and Chair Storage

Net Area: *9.5 m² (100 ft²)*

- *Sized to accommodate 100 chairs and 16 30" x 72" folding tables*
- *Locking cabinet for AV equipment*
- *Direct access to hall*
- *Resilient flooring*
- *Gypsum wall board ceiling and walls*
- *Wall protection*
- *Steel corner guards*

General Storage / Custodial room

Net Area: *7 m² (75 ft²)*

- *Locking door*
- *Open shelving for supplies*
- *Locking cabinet*
- *Mop sink / Mop holder*
- *Mop sink 3-sided splash guard*
- *Non-slip resilient flooring*
- *Gypsum wall board ceiling and walls*

Washrooms

Net Area: *12 m² (125 ft²)*

- *Two (2) gender-neutral universal toilet rooms*
- *One (1) gender-neutral toilet room*
- *Resilient flooring*
- *Gypsum wall board ceiling and walls*
- *Porcelain tiled walls up to 1.8m*
- *Flush-tank toilet fixtures*
- *Wall-hung sinks*
- *Electric hand-dryer*
- *Occupancy sensor lighting*
- *Washroom accessories*

Lobby / Circulation

- *Covered entryway / Canopy*
- *Glazed door entrance*
- *Power door operators*
- *Recessed door mat*
- *Millwork coat storage and bench*
- *Building signage*
- *Wall protection*

Design Assumptions

Sustainable design

Several sustainable design strategies will be explored by the design team over the next design stages of the project:

- High-performance building envelope
- Renewable energy sources (PV technologies)
- High efficiency mechanical and electrical equipment
- Natural storm water management practices
- Digital controls for building systems
- Net-Zero-Energy Ready

These strategies will be evaluated to determine if they provide cost effective value to the project. Through energy modeling of the building and life cycle cost analysis, the design team will be able to recommend strategies that are best suited to the community hall and demonstrate why others may not be appropriate.

As previously mentioned, we firmly believe that durability is an integral component of sustainability. Therefore, a sustainable envelope design entails the use of durable materials and assemblies. The roof will be designed with a 10-year RCABC RoofStar guarantee and consist of metal panels with outboard insulation, providing the building structure with a durable protection from moisture and repeated temperature variations.
Fibrous cement panels and metal panels will be used to clad the exterior walls as they are durable and non-combustible.

Structural Systems

In light of the geotechnical report, it can be assumed that the substructure will consist of a reinforced concrete slab on grade supported by reinforced concrete strip footings. Some localized concrete piers may be required to support columns around the hall space.

It is anticipated that the superstructure will have two distinct zones.

- Mass timber structures are an effective solution for rectangular rooms with longer spans. Thus, a timber post and beam/truss system will be well suited for the main hall, providing the space with high-ceilings and a unique Coastal identity, while allowing for unobstructed views of the outside.
- The support spaces will be constructed with conventional light-wood framing and prefabricated engineered trusses since mass timber is less cost effective for these smaller spaces.
- Shear walls and diaphragms will be constructed with plywood sheathing.

The project will prioritize the use of wood products for the building superstructure.

Mechanical Systems

The plumbing systems in the building will include copper supply piping with a centralized electric boiler located in the service room. Fixtures include ultra-low-flow faucets, urinals and water closets.

Fire suppression system is not required for the building, however, a monitored fire alarm is recommended.

The heating and ventilation system for the building will include a single central air-source heat pump as well as a centralized Air Handling Unit (AHU) providing heating and cooling for the whole facility. The heat pump will be pad or roof-mounted on a non-exposed portion of the building. The air extraction will rely on a Heat Recovery Ventilation system (HRV) to minimize energy losses.

Overhead air supply and return is anticipated to be the most cost-effective approach for air distribution. Exposed ductwork in the hall will be coordinated and integrated with other engineered systems and finishes.

Electrical Systems

The electrical systems for the community hall will include power distribution, emergency power, lighting systems, fire-alarm system, security and telecommunications systems.

Three-phased service requirement is anticipated for the mechanical systems.

Emergency lighting will be ensured by battery packs.

LED lighting fixtures will be used throughout the hall. Lighting design includes interior lighting and lighting controls (occupancy sensors), exterior building lighting and landscape and parking area lighting.

Civil Design and Site Improvements

Civil engineering work for the project will include designing finished grades (cut and fill of subgrade material), ensuring service connections to the site and building as well as the design of wastewater disposal systems.

In order to integrate the building within the existing site, a certain amount of excavation and earthwork will be required. The information provided by the geotechnical report supports the assumption that no blasting will be required for the project.

Designing the finished grades will consider integration of existing driveways and parking areas. Low impact improvements to facilitate access and parking should be considered. The parking calculations will be based on SCRD Bylaw 722 which dictates that for Assembly use, six (6) off-street parking spaces shall be constructed per 100 m2 of floor space. Assuming a gross floor area of 205 m^2 (2,200 ft^2), the bylaw requires twelve (12) parking spaces including one (1) accessible space.

Water service is available accross Northwood Road. Electrical service is similarly located. These will be brought to the South end of the new building.

A new fire hydrant will be required on the South side of Northwood road in front of the park entrance.

A wastewater disposal system will be designed to accommodate the building program and its occupant load. In addition to the area required for the building to be constructed, the site analysis will be considering the need for a level area in close proximity to the building where the septic system can be located. There may be opportunities to upgrade the existing septic system to accommodate the additional load from the new building but this assumption should be tested by a waste water system engineer early in the design.

Landscape design

The ambition of the project is to integrate the new community hall with the park's existing assets and natural features.

The community and the design team agree on the importance of minimizing tree removal. All efforts will be made to preserve significant tree specimens identified in the Environmental Impact assessment report. Western White Pines were noted as being especially dear to the community.

Integrating the building within the park will involve reinforcing connection between the inside and outside. Careful design consideration will be given to the entry sequence as the hall will sit at the transition where developed landscape meets the forest. A particular emphasis will also be placed on establishing visual and physical connections between the forest, the playing field, the playground and the hall. Acting as a link between the building and the landscape, the covered patio area will soften the indoor/outdoor transition.

With the site generally sloping toward the West and Southwest, accommodating the grade change will require some earthwork to provide a level area for the building to sit on. In an effort to preserve the identity of the existing site and minimize costs, the design team will strive to limit excavation and grading. This approach is consistent with the landscape design commitment of retaining the significant portions of the site while enhancing the disturbed areas with native planting.

As the intent of the project is to limit its impact on the site, landscape interventions and outdoor lighting will be kept to a minimum. However, the chosen approach to locate the building in a previously disturbed area of the site implies that the affected amenities will need to be . Whether it is parking, play equipment or trails, the community hall will aim to preserve the park and its amenities.

Integrating the design within its context also requires protecting the building and the landscape from the risks they pose to each other. Thus, fire safety will be assessed and fire-smart design strategies will be considered to protect the park, the building and the commmunity.

6 Site Analysis

Comparative site study in relation to building program and budget

General

The selection of the most suitable building site is a critical part of the design process. A comparative site study consists in the concurrent analysis of several sites. Using consistent parameters such as constraints, development impact and physical characteristics, a comparative site study was used to rank the suitability of the sites and advise the SCRD accordingly.

Identifying Potential Sites

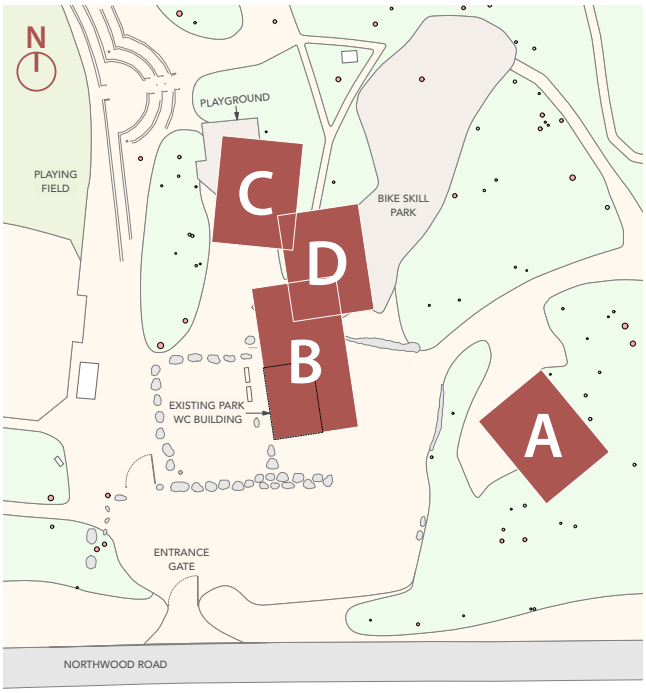
When Connor Park was selected as the location of the new community hall, the Southeast corner of the park was naturally identified as the project site due to its existing amenities and connection to the road infrastructure. Within this context, it is the ambition of the design team to minimize the impact on the park, its activities, amenities and its natural features. Therefore, the selection process for potential sites within the Southeast corner of the park was driven by the following parameters:

- Level area
- Previously disturbed ground
- Minimized proximity to significant tree specimens
- Proximity to existing circulation
- Minimized impact on park functions & circulation

Four potential building sites were identified:

- Site Option A: Parking Lot Knoll
- Site Option B: Existing Park WC
- Site Option C: Playground Area
- Site Option D: Bike Skill Park Area

These options were tested against a three-dimensional digital model of the site by inserting a building massing representative of the hall's anticipated size. The test fits provided critical information regarding the physical constraints of each option including its topography, projected grading and potential tree removal.



△ *Potential building sites thumbnail map*

Site Evaluation Notes

Using the data collected from professionals (Geotechnical report, Environmental Impact Assessment Report, Survey) and physical test fits, the site options were compared against a set of consistent parameters ranging from physical conditions, land use & legal constraints, environmental impact, budget impact and access to available services. Detailed evaluation criteria and ranking can be found on the following pages along with detailed site plans.

Despite its satisfactory environmental impact ranking and its minimal disruption of existing park amenities, Site Option A is too congested as a result of being wedged by the access gravel road to the North, the existing parking to the West and steep terrain slope requiring significant excavation to the East. Additionally, the steep gravel road makes the access to the building challenging for users with reduced mobility. Finally, by being turned toward the gravel

parking lot, Option A has little potential for covered outdoor space and establishing meaningful relationships with other park amenities. Its proximity to the road and orientation, make it more prone to creating acoustic disturbance for its immediate surroundings.

Site Option B makes an attempt at solely constructing the hall on previously disturbed ground and have lower environmental impact on the site. However, to achieve this, the recently built (2010) and functional park washroom must be removed. The deleted washroom facilities would have to be replaced and integrated into the new hall building. The environmental impact of demolishing, disposing of, and rebuilding equivalent amenities would greatly offset the benefits of building on a previously disturbed site. Additionally, integrating the washroom facility into the new building, would increase its footprint by nearly 50% and substantially drive up the construction cost, thus working against the project's attempt to remain economical. Option B would benefit from its proximity to the existing septic field which could potentially be upgraded to accommodate the new facility. However, the existing septic field constraints the building's location by pushing it toward the East and thus creating a pinch point in the overall park circulation.

It was originally anticipated that siting the hall at the location of the existing playground (Option C) would allow for views to the playing field while pleasantly screening the building with the tree grove located along its west facade. However, the study showed that to allow for an appropriate construction zone, this option would require cutting down most of the grove West of the building. This would include cutting down significant tree specimens which is not acceptable within the framework of the project. Additionally, this option would be further away from the park entrance, making access more challenging for users with reduced mobility. Finally, Site Option C would require the relocation of the playground elsewhere in the park.

Recommendations

The findings from the comparative site analysis show Option D to be the most suitable site for the future Community Hall. While providing satisfactory levels of accessibility and proximity to the existing site access points, Option D offers the best compromise between excavation cost and tree removal. Option D is not expected to require the removal of significant tree specimens despite potentially impacting up to two specimens' root system. A more in-depth arborist report would be required to confirm this assumption once the site selection has been finalized.

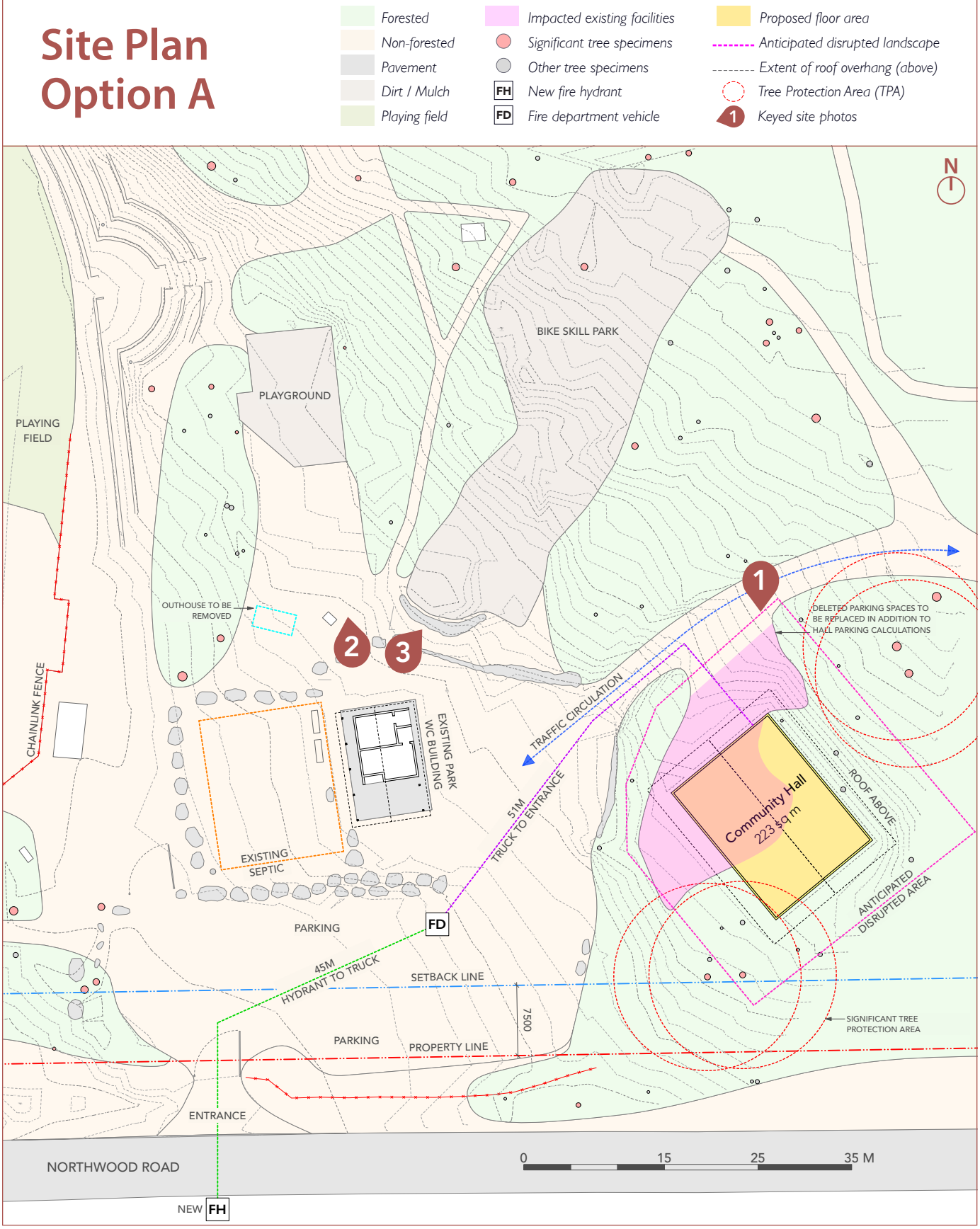
The comparative study showed that Option D allows for a strong visual relationship between the hall and the playing field while preserving the tree grove bordering it. Unfortunately, Option D will have an impact on the bicycle skills area and construction activities may temporarily interrupt the use of the playground. This option places the hall at the centre of the site, yet it allows for fluid circulation and makes the building a gateway point to the park's trail network.

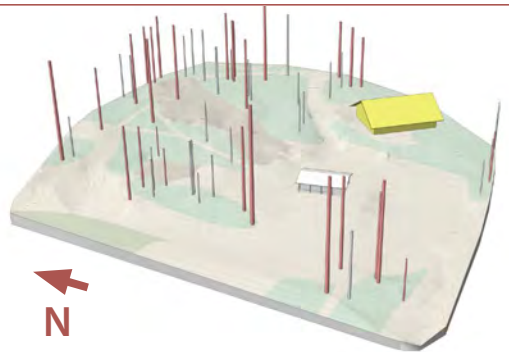
With its South facade facing the parking lot, the building would have an easily recognizable entrance. However, the building would truly open to the West, facing the playing field, adjacent to the playground and acoustically screened by the park washroom building.

Finally, Option D is adjacent and uphill from a flat level area to the West, which may be a suitable location for a septic field in the event that the existing septic system would not be able to accommodate the new hall.

Site photos as keyed on site plan drawings ▽

Site Plan Option A





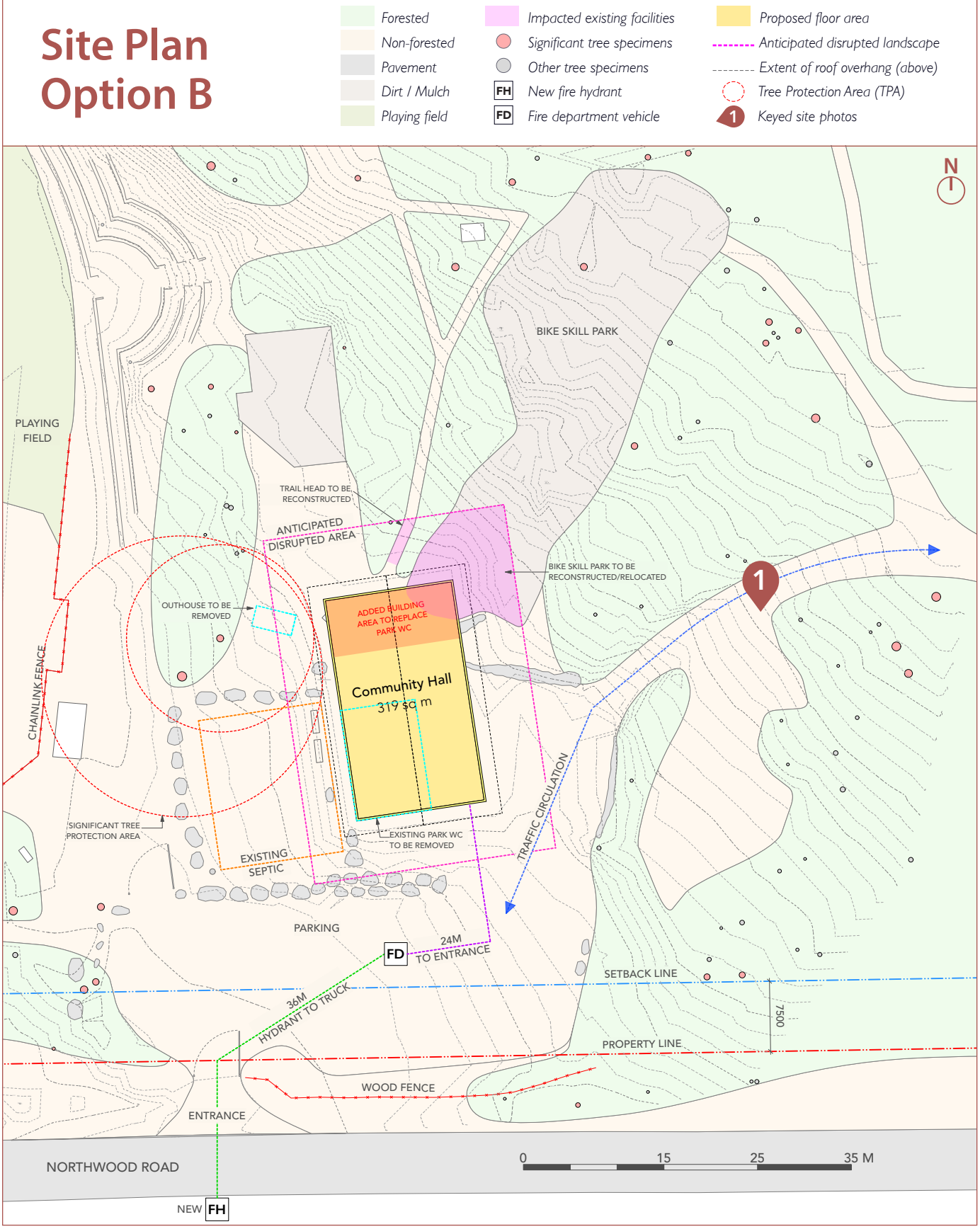
Evaluation Matrix Option A

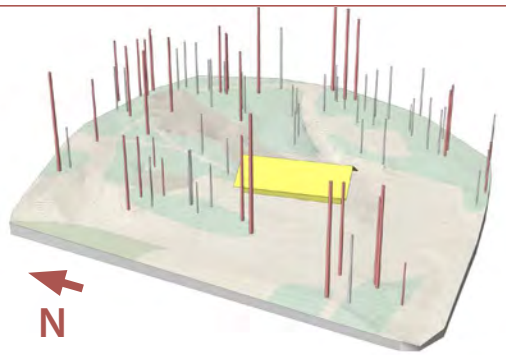
* Subject to confirmation from the fire department
** Refer to Environmental Impact Report 23/07 by Coastal Raintree Consulting Ltd.
*** Subject to advice from qualified professional Arborist regarding tree health and risk
**** Refer to Archaeological report 22/10/19 by In Situ Archaeology
***** Refer to Professional Geotechnical report 23/07/13 by Frontera Geotechnical
****** Subject to advice from qualified professional septic design consultant

Evaluation Criteria

Land Use Planning			**33%** good
Meet setback requirements	✓		
Construction zone can be hoarded off without impacting park activities	×	Reduced parking and blocks through-road access	
No pedestrian or vehicle traffic control measures required	×	Pedestrian traffic across gravel access road	
Site design qualities			**43%** good
Insertion within existing site assets and activities	×	Building is removed from the rest of the site by the road	
Significant natural light opportunities	✓		
No significant requirement for solar shading	×	Exterior shading on West façade - Summer months heat gain	
Opportunities for outdoor spaces	×	West facing façade overlooks parking. Limited space otherwise	
Hall main entrance is removed from traffic and park circulation	×	Congested entrance next to gravel road	
Building location does not impede vehicle circulation through site	✓		
Building is easily recognizable from the street	✓		
Impact on Existing Amenities			**80%** good
Hall Building does not reduce existing parking capacity	×		
Hall Building does not impact playground area	✓		
Hall Building does not impact bike skill area	✓		
Hall Building does not impact existing park WC facility	✓		
Hall Building does not impact existing covered picnic area	✓		
Site selection budget impact			**100%** good
Added demolition cost from removal of existing, functional amenities	✓	No demolition required	
Significant added project cost to replace existing, functional amenities	✓	Parking replacement cost would be minimal	
Site development cost to accommodate larger building footprint	✓		
Safety + Security			**0%** good
No specific safety hazard to note	×	Building proximity to the gravel access road	
Accessibility			**50%** good
Continuous wheelchair accessible route from street and from parking area	×	Gravel access road slopes at 1:6 (too steep to be accessible)	
Pick-up/Drop-off area may be accommodated close to the main entrance	✓		
Fire Safety			**50%** good
Fire truck access to within 15m of main entry*	✓		
Fire hydrant & Fire department vehicle access (New hydrant needed)*	×	Hall entrance further than 90m from hydrant	
Environmental Impact			**67%** good
Low environmental impact of demolition/disposal of existing, functional amenities	✓		
Low environmental impact of rebuilding existing, functional amenities	✓		
Environmental leadership through preservation of existing, functional amenities	✓		
No removal of significant trees **	✓		
No encroachment on Tree Protection Area (TPA) **/***	×	4 (3 Firs, Cedar)	
No removal of non-significant tree specimens**	×	11 non-significant tree specimens to be removed	
No archaeological material, feature or potential ****	✓		
No impact on endangered habitats or wetlands**	✓		
Acoustic line of sights and proximity to neighbour properties	×	Close proximity and direct line of sight to Northwood Rd.	
Soils / Topography			**33%** good
Suitable bearing soils for permanent foundation *****	✓		
Minimal clearing and grading required	×		
No special building perimeter drainage required	×		
Utilities + Services			**75%** good
Electrical (Hydro) service availability	✓	Across Northwood Road	
Potable water service connected directly to municipal system	✓	Across Northwood Road	
Suitable septic field area available downslope from site ******	×		
Communication service available (cable, telephone, fibre)	✓	Across Northwood Road	
	Total Rating:		**53%**

Site Plan Option B





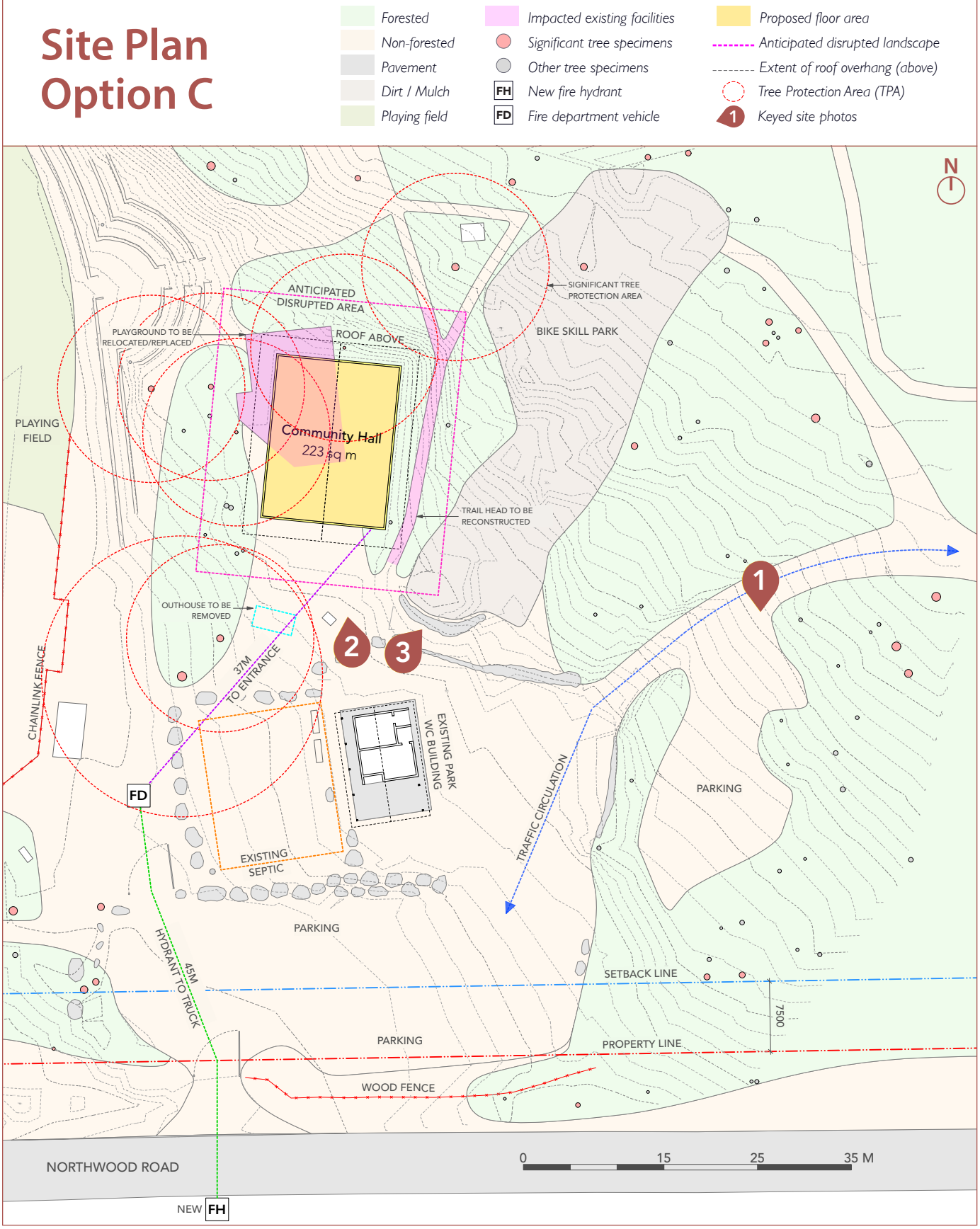
Evaluation Matrix Option B

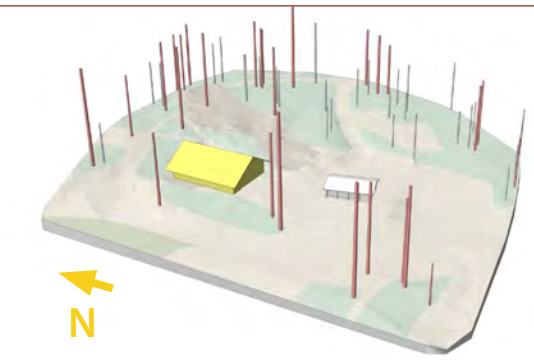
* Subject to confirmation from the fire department
** Refer to Environmental Impact Report 23/07 by Coastal Raintree Consulting Ltd.
*** Subject to advice from qualified professional Arborist regarding tree health and risk
**** Refer to Archaeological report 22/10/19 by In Situ Archaeology
***** Refer to Professional Geotechnical report 23/07/13 by Frontera Geotechnical
****** Subject to advice from qualified professional septic design consultant

Evaluation Criteria

Land Use Planning		**67%** good
Meet setback requirements	✓	
Construction zone can be hoarded off without impacting park activities	×	Construction removes access to WC and blocks through-road access
No pedestrian or vehicle traffic control measures required	✓	
Site design qualities		**43%** good
Insertion within existing site assets and activities	×	Building is centrally located but obstructs site circulation
Significant natural light opportunities	✓	
No significant requirement for solar shading	×	Exterior shading on West façade - Summer months heat gain North
Opportunities for outdoor spaces	✓	west corner has good potential for outdoor space Entrance
Hall main entrance is removed from traffic and park circulation	×	adjacent to main site circulation with little breathing room
Building location does not impede vehicle circulation through site	×	Constrained by septic system, building creates pinch point at SE
Building is easily recognizable from the street	✓	
Impact on Existing Amenities		**20%** good
Hall Building does not reduce existing parking capacity	×	Informal parking along the existing WC and rock-wall deleted
Hall Building does not impact playground area	✓	
Hall Building does not impact bike skill area	×	
Hall Building does not impact existing park WC facility	×	
Hall Building does not impact existing covered picnic area	×	
Site selection budget impact		**0%** good
Added demolition cost from removal of existing, functional amenities	×	Demolition and disposal of existing park WC
Significant added project cost to replace existing, functional amenities	×	Park WC facility adds 20-30% floor area to the building
Site development cost to accommodate larger building footprint	×	
Safety + Security		**0%** good
No specific safety hazard to note	×	Building proximity to the gravel access road
Accessibility		**100%** good
Continuous wheelchair accessible route from street and from parking area	✓	
Pick-up/Drop-off area may be accommodated close to the main entrance	✓	
Fire Safety		**100%** good
Fire truck access to within 15m of main entry*	✓	
Fire hydrant & Fire department vehicle access (New hydrant needed)*	✓	
Environmental Impact		**33%** good
Low environmental impact of demolition/disposal of existing, functional amenities	×	Waste disposal of park WC building demolition
Low environmental impact of rebuilding existing, functional amenities	×	Emissions from additional construction for new park WC
Environmental leadership through preservation of existing, functional amenities	×	Park WC built in 2010, do not need upgrading or replacement
No removal of significant trees **	✓	
No encroachment on Tree Protection Area (TPA) **/***	×	2 (Cedars)
No removal of non-significant tree specimens**	×	3 non-significant tree specimens to be removed
No archaeological material, feature or potential ****	✓	
No impact on endangered habitats or wetlands**	✓	
Acoustic line of sights and proximity to neighbour properties	×	Close proximity and direct line of sight to Northwood Rd.
Soils / Topography		**100%** good
Suitable bearing soils for permanent foundation *****	✓	
Minimal clearing and grading required	✓	
No special building perimeter drainage required	✓	
Utilities + Services		**100%** good
Electrical (Hydro) service availability	✓	Across Northwood Road
Potable water service connected directly to municipal system	✓	Across Northwood Road
Suitable septic field area available downslope from site ******	✓	Potential for upgrade to existing septic system
Communication service available (cable, telephone, fibre)	✓	Across Northwood Road
	Total Rating:	**56%**

Site Plan Option C





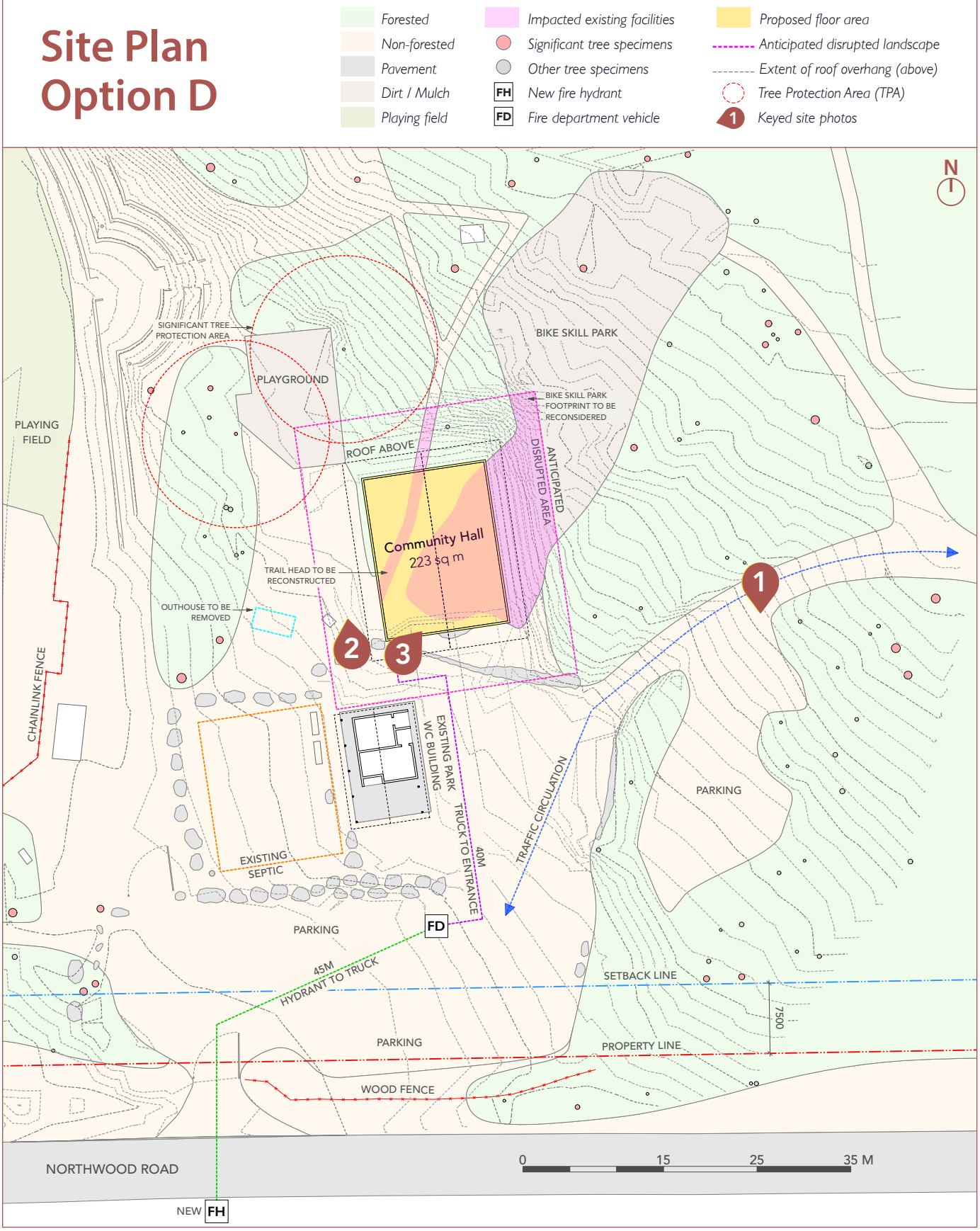
Evaluation Matrix Option C

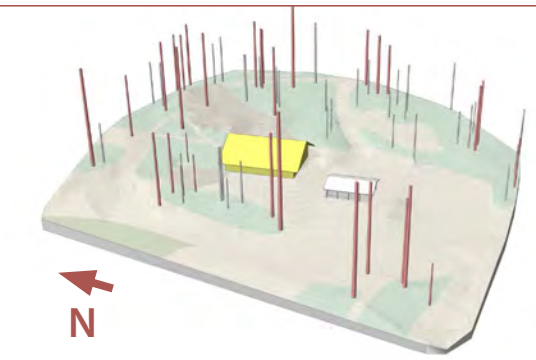
* Subject to confirmation from the fire department
** Refer to Environmental Impact Report 23/07 by Coastal Raintree Consulting Ltd.
*** Subject to advice from qualified professional Arborist regarding tree health and risk
**** Refer to Archaeological report 22/10/19 by In Situ Archaeology
***** Refer to Professional Geotechnical report 23/07/13 by Frontera Geotechnical
****** Subject to advice from qualified professional septic design consultant

Evaluation Criteria

Land Use Planning			100% good
Meet setback requirements	✓		
Construction zone can be hoarded off without impacting park activities	✓		
No pedestrian or vehicle traffic control measures required	✓		
Site design qualities			71% good
Insertion within existing site assets and activities	✓	Well connected to play field and trail access	
Significant natural light opportunities	×	Building significantly shaded on 3 sides year round	
No significant requirement for solar shading	✓		
Opportunities for outdoor spaces	✓	South and West façade as trees have been removed for construction	
Hall main entrance is removed from traffic and park circulation	✓		
Building location does not impede vehicle circulation through site	✓		
Building is easily recognizable from the street	×	Building is tucked away behind park WC	
Impact on Existing Amenities			80% good
Hall Building does not reduce existing parking capacity	✓		
Hall Building does not impact playground area	×	Pre-existing discussion to replace playground equipment	
Hall Building does not impact bike skill area	✓	Or very marginally during construction	
Hall Building does not impact existing park WC facility	✓		
Hall Building does not impact existing covered picnic area	✓		
Site selection budget impact			100% good
Added demolition cost from removal of existing, functional amenities	✓	Cost of dismantling the playground is marginal	
Significant added project cost to replace existing, functional amenities	✓	The existing playground needs replacement	
Site development cost to accommodate larger building footprint	✓		
Safety + Security			0% good
No specific safety hazard to note	×	Heightened tree fall hazard (isolated trees close to the building)	
Accessibility			50% good
Continuous wheelchair accessible route from street and from parking area	✓		
Pick-up/Drop-off area may be accommodated close to the main entrance	×	Main entrance at a distance from parking area	
Fire Safety			50% good
Fire truck access to within 15m of main entry*	×		
Fire hydrant & Fire department vehicle access (New hydrant needed)*	✓		
Environmental Impact			67% good
Low environmental impact of demolition/disposal of existing, functional amenities	✓		
Low environmental impact of rebuilding existing, functional amenities	✓		
Environmental leadership through preservation of existing, functional amenities	✓	Pre-existing discussion to replace playground equipment	
No removal of significant trees **	×	2 (White Pine, Arbutus)	
No encroachement on Tree Protection Area (TPA) **/***	×	4 (3 Cedars, White Pine)	
No removal of non-significant tree specimens**	×	8 non-significant tree specimens to be removed	
No archaeological material, feature or potential ****	✓		
No impact on endangered habitats or wetlands**	✓		
Acoustic line of sights and proximity to neighbour properties	✓	Building is tucked away and partially screened by the park WC	
Soils / Topography			33% good
Suitable bearing soils for permanent foundation *****	✓		
Minimal clearing and grading required	×		
No special building perimeter drainage required	×		
Utilities + Services			100% good
Electrical (Hydro) service availability	✓	Across Northwood Road	
Potable water service connected directly to municipal system	✓	Across Northwood Road	
Suitable septic field area available downslope from site ******	✓	Potential for upgrade to existing septic system	
Communication service available (cable, telephone, fibre)	✓	Across Northwood Road	
		Total Rating:	**65%**

Site Plan Option D





Evaluation Matrix Option D

* Subject to confirmation from the fire department
** Refer to Environmental Impact Report 23/07 by Coastal Raintree Consulting Ltd.
*** Subject to advice from qualified professional Arborist regarding tree health and risk
**** Refer to Archaeological report 22/10/19 by In Situ Archaeology
***** Refer to Professional Geotechnical report 23/07/13 by Frontera Geotechnical
****** Subject to advice from qualified professional septic design consultant

Evaluation Criteria

Land Use Planning			100% good
Meet setback requirements	✓		
Construction zone can be hoarded off without impacting park activities	✓		
No pedestrian or vehicle traffic control measures required	✓		
Site design qualities			100% good
Insertion within existing site assets and activities	✓	Well connected to play field and trail access	
Significant natural light opportunities	✓	Far enough removed from West tree grove	
No significant requirement for solar shading	✓	West tree grove minimizes excessive solar heat gain during summer	
Opportunities for outdoor spaces	✓	West façade (views toward the field & trailhead gateway point)	
Hall main entrance is removed from traffic and park circulation	✓		
Building location does not impede vehicle circulation through site	✓		
Building is easily recognizable from the street	✓	Only the West façade and the outdoor patio screened by WC	
Impact on Existing Amenities			60% good
Hall Building does not reduce existing parking capacity	×	Informal parking along the existing WC and rock-wall deleted	
Hall Building does not impact playground area	✓	Or very marginally during construction	
Hall Building does not impact bike skill area	×		
Hall Building does not impact existing park WC facility	✓		
Hall Building does not impact existing covered picnic area	✓		
Site selection budget impact			100% good
Added demolition cost from removal of existing, functional amenities	✓	No demolition required	
Significant added project cost to replace existing, functional amenities	✓	Bike skill park needs upgrades	
Site development cost to accommodate larger building footprint	✓		
Safety + Security			100% good
No specific safety hazard to note	✓		
Accessibility			100% good
Continuous wheelchair accessible route from street and from parking area	✓	Ramp as hardscape separation between WC building and Hall	
Pick-up/Drop-off area may be accommodated close to the main entrance	✓		
Fire Safety			100% good
Fire truck access to within 15m of main entry*	✓		
Fire hydrant & Fire department vehicle access (New hydrant needed)*	✓		
Environmental Impact			78% good
Low environmental impact of demolition/disposal of existing, functional amenities	✓		
Low environmental impact of rebuilding existing, functional amenities	✓		
Environmental leadership through preservation of existing, functional amenities	✓		
No removal of significant trees **	✓		
No encroachment on Tree Protection Area (TPA) **/***	×	2 (Arbutus, White Pine)	
No removal of non-significant tree specimens**	×	2 non-significant tree specimens to be removed	
No archaeological material, feature or potential ****	✓		
No impact on endangered habitats or wetlands**	✓		
Acoustic line of sights and proximity to neighbour properties	✓	Building is partially screened by the park WC	
Soils / Topography			33% good
Suitable bearing soils for permanent foundation *****	✓		
Minimal clearing and grading required	×		
No special building perimeter drainage required	×		
Utilities + Services			100% good
Electrical (Hydro) service availability	✓	Across Northwood Road	
Potable water service connected directly to municipal system	✓	Across Northwood Road	
Suitable septic field area available downslope from site ******	✓	Existing playground location or upgrade to existing septic system	
Communication service available (cable, telephone, fibre)	✓	Across Northwood Road	
		Total Rating:	**87%**

7 Conceptual Design Option

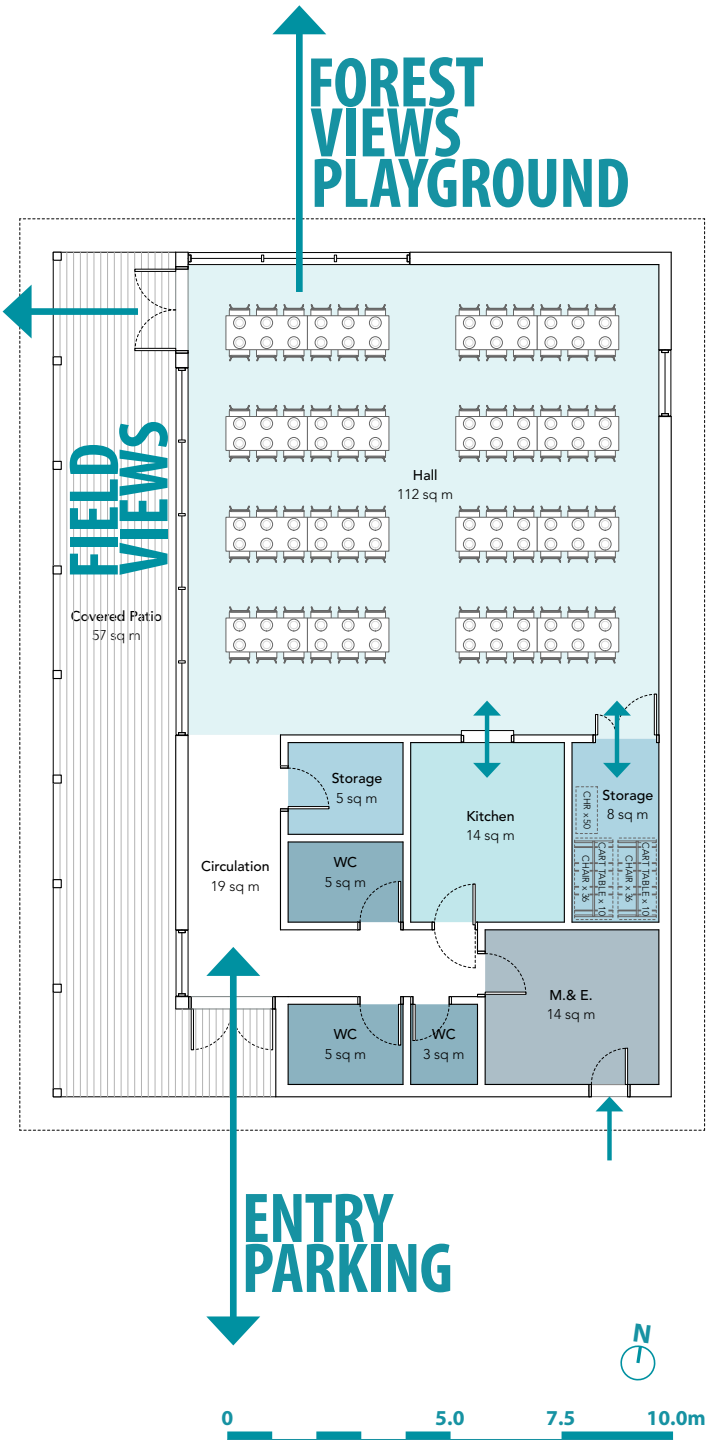
From Site Analysis and Project Scope to Design

Conceptual Floor Plan

Constraints and opportunities identified with Site Option D, together with the functional program outlined in the Scope of Work section allowed for a conceptual floor plan to be developed. Building access, views and topography contributed in locating each piece of the program.

This design has a gross floor area of 200 m² (2,150 ft²) and a net floor area of 184 m² (1,980 ft²) excluding the patio. The net areas shown on the drawing, result from minimum clearances and circulation widths required to satisfy the scope of work. It is anticipated that when integrating engineered systems and further resolving the design, the overall building will have a 205 m² (2,200 ft²) net area.

△ *Camp Kanata Dining Hall - Andre Johnson Architect*



△ *Camp Kanata Dining Hall - Andre Johnson Architect*

△ *Sakuragaoka Childcare Center - Kengo Kuma & Associates*

Opportunities & Constraints

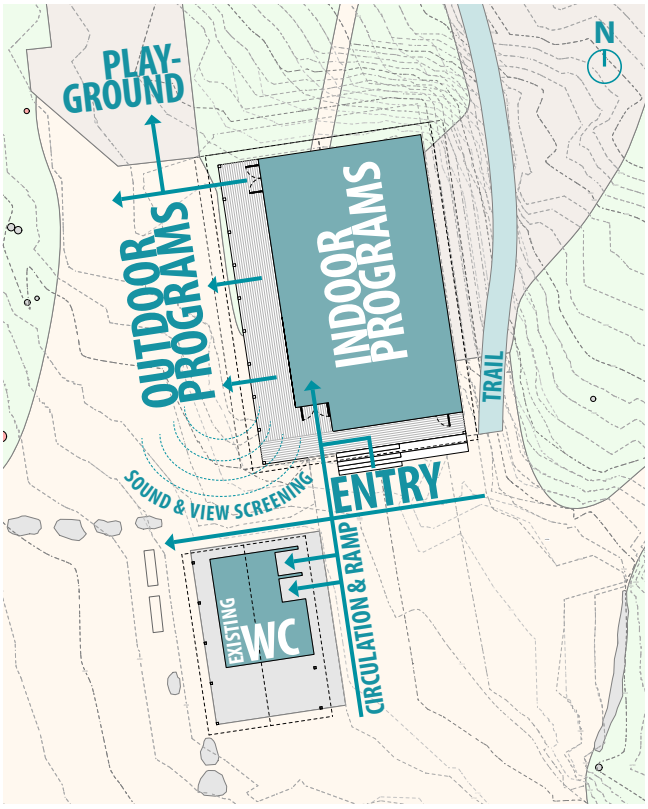
As previously discussed, Site Option D will provide the best compromise between site constraints and design opportunities.

Access, Circulation & Privacy

The benefit of siting the building close to the parking lot is two-fold. First, the hall will be easily identifiable from Northwood Road. Located on a slight knoll, the facade will be visible beyond the park washroom. Then, the access is more direct, particularly for users with reduced mobility. A ramp, required to reach the entrance from the parking lot, will act as a natural landscaped separation between the field washroom and the building entrance.
Additionally, the ramp and park washroom will help establish a hierarchy between the two main building facades:

- The South facade is the welcoming face of the hall. Looking onto the parking lot and focusing on circulation, it guides the users up to the building with stairs as well as the ramp. Adjacent to the ramp, benched seating would be the perfect meeting spot for hikers getting on the reconstructed trailhead at Southeast corner of the building.

▽ *Conceptual Site Circulation Diagram*



- On the other side, the West facade is more intimate with its covered patio. Opening up the hall activities onto the West side, it establishes a strong visual and physical connection with the field and the playground. This configuration also prevents having a direct line of sight between the street and the patio which is obstructed by the park washroom. This helps with privacy and minimizes sounds travelling from the hall toward the Northwood Road.

In siting the new community hall building, Option D carefully considers its location with respect to the existing field washroom. The slight and intentional misalignment aims at enriching the in-between space where circulation and impromptu programming can take place.

Topography

Grade changes are both generative of opportunities and imposing of technical constraints on the design. With the general slope of the site falling toward the Southwest, the Northeast corner of the community hall is lower than the existing grade. It is anticipated that grading in this area will extend at least six meters beyond the building walls to allow for an acceptable angle of repose while allowing the construction to proceed around the building. Consequently, the Northeast corner of the building will collect substantial water and require appropriate drainage strategies. The areas disturbed by the excavations will be replanted with native species and minimize excessive runoff.

Site Amenities

Option Site D offered a good compromise of using a previously disturbed area of the site while having a marginal effect on existing park amenities. However, both the existing trailhead and part of the Bike Skill Park (Snake Pit) will be compromised by the construction of the new hall. Temporary disruption to the playground access may occur during the construction period.

The trailhead will be rebuilt and integrated into the site improvements. Potential options to rebuilt or relocate the Bike Skill Park will be investigated by the SCRD within the context of other community facility improvements at Connor Park.

△ *Connor Park - view from main gravel parking lot and looking North*

8 Project Risk Assessment

Based on the assumption of Site Option D

RISK #	RISK DESCRIPTION	PROBABILITY	TIMELINE	IMPACT	MITIGATION STRATEGY	RISK RESERVE COST
1	Unforeseen soil conditions or bearing capacity	Very low	Early construction stages	Medium	Geotechnical investigations carried out in June 2023 investigated 5 pits including one at the building's anticipated location. With consistent results across all 5 pits, the occurrence of soil with lesser structural capacity within the building footprint could be resolved with localized foundation re-design. Another approach would be to obtain additional test pits specifically targeting the building footprint during subsequent design phases.	The unlikely probability of occurrence does not warrant a reserve cost
2	Unforeseen excavation volumes	Low	Early construction stages	Medium	The soil type reasonable predictability does not warrant significant concerns about additional excavation to reach load bearing soil. However, grading is costly and estimating cut & fill volumes can prove difficult to predict with precision. Civil consultant to provide estimate volumes. Particular care should be taken in the procurement documents phrasing around excavation costs.	Reserve amount should be allocated to excavation contingencies
3	Weather delays	Low	Construction	Medium (ICIP Grant)	Winter months may affect construction and impose delays. Delays are more likely with construction starting in the winter, delaying concrete pours. Time sensitive grant funding can be affected by delays.	No cost can be identified
4	Trade shortages / Market conditions	Medium	Tender	Medium/ High	Budget control is a critical aspect of this project. Construction costs have been volatile and quantity surveyor estimates reflect this climate with conservative estimates. Investigating alternative project delivery methods, like design stage construction management mitigates such risks. Refer to procurement method sections.	Upfront cost of alternative project delivery methods
5	Soil contamination remedial	Medium	Early construction stages	Low	Soil contamination may be identified during the removal of the decommissioned outhouse. A preliminary assessment of the outhouse integrity and the soil beneath would help identify risk and mitigate uncertainty.	Identify assessment cost
6	Budget creep	Medium	Design stages	Medium	Defining a precise and complete project scope prior to starting design is critical to avoid budget creep. Design changes impact on schedule and budget increase dramatically as the design progresses. Alternative project delivery methods where a construction professional is involved early in the process can help mitigate budget creep (see Section 10)	No cost can be identified

8 Project Risk Assessment

Based on the assumption of Site Option D

RISK #	RISK DESCRIPTION	PROBABILITY	TIMELINE	IMPACT	MITIGATION STRATEGY	RISK RESERVE COST
7	Archaeological findings	Low	Early Construction	High	An archaeological preliminary reconnaissance of the site was prepared by In Situ in October 2022 in the context of Forest Fuel Demonstration project. No archaeological material or heightened potential were identified. However, the assessment does not pertain to this project nor assesses subsurface conditions. It is recommended that the applicability of this report and its findings in the context of this project be confirmed with the shíshálh Nation.	No cost can be identified
8	Wildlife disturbance	Low	Early Construction	Low	The Environmental Impact Assessment report outlines the possible discovery of snake hibernaculum on site or bat presence in the decommissioned outhouse. Relocation/salvage of snakes should be appropriately undertaken, and bats should be reported to the Ministry of Environment for appropriate mitigation measures.	No cost can be identified
9	Insufficient available area for wastewater disposal	Medium	Design	High	Mechanical plumbing load calculations will define the area required for the installation of a septic field servicing the building. Site analysis identified that Site Option D may have a suitable septic field location, directly South of the existing playground. Alternately, the existing septic system may have the possibility of being upgraded. However, these assumptions will need to be tested and verified by the wastewater system engineer.	No cost can be identified
10	Tree falls	Medium	Building lifespan	High	The hall is located at the edge of a forested area near a large clearing (playing field). It is therefore possible that during a particularly windy event, trees may fall on the hall. The building was sited to not be in the direct vicinity of trees so as not to disrupt their root system. However, some of the specimens in the area are large enough to still pose a threat to the building if they were to fall. A detailed arborist report would help in providing a better assessment of this risk item.	No cost can be identified
11	Unforeseen upgrades to existing services	Low	Design/ Construction	Medium	The new Community Hall is a small facility with reasonably low utility demands. Unforeseen upgrades to existing services (Hydro, domestic water, data) is unlikely. The existing services will be investigated at design stage. A new fire hydrant will be required on the South side of Northwood Road.	No cost can be identified

8 Project Risk Assessment

Based on the assumption of Site Option D

RISK #	RISK DESCRIPTION	PROBABILITY	TIMELINE	IMPACT	MITIGATION STRATEGY	RISK RESERVE COST
12	Parking capacity	Low	Design	Low	The SCRD has reached out to the school district to inquire about the possibility of having outflow parking at the Halfmoon Bay Elementary School during high demand.	No cost can be identified
13	Affected Tree Protection Areas	Low	Design	Low	The Environmental Impact Assessment report submitted by Coastal Raintree Consulting in July 2023 outlines the location off all identified significant tree specimens on site and provide a Tree Protection Area (TPA) around each one of them. Option D was carefully located to minimize conflicts with TPAs. However, as pointed out by the EIA report, the trees are located with an accuracy of +/- 3.65m. Some conflicting information was also identified with the legal survey. In order to avoid removal or damage to significant trees, the preparation of an arborist report is recommended once the building location is confirmed.	Arborist consultant cost
14	Appropriate sun exposure for photovoltaic panels	Medium	Design	Medium	Net Zero Energy readiness, if pursued, will require that the project be able to accommodate sufficient photovoltaic panels to offset its hydro consumption. The energy modelling exercise will inform the PV area required based on solar exposure. As the building is located in a forested zone, exploring alternative PV locations may help increase exposure.	No cost can be identified
15	Park activity conflicts during construction	Medium	Construction	High	Site Option D was located so as to minimize its impact on the park activities while being central. It is anticipated that the necessary hoarding around trees and preventing the construction zone from creeping into forested areas will put pressure on the parking lot. This may, at times, have an impact on park activities. Alternative project delivery method such as Construction Management, may help mitigate this risk.	No cost can be identified

9 Alternative Project Delivery Methods

Project delivery is a general term describing the processes used to successfully complete the design and construction of a building project. The typical project delivery method for public buildings consists of three phases: Design-bid-build. The owner engages the architect to design the project and produce the tender documents. The tender package is issued for competitive bids and the general contractor with the lowest bid is selected to build the project. In the recent past, project delivery methods have evolved from this original model to better respond to a changing industry:

- Increased owner requirements
- More urgent time frames
- Demand for higher building performance
- Reduce adversarial relationships to achieve higher quality outcomes through collaboration
- Economic pressures and market volatility

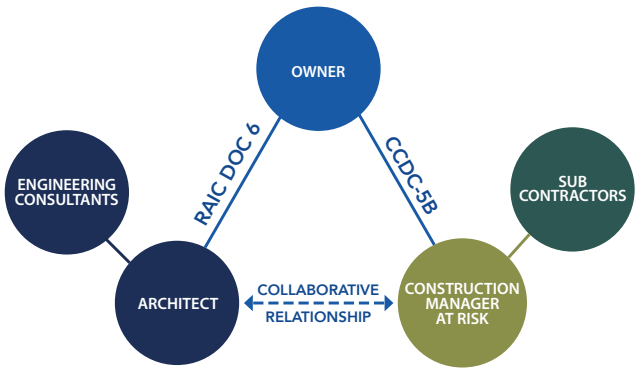
Novel forms of project delivery focusing on collaboration between builders and designers are becoming mainstream, opening up the potential to deliver superior projects at similar cost. With time and budgetary constraints, the Halfmoon Bay community hall project would benefit from a project delivery method that combines the expertise of both design and construction professionals. This will ensure that the construction documents will be informed by a constructor's input who will provide advice on cost, schedule and ease of construction during the design.

Common project delivery methods using this collaborative approach include 'design-build' and 'construction management'. Both these methods would see the design consultant and construction consultant work together to efficiently guide the process through completion. However, in the case of design-build contracts, the price is set before the design is complete which can result in higher contingency factors and a decision process focused on initial cost rather than long-term value. The architect is no longer an independent agent advocating for the owner's best interest. Additionally, design changes become onerous a they constitute changes to the stipulated price contract. Therefore, this method often relinquishes the most control over the project after the contract is signed.

Construction Management

With this project delivery method, the owner engages the architect and a construction manager separately. The architect is responsible for the design and preparation of construction documents which follow the same phasing as that of a traditional Design-Bid-Build project. The construction manager (CM) comes on board under a CCDC-5B contract once the schematic design is complete. The CM acts as a consultant during the remaining design phases to provide input on constructibility, cost estimating, scheduling and cost control. As the design phases of the project progress and the final cost can be more accurately projected the CM will develop a final construction budget. At this stage, the CM has an in-depth knowledge of the project and is in a unique position to provide a smooth transition into the construction phase as well as accurate pricing. If the owner agrees to the budget, the two parties execute a change order amending the CCDC contract to finalize their agreement on the price and terms of the construction scope. This is called construction management at risk as the construction manager assumes the risks for construction.

This form of construction management provides an excellent collaborative structure but also remains competitive in its construction procurement as it is in the CM's best interest to proceed as the general contractor. Therefore, this method would be the best suited to delivering a quality building on time and on budget for the Halfmoon Bay community hall project.



△ *Construction management - Contractual relationships diagram*

10 Project Budget Summary

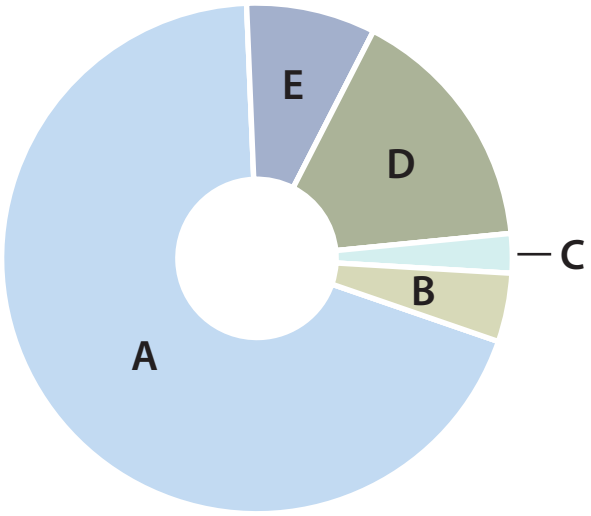
The SCRD staff will provide assistance in developing and reviewing a master cost plan, including a reasonable contingency amount based on project specific risks. It is important that this plan includes all aspects of the budget so that the Regional District has one place to look for all information on project funding availability, design costs, construction costs, and other owner related expenses. This plan helps to ensure sound fiscal responsibility at all stages of the project by tracking anticipated costs against the most updated budget. During each phase, the design will be progressed, analyzed for needs assessment and value prior to being professionally quantity surveyed. At each stage of the design, the corresponding level of detail and cost plan accuracy will be improved. This iterative approach to integrated design and cost management is an effective methodology for project cost control success. Finally, alternative project delivery methods, through the early involvement of a construction manager, offer greater level of predictability with respect to construction costs.

Project Funding Summary Chart

FUNDING SOURCE	AMOUNT	REMAINING	DEADLINE
Investing in Canada Infrastructure Program (ICIP)	$2,013,642	$1,933,631	25/03/31
SCRD Approved Debt Funding	$1,478,233	$1,478,233	N/A
Amenity Funding	$29,887	$0	N/A
TOTAL	**$3,521,762**	**$3,411,864**	

Anticipated Funding Allocations

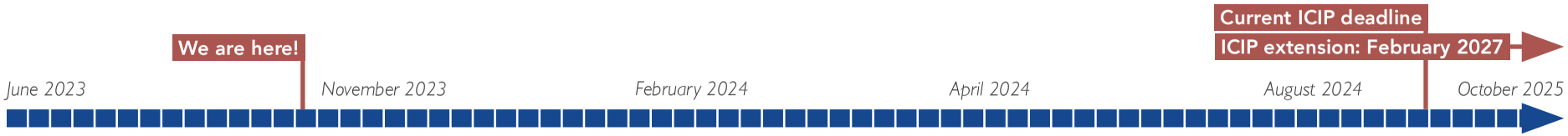
- A - Building Cost
- B - Design Cost
- C - Connection Fees & Permits
- D - Site Development
- E - Construction Contingencies



11 Project Timeline and Schedule

The timeline presented below outlines the various project stages from design until occupancy. It is advised that the project be costed by an independent quantity surveyor as set out in the timeline, prior to being reviewed by the SCRD for approval to proceeding to each stage.

In order to qualify for the federal Invest in Canada Infrastructure Program (ICIP) grant, the project must be substantially complete prior to the grant deadline. The current deadline is set for March 2025 and a two-year extension application has been submitted for approval by the grantor.



PRE DESIGN
15 Weeks

- Community participation event 1
- Site legal survey
- Geotechnical testing and Recommendation
- Community participation event 2
- Environmental Impact Assessment Report
- Community participation event 3
- **MTG 01** - Project Definition Report kick-off
- **MTG 02** - Project Definition Report draft review
- **MTG 03** - Project definition Report final draft review
- **MTG 04** - Project definition Report presentation

SCHEMATIC DESIGN
12 Weeks

- **MTG 01** - Project scope validation
- Consolidation of site and building information for use by consultants
- **MTG 02** - Review schematic design options with SCRD staff
- Energy modelling workshop
- Preparation of coordinated design package for cost estimate (Class D)
- **MTG 03** - schematic design and costing presentation
- Design presentation to local community at public event

IN PARALLEL...

- Request for proposal document preparation
- Proposal application period
- Suitable candidate selection

Construction Manager RFP process (CCDC-5B)
8 Weeks

DESIGN DEVELOPEMENT
9 Weeks

- **MTG 01 -** Construction management kick-off
- Drawing package preparation for consultant design coordination
- Internal quality control review
- **MTG 02** - Coordinated design package presentation for review session and feedback
- Further design documentation
- Internal quality control review
- Preparation of coordinated design package for cost estimate (Class C)
- **MTG 03** - Coordinated set of development permit drawings, outline specifications and costing presentation

- Construction manager provides input on constructibility, cost estimating, scheduling and cost control.

CONSTRUCTION DOC.
15 Weeks

- Preparation of coordinated Working Drawings (WD) and specifications
- Preparation of coordinated design package for cost estimate (Class B)
- Internal quality control review
- **MTG 01** - Design and costing presentation to decision making group for approval
- Preparation of building permit application package
- Submission of 95% WD package for cost estimate (Class A pre-tender estimate)
- Internal quality control review
- **MTG 02** - Final design and costing presentation
- Submit building permit application

- Construction manager provides input on constructibility, cost estimating, scheduling and cost control.

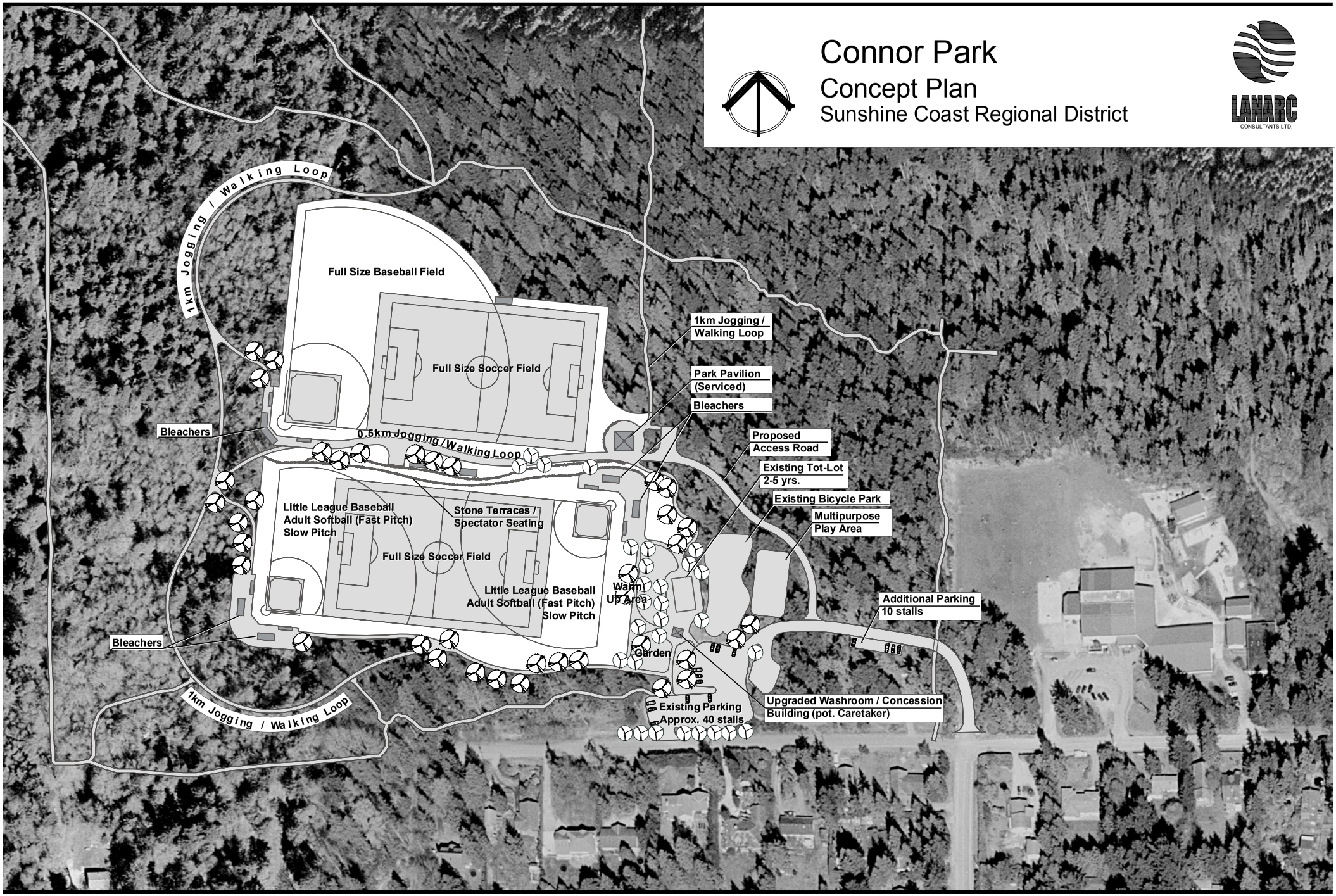
CONTRACT ADMIN
13 Months

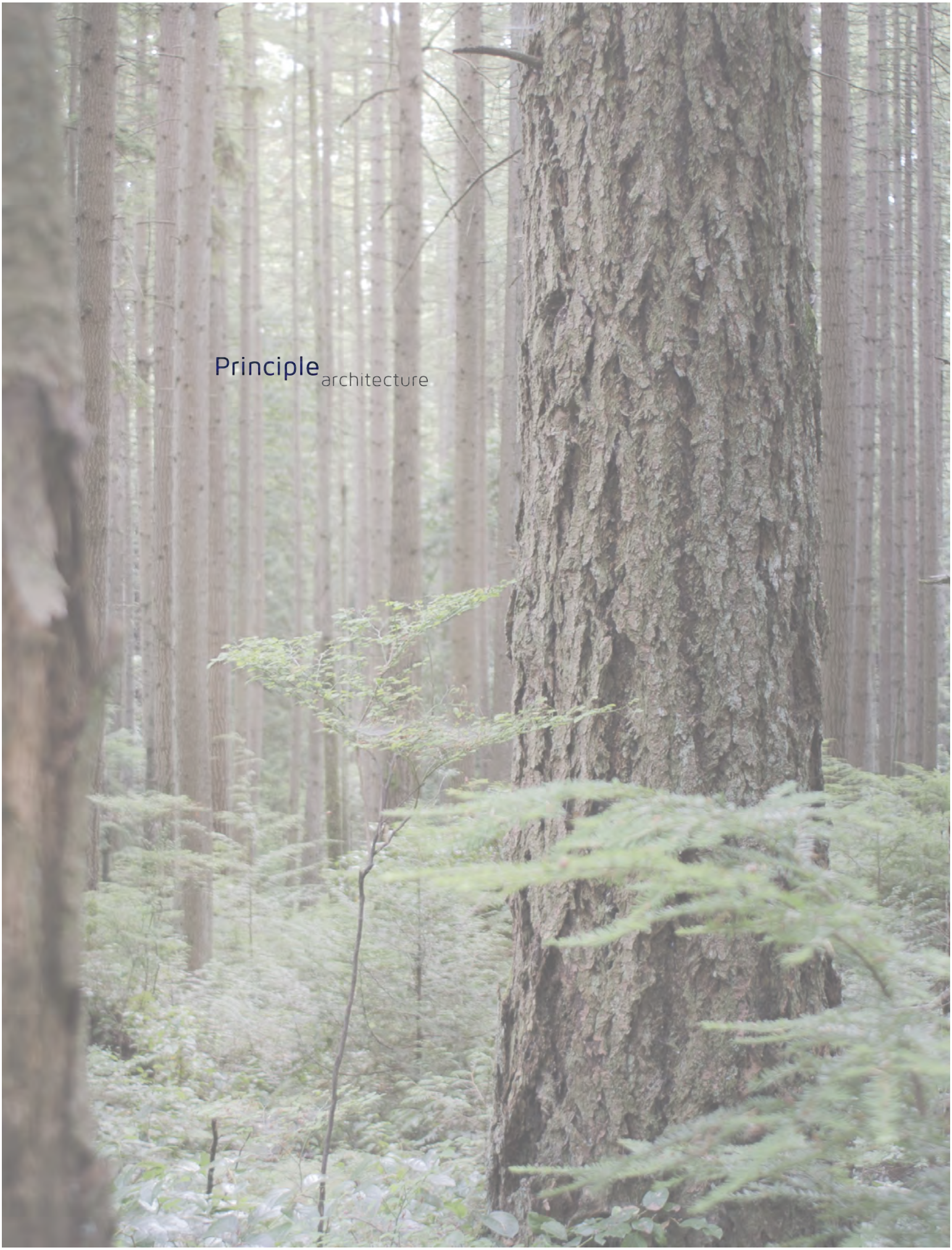
- Architect assists owner in reviewing the final constrution budget
- Architect prepares the change order defining the price and terms of the construction scope
- Architect reviews the work and ensure it is in general conformity with the contract documents
- Architect reviews shop drawings

- Construction manager prepares final construction budget
- Owner and CM execute a change order to finalize their agreement on the price and terms of the construction scope
- Construction starts
- Closeout and takeover procedures

Appendix A

2007 Connor Park Concept Map


Connor Park
Concept Plan
Sunshine Coast Regional District
LANARC
CONSULTANTS LTD.
1km Jogging / Walking Loop
Full Size Baseball Field
Full Size Soccer Field
1km Jogging / Walking Loop
Park Pavilion (Serviced)
Bleachers
Bleachers
0.5km Jogging / Walking Loop
Proposed Access Road
Existing Tot-Lot 2-5 yrs.
Existing Bicycle Park
Multipurpose Play Area
Little League Baseball Adult Softball (Fast Pitch) Slow Pitch
Stone Terraces / Spectator Seating
Full Size Soccer Field
Little League Baseball Adult Softball (Fast Pitch) Slow Pitch
Warm Up Area
Additional Parking 10 stalls
Bleachers
Garden
1km Jogging / Walking Loop
Existing Parking Approx. 40 stalls
Upgraded Washroom / Concession Building (pot. Caretaker)


Principle architecture