



CONTRACT OPPORTUNITIES (Part 1)

Contract #2012-6 Multiphase Engineering, Silviculture and Timber Development

The Alberni Valley Community Forest Corporation (AVCFC) is offering the following contract to all qualified proponents. Please review all of the attached documents before submitting the **Tender Offer** for this contract (**pages 10-14 inclusive**). **Deadline is August 17, 2012, at 4:00p.m. PST.**

To ensure you receive any updated information or changes to the Contract Package, you must advise the contract manager that you have received a package from the AVCFC office or downloaded it from the AVCF website. The email address is: manager@communityforest.ca.

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Alberni Valley Community Forest
Corporation

INFORMATION TO BIDDERS AND CONDITIONS OF TENDER FOR MULTIPHASE ENGINEERING, SILVICULTURE AND TIMBER DEVELOPMENT

Overview of the Work/Service Required

- To fully develop up to **20,000 m³** as per the **Schedule A – Services**.
- Final packages must be completed concurrently and final scheduled works submitted by no later than December 31, 2012.
- This contract is based for a defined area within the Sproat Operating Area – Forest Development Unit –A (FDU-A) and the Taylor Operating Area – FDU-B).

List of Abbreviations:

AVCF	Alberni Valley Community Forest
AVCFC	Alberni Valley Community Forest Corporation
TD	Engineering, Silviculture, Timber Development and refers to the entire development area
BCTS	British Columbia Timber Sales
MFLNRO	Ministry of Forests, Lands and Natural Resource Operations

1. Site Conditions

The Sproat Operating Area is located approximately 11 km northwest of the City of Port Alberni, north of Highway 4, opposite the West Bay Hotel. The AVCF abuts Island Timberland's private lands at the historic E&N Railway land grant boundary. It slopes southward from the height of land between the Great Central Lake watershed and Highway 4 and is bounded to the east by private land owned by Island Timberlands and to the west by Friesen Creek. The area encompasses 3000 hectares.

The Taylor Operating Area slopes northward from the height of land between Mount Klitsa and Adder Mountain, and Highway 4 at Sutton Creek and the Taylor River. It is bounded to the east by Klitsa Creek and to the west by a southeast to northwest line running along the height of land from Adder Mountain to Sutton Pass east of the boundary of Clayoquot Sound. The area encompasses 3378 hectares.

1.1 Management Plan:

The management plan is consistent with the current forestry legislation and the Community Forest Agreement licence requirements. Management objectives within the plan include not only those respecting Timber Resources but also objectives respecting community watershed, fisheries and riparian protection, recreation uses, cultural heritage, wildlife, botanical forest products, visual aesthetics, biodiversity, soil conservation, public education and tourism.

Additional information regarding the Management Plan and other details regarding the AVCF can be found on our website at www.communityforest.ca

1.2 Vision:

The vision of the Alberni Valley Community Forest is to put control of lands and resources into the hands of local people by building a financially viable timber and non-timber forest resource business which provides benefits to the community and manages the forest in a manner that achieves a balance between community values and practicable management.

1.3 Guiding Principles:

- Achieve financial viability on a continuing basis.
- Undertake community forestry consistent with high standards of environmental stewardship.
- Foster and advocate innovative practices in resource and environmental management.
- Be transparent in all activities by maintaining continuous dialogue with the community about forest management and by maintaining an up-to-date web page on forest activities.
- Advance a high standard of safety for workers and forest users.
- Initiate and sustain partnerships between the AVCF, First Nations, and the community at large.

1.4 AVCF Goals:

- Demonstrate forestry practices based on community values.
- Safeguard the domestic water supply to Sproat Lake from the effects of our harvesting.
- Promote a diverse use of the land base.
- Provide opportunities for meaningful public participation.
- Create a viable self-sustaining business which will not be a burden to local taxpayers.
- Manage for a variety of timber and non-timber products while protecting other values that provide community benefits, such as water, recreation and trails, views capes, wildlife and biodiversity, carbon sequestration and spirituality.
- Generate revenues to be retained and utilized for community based projects supported by the Alberni Valley.
- Advance a high standard of safety for workers and forest users.

1.5 Forest Stewardship Plan

The Forest Stewardship Plan (FSP) has been recently submitted to the MFLNRO for approval. The FSP can be found on our website at www.communityforest.ca

2. Radio Loading Channels

- 2.1 In an ongoing effort to improve safety in the woods, BCTS Strait of Georgia Business Area has implemented standardized radio loading channels for all active worksites. The designated Loading Channel for this operating area is 10-A. This requirement will be discussed at the pre-work conference for each contract. The Contractor may continue to use their 'company channel' for onsite communications; however, they must ensure that someone can be reached on the posted Loading Channel at all times when the worksite is active. The use of the Loading Channel is free of charge and does not require a letter of authorization. Loading the channel onto the radio and ensuring appropriate radio scanning ability will be at the expense of the Contractor.

3. Forest Sector Safety Requirements

- 3.1 As per the Conditions of Tender, AVCF requires all bidders to be aware of the SAFE Certification requirements in order to be eligible to bid.
- 3.2 All bidders must also be aware of the SAFE Certification requirements Schedule attached to the Contract Agreement.

- 3.3 Please refer to the BC Forest Safety Council website for more information:
<http://www.bcforestsafes.org/index.html>

4. Contractor Safety Program and Prime Contractor Responsibilities

- 4.1 The Successful Bidder will be designated the Prime Contractor for this contract and must bid accordingly.
- 4.2 Bidders and the Successful Contractor must plan to maintain and implement a safety program as described under the *Workers Compensation Act* and its regulations and the SAFE Companies standards.
- 4.3 Bidders must be aware of the Safety Conditions Schedule and the Prime Contractor Agreement attached to the contract agreement.
- 4.4 An AVCFC Representative may ask to examine the safety program and may ask for evidence to support the implementation of this safety program as part of the contract administration.

5. Obligation to Report Unsafe Conditions or Practices

- 5.1 The *Workers Compensation Act*, Occupational Health and Safety Regulation 3.10 requires that any person (including AVCFC Representatives) report any observed unsafe conditions or practices to the person in charge of the workplace. AVCFC Representatives will do this in the course of their work on the contract area should they come across such conditions or practices.

6. Site Viewing/Information Meeting

- 6.1 Information on whether a site viewing or information meeting is applicable to this tender call can be found in the Conditions of Tender. It is the responsibility of the proponent to view the site in preparation of Tender. If more information is required, it is the responsibility of the proponent to contact the AVCFC Contract Manager at (250)731-7377 or manager@communityforest.ca to obtain more information.

7. Contract Term/Work Schedule

- 7.1 The term of the contract will be from August 31, 2012 to December 31, 2012 with possible extensions to June 30, 2013 if additional volume is added.
- 7.2 The successful Contractor shall be required to have a pre-work meeting with the AVCFC Representative to review the contract prior to commencement of the work. Any subjects discussed and decisions made at the pre-work conference shall form an integral part of the contract.

8. Contractor Invoicing

- 8.1 Schedule B contains details on contract invoicing. An invoice must identify the contract it pertains to.

9. Payment Policy

- 9.1 The AVCFC payment Policy is payment of all verified invoices 30 days from the date of verification. The verification process is done by the AVCFC Contract Manager and/or Contract Accountant. The verification process is normally less than 5 working days. Every effort is made to pay accounts between 30 and 40 days.

10. Bidders' Dispute Resolution

- 10.1 If a problem should occur during this tender call, it should be resolved informally with the AVCFC Representative named in the invitation to tender. If the bidder is not satisfied with the outcome at this stage, or they prefer to bypass the informal route, they may engage the formal vendor complaint review process.
- 10.2 Formal complaints concerning a competitive process or a pending or awarded contract, or other procurement process may be submitted by the bidder in writing at any time during the procurement process and up to thirty (30) business days after they have received notification from the AVCFC of the final outcome of the procurement process.
- 10.3 Complaints in the formal process are to be submitted to the AVCFC. In a timely manner, the Board of Directors will hear the complaint and render a decision and remedy, if required, within 60 days of submission.
- 10.4 Disputes occurring during the performance of the work/service will be governed by the dispute resolution terms and conditions of the Agreement.

11. Qualifications

- 11.1 Project Manager: The Project Manager will be required to have a minimum of five (5) year's Coastal forest engineering experience (cutblock layout, and road layout and design) and must be a member in good standing of the ABCFP. The Project Manager shall direct and co-ordinate all works associated with multiple projects active at any one time. The Project Manager will be the primary contact to the AVCFC Representative on the overall project matters and must be able to add or reallocate resources to meet the schedule of projects, work progress plans, and as priorities change from time to time determined by the AVCFC Representative. See also Schedule A, Section 1.
- 11.2 Upon request of the AVCFC, the Bidder must provide a written statement of business organization, qualifications, experience, workforce availability and citizenship status of the Bidder's company and each member of the workforce who will perform the Work under the Contract, satisfactory to the AVCFC. The AVCFC may conduct such independent reference checks or verifications as are deemed necessary by it, to clarify, test, or verify the information and to confirm the suitability of the Bidder. If, in the opinion of the AVCFC, the statement fails to demonstrate that the Bidder is able to successfully complete the Contract, the AVCFC has the right to disqualify the Bidder and award the Contract to another bidder.

12. Bidder's Representations

- 12.1 It is the Bidder's sole responsibility to ensure that the Bidder has received all Tender Documents. Submission of the Tender by the Bidder is a representation by the Bidder that the Bidder has verified receipt of a complete set of Tender Documents including any and all addenda to the Tender Documents.
- 12.2 Submission of the Tender by the Bidder is a representation by the Bidder that the Bidder has investigated and satisfied itself of every condition affecting delivery of the Work, including every condition affecting the Work Site, and including every factor that may affect the Bidder's ability to perform the Contract in accordance with the Tender and the Tender Documents.

- 12.3 The Bidder further represents by submission of the Tender that the Bidder has made its own investigation and has relied solely upon its own knowledge, information, and judgment, and not upon any statement, representation or information made or given by the AVCFC or any of its Representatives other than the information contained in the Tender Documents.
- 12.4 Submission of the Tender is deemed by the parties to be conclusive evidence that the Bidder has made such investigations and inquiries as the Bidder determines necessary and that the Bidder assumes all risk regarding any conditions affecting the Work.

13. Tender Submission

- 13.1 The Tender must be on a completed original or unaltered copy of the Tender Offer Form. The Tender is to be submitted in an envelope clearly marked with the name and address of the Bidder and the words, "**Tender for CONTRACT 2012-6**" on the envelope.
- 13.2 The Tender must be received at the Closing Location of the AVCFC - 7500 Airport Road Port Alberni B.C. V9Y 8Y9 (Airport Terminal Building) not later than 4:00pm PST August 17, 2012 as specified in the Tender Offer Form. The AVCFC may, by giving notice, amend the Tender Offer Form and extend the Closing Date and Closing Time for receiving tenders.
- 13.3 Tenders submitted by electronic submission WILL ONLY BE ACCEPTED if their submission is followed up with a verbal confirmation of receipt by the closing time and date with the Contract Manager of the AVCFC at (250)731-7377. Tenders received after the Closing Time will be returned to the Bidder unopened.
- 13.4 The AVCFC or its Representatives assume no responsibility for the timely receipt of any tenders.
- 13.5 The Tender must be signed by the Bidder or the Bidder's authorized representatives, and should bear the date of signing. Witnessing of signatures is not required. If the Bidder is:
- (a) a company, the full company name and the name(s), signature(s) and status of the authorized signing officer(s) must appear on the Tender but affixing the corporate seal is optional;
 - (b) a partnership, all the partners must sign and print their names on the Tender;
 - (c) a limited partnership, one or more of the general partners must sign and print their name(s) on the Tender and include the business name of the partnership (e.g., 'doing business as _____ Limited Partnership');
 - (d) an individual or sole proprietorship, the individual or sole proprietor must sign and print his or her name and include the name of the sole proprietorship, if appropriate (e.g., 'doing business as _____').

14. Tenders Complete and All Inclusive

- 14.1 The Bidder's Tender must be complete and must cover all of the Work specified in the Tender Documents. All blank spaces on the Tender Offer Form must be legibly filled in, where applicable.
- 14.2 The AVCFC may reject any tenders which contain any qualifying words, clauses, alterations, or omissions. Corrections to numbers in the Tender must be initialled by the authorized signatory of the Bidder.

- 14.3 The Tender must be inclusive of all of the Bidder's fees, overhead, profit, expenses of any kind, cash allowances, contingencies and applicable taxes in force on the Closing Date [excluding the Harmonized Sales Tax (HST)].

15. Addenda and Clarification of Tender Documents

- 15.1 Bidders must register by email to manager@communityforest.ca as a holder of the Tender Document for the purpose of receiving any addendum to the tender documents as in 15.2 to 15.4.
- 15.2 If a Bidder finds any discrepancies, omissions, ambiguities or conflicts among the Tender Documents, or as a result of the Work Site visit or the Information Meeting, the Bidder must bring them to the attention of the AVCFC Representative not less than 3 business days prior to the Closing Date.
- 15.3 The AVCFC will review the Bidder's question and where the AVCFC determines that the information was not clearly specified in the Tender Documents, the AVCFC will issue a clarifying addendum to all registered holders of Tender Documents, and the addendum will thereafter form part of the Tender Documents.
- 15.4 The AVCFC may, in its discretion, at any time, amend the Tender Documents by issuing to all registered holders of the Tender Documents, in hard copy or electronically, a written addendum to the Tender Documents which addendum then forms part of the Tender Documents.

16. Revisions to Tenders

- 16.1 Prior to the Closing Time, revisions to a Tender that has already been submitted may be made by facsimile or electronic transmission.
- 16.2 Revisions should only state the dollar amount by which a numeric figure/unit rate is to be increased or decreased, or indicate specific directions as to the exclusion or inclusion of particular words.
- 16.3 Where a Bidder submits multiple revisions to the Tender, each successive revision will nullify and replace any previous revisions unless the Bidder numbers each revision sequentially and states on each new revision, that the new revision does not nullify previous revisions.
- 16.4 The AVCFC facsimile transmission number is: **(250) 723-1479**. The Bidder is solely responsible for the effective delivery of any facsimile transmission prior to the Closing Time.
- 16.5 Electronic transmission of a Tender revision may be made to: manager@communityforest.ca. The Bidder is solely responsible for the effective delivery of any electronic transmission prior to the Closing Time.

17. Verification of Tender Receipt

- 17.1 Any bidder who wishes to verify that their tender has been received may do so by telephoning the AVCFC representative: **(250) 731-7377**.

- 17.2 Bidders must state their company name before the information in preceding paragraph can be released. The AVCFC may require the Bidder to FAX the request in writing on letterhead before releasing such information.
- 17.3 No other information concerning the receipt of tenders will be released under any circumstances prior to the Tender Opening.

18. Withdrawal of Tender

- 18.1 Any bidder wishing to withdraw their tender prior to the tender Closing Time may do so by submitting a withdrawal request letter to the same address to which the Tender was submitted. Upon receipt of the request, the tender will be returned to the Bidder unopened.

19. Opening and Evaluation of Tenders

- 19.1 Tenders will be opened at the Closing Location, immediately after the Closing Date and Closing Time, and the tenders will be opened and read.
- 19.2 All tenders will be evaluated in private. Tender offers will be evaluated by the AVCFC Board of Directors and the AVCFC Manager.
- 19.3 The Contract will not be awarded at the Tender Opening.
- 19.4 If only one tender is received, the AVCFC reserves the right to open the tender in private and if the Total Bid Price or Total Estimated Bid Price exceeds the estimated budget for the Contract, the AVCFC may re-tender the Work seeking a better response, with or without any changes being made to the Tender Documents.
- 19.5 If more than one tender is received from the same bidder, the last tender received, as determined by the AVCFC, will be the only tender considered.
- 19.6 The lowest or any other tender will not necessarily be accepted. The AVCFC reserves the right to:
- (a) reject all tenders;
 - (b) reject a tender which in the sole opinion of the AVCFC is too low to provide the Bidder with adequate resources to perform the Work; and,
 - (c) refuse award of the contract to a bidder the AVCFC judges to be fully or over committed on other projects; and,
 - (d) accept bids for the whole of the Work or may delete any part at its discretion;
 - (e) select a Tender Offer based on criteria set by the AVCFC.
- 19.7 If a bid price is incomplete, contains an omission, does not fairly represent proper compensation for an item of work to be done, or fails to provide an accurate total price, the AVCFC may disqualify the Tender.
- 19.8 If the Tender indicates the requirement for a Total Bid Price on a unit-priced based tender, this is for evaluation purposes only and the unit rates shall take precedence for the Contract. The AVCFC will rank submitted tenders from lowest priced to highest priced based on the Total Bid Price or the Total Estimated Bid Price stated on each tender. The AVCFC will:
- (a) check each amount on the lowest priced Tender to ensure it is the correct product of the quantity and the price per unit; and,
 - (b) check the Total Bid Price to ensure it is the correct sum of the Extended Amount.

20. Obligations of Successful Bidder

- 20.1 Upon receiving a Contract award from the AVCFC, the Successful Bidder must take the following steps before starting Work:
- (a) sign the Contract covering the Work and return the Contract to the AVCFC;
 - (b) provide its assigned Personal Optional Protection registration number or its WorkSafe BC registration number, which must cover all workers, shareholders, directors, partners, and other individuals employed or engaged in the performance of the Work, if it has not already done so in the Tender and
 - (c) provide proof of insurance coverage, if required under the Contract, by delivering a completed Province of British Columbia 'Certificate of Insurance' in the form supplied by the AVCFC; and
- 20.2 If the Successful Bidder does not complete the steps, as required in Paragraph 20.1, within the time specified in the Contract award, the AVCFC may, by written notice cancel the Contract award and award the Contract to another bidder.
- 20.3 In the event that the Successful Bidder has already started the Work, and is in default under Paragraph 20.1, and the default continues for seven days after written notice to correct the default is given to the Successful Bidder, the AVCFC may terminate the Contract or cancel the Contract award, and the Successful Bidder must reimburse the AVCFC for all costs, expenses, damages and losses arising out of the Successful Bidder's default.

21. Independent Bidding

- 21.1 By submission of the Tender, the Bidder certifies that the unit prices and/or the Total Bid Price in the Tender were independently developed without consultation with any other bidder or potential bidder.
- 21.2 Bid-rigging between bidders, if proven, will be sufficient cause for rejection of the tenders of all bidders involved in that bid-rigging and may result in disqualification from bidding on all future AVCFC contracts.

22. Ownership

- 22.1 The Tender, and all documents submitted as part of the Tender, become the property of the AVCFC.
- 22.2 The AVCFC will be the exclusive owner of all rights to any materials or property produced under the Contract and the Bidder and its agents must not patent, copyright or otherwise claim any rights of ownership to any materials or property produced under the Contract.

23. Limitation of Damages

- 23.1 The Bidder, by submitting a Tender, agrees that it will not claim damages in excess of the reasonable costs incurred by the Bidder in preparing its Tender for matters relating to the Contract award or in respect of the tendering process, and the Bidder, by submitting a Tender, waives any claim for loss of profits if no Contract award is made to the Bidder.



Alberni Valley Community Forest
Corporation

TENDER OFFER FORM
(total of 5 pages)

TENDER FOR: Contract #2012-6

Contract Name/Project: Multi-phase Engineering, Silviculture and Timber Development
Location: Alberni Valley Community Forest Sproat and Taylor Operating Areas
Closing Time and Date: 4:00pm PST August 17, 2012
Opening Location: AVCFC Office, 7500 Airport Road Port Alberni, B.C. V9Y 8Y9
Alberni Valley Regional Airport Terminal Building

NAME OF BIDDER (the bidder): _____

Business Address: _____

Telephone Number: _____ FAX Number: _____

Email Address: _____

1. THE UNDERSIGNED BIDDER HAVING FULL KNOWLEDGE AND UNDERSTANDING OF:

- a) the nature and scope of the work described in the Tender Documents and the tools and equipment required to complete the services or work (the 'Work');
- b) the contents of all of the tender documents issued by the AVCFC in respect of the Work, including any addenda (the 'Tender Documents'); and
- c) the locality of the Work and the conditions of the geographical area within which the Work will be carried out (the 'Work Site'), having viewing the Work Site, if required.

2. HEREBY OFFERS TO:

- a) undertake all Work and supply all materials, tools, equipment and labour necessary to perform the Work in strict accordance with the Tender Documents, the provisions of this tender (the 'Tender'), and at the rates and prices specified in this Tender, which rates and prices include all fees, expenses of any kind, cash allowances, contingencies and applicable taxes [excluding the Harmonized Sales Tax (HST)];
- b) sign a contract for the Work, in the form included in the Tender Documents and submitted to us by the AVCFC (the 'Contract');
- c) complete all Work to the satisfaction of the AVCFC in accordance with the Contract, Tender Documents and this Tender, including any schedules, specifications, maps or drawings, which form part of this Tender, the Tender Documents or the Contract.

3. IN ACCORDANCE WITH THE FOLLOWING PROVISIONS:

- a) This ***Tender is irrevocable for 30 days*** following the tender closing date.

If the Bidder revokes this Tender within 30 days following the tender closing date, or fails to execute the Contract within the time period specified in the Contract award letter:

- i. the AVCFC may pursue any remedy available to it at law or in equity.

- b) if this Tender is accepted, the Bidder will provide the AVCFC with any proof of insurance coverage required in the Contract and Tender Documents;
- c) the Bidder will ensure that each member of the workforce who will perform the Work in Canada under the contract is either a Canadian citizen, a permanent resident of Canada, or holds a valid employment visa from the Government of Canada;
- d) any attachments to this Tender, including schedules, information on subcontractors, unit prices, timing of work, drawings and specifications are an integral part of this Tender, as if set out at length in the body of this Tender;
- e) the Bidder is registered with the WorkSafe BC under Registration Number _____, or will provide the AVCFC with the Registration Number prior to signing the Contract;
- f) the Bidder hereby certifies that:
 - i. the rates and prices in this Tender have been arrived at independent of any other bidder;
 - ii. the rates and prices in this Tender have not been knowingly disclosed by the Bidder, and will not be disclosed by the Bidder prior to contract award, directly or indirectly, to any other bidder or competitor;
 - iii. no attempt has been made, nor will be made, to induce any other person to submit, or not to submit, a tender, for the purpose of restricting competition; and
 - iv. non-compliance with the requirements of this certification will result in the disqualification of this Tender.

THIS TENDER has been signed by the Bidder or its duly authorized representatives or officers on the ____ day of _____, 2012

Signature of Bidder or Bidder's Authorized Representative

Print or type name and position of Bidder or
Bidders' Authorized Representative.

TENDER OFFER FORM

Tender Price Schedule

1.1 Table 1 – Unit Prices for Items of Work

Item #	Item or Description of Work	Unit of Measurement	A Estimated Quantity	B Price per Unit Excluding HST	C Extended \$\$ amount Excluding HST (include cents to two decimal places (C=AxB)
1	multi-phase engineering, silviculture and timber development	Cubic metre	20,000	\$	\$

The total hourly rate for partial layout shall not exceed the rate that would normally be charged under the cubic metre rate for layout.

Bids must be exclusive of HST. Invoices must show the calculation of any applicable HST on all fees to be paid as a separate line item for the Billing Period(s). Expenses, if payable under the Agreement, are exclusive of HST.

1.2 Day Rate Schedule for Additional Activities

Additional Bid for Day Rate Schedule for Additional Activities.

The AVCFC will consider an additional bid for the performance of additional activities under the following conditions:

- a) all Bidders must bid on the original Services itemized above under Tender Pricing Schedule Table #1;
- (b) once having responded to the original Services, Bidders "must" provide an additional bid on the Tender noted under Tender Pricing Schedule for Additional Bid for additional activities Table #2; and
- (c) the AVCFC will evaluate bids and make the Contract award based on the Estimated Total for Engineering, Silviculture and Timber Development Table #1. Once the Successful Bidder has been selected, the AVCFC will consider any additional bid proposed by the Successful Bidder and reserves the right to negotiate the price of the proposed additional bid with the Successful Bidder.

Table #2 Day Rate and Unit Rates Schedule for Additional Activities

Item #	Item or Description of Work	Unit of Measurement	Price Per Unit Excluding HST
1	Office technical/professional	Per day	
2	Office clerical	Per day	
3	Field technical staff	Per day	
4	Field R.P.F.	Per day	
5	Field R.P. Bio	Per day	
6	Field P. Geo	Per day	
7	Field P. Eng	Per day	
8	Heli Pad construction	Per pad	
9	Cruise plot full measure	Per plot	
10	Cruise plot count	Per plot	
11	Road re-construction survey	Per metre (horiz.distance)	
12	New road construction survey line	Per metre (horiz. distance)	
13	Traverse and blaze boundary	Per metre (horiz. distance)	
14	Site Plan	Per block	
15	Road Site Plan	Per road permit	

- 1.3 Ten **(10)** hours is the equivalent of one day.
- 1.4 See Schedule B for further clarification of day rate and unit rate criteria.
- 1.5 New Road construction survey standards will meet the requirements as per Schedule A.
- 1.6 Traverse and boundary standards will meet the requirements as per Schedule A.
- 1.7 Site Plan and Road Site Plan will meet the requirements as per Schedule A.
- 1.8 Marshalling Point for the day rate is the Centre of Port Alberni.
- 1.9 There will not be any additional payment for expenses, overhead, equipment rental, permits, or camp for the completion of the Services for works completed at the m3 rate. Any additional work required will be done as a change of work and will be paid out at the unit prices wherever quoted and negotiated with the contractor if not quoted.
- 1.10 Fees for services will be based on the unit rate as described in the tables above provided during the term of this Contract and the unit amounts as they occur and approved by the AVCFC. The estimate of units used in the tender for this contract was solely for the purpose of describing the scope of work and for determining the tendered bidding order and may vary from actual amounts or conditions of access. The total Estimated # of units (m3) is 20,000 with no breakdown of isolated vs accessible. (Estimated # of units may vary from 18,000 to 30,000).
- 1.11 New cut blocks may be introduced into the contract or amended into the contract from time to time. Introduced new cut blocks will not constitute a change in conditions as set out in the contract.

Table 3: Subcontractors

Subcontractor	Name and Qualifications	Function

S A M P L E of Contract Agreement:

THIS AGREEMENT dated for reference

is between:

ALBERNI VALLEY COMMUNITY FOREST CORPORATION

7500 Airport Road

Port Alberni BC V9Y 8Y9

(herein called the Corporation)

(herein called the Contractor)

1. BACKGROUND

The Parties wish to enter into this Agreement for the provision of the Services (as set out in Schedule A) by the Contractor to the Alberni Valley Community Forest Corporation (AVCFC) in respect of the public forest lands described in Schedule D (the “**Operating Area**”).

2. AGREEMENTS

The Parties agree as follows:

Definitions. Capitalized terms not otherwise defined in the Agreement have the meanings given them as follows:

- a) “Agreement” means the Contractor Agreement;
- b) “Arbitration Notice” has the meaning set out at Article 10.1c) herein;
- c) “Arbitrator” has the meaning as set out at article 10.0c) herein;
- d) “Board” means Board of Directors of Alberni Valley Community Forest Corporation (AVCFC);
- e) “Contract Regulation” means the Timber Harvesting Contract and Subcontract Regulations, B.C. Reg 22/96, and all amendments thereto;
- f) “Forest Act” means the Forest Act, RSBC 1996, ch 157 and all amendments thereto;
- g) “Mediation” has the meaning set out at Article 10.1b)i herein;
- h) “Mediation Notice” has the meaning as set out at Article 10.1b)l herein;
- i) “Mediation Period” has the meaning as set out at Article 10.b)ii herein;
- j) “Venue” has the meaning as set out at Article 10.1b)iv herein.

2.1 Agreement Documents

This Agreement comprises the following documents:

- a) this Contract;
 - i. Schedule A Services
 - ii. Schedule B Contract Payment
 - iii. Schedule C Subcontracting
 - iv. Schedule D Insurance Requirements
 - v. Schedule E Digital Use Agreement
 - vi. Schedule F Safety Conditions
 - vii. Schedule G Prime Contractor Agreement
 - viii. Schedule H SAFE Certification Requirements
 - ix. Appendix 1: Final Submission Checklist
 - x. Appendix 2: Standards for Digital Map Production and Data Capture
 - xi. Appendix 3: Stream Crossing Guidelines and Data sheets
 - xii. Appendix 4: Maps
- b) the Special Conditions, if any.

AVCFC may, from time to time, by written notice to the Contractor and subject to this Agreement, make reasonable changes to Schedule A to accommodate changing practices or unforeseen circumstances. Any other changes to the Agreement are to be in writing and agreed to by both parties.

2.2 Conflict or Inconsistency

In the event of any ambiguity, conflict or inconsistency between or among the documents referenced in Section 2.1, the documents shall be construed, interpreted and applied so as to give effect to their express terms in the following order of precedence so that the first mentioned document shall prevail notwithstanding any term or aspect of a later mentioned document:

- a) this Contract;
- b) the Special Conditions,

3. TERM

The term of this Agreement commences on August 24, 2012 and will end upon December 31, 2012 ("the Term"). The Contract is not a Replaceable Contract. The term may be extended due to unforeseen circumstances beyond the control of the Contractor.

4. SERVICES

The Contractor will perform the Services in accordance with this Agreement.

5. PAYMENT

The AVCFC will pay the Contractor for the performance of the Services in the amounts and in the manner specified by this Agreement.

6. TERMINATION

a) Termination for "Cause"

The Corporation shall have the right to terminate the Contractor immediately for "cause". "Cause" as used in the article shall mean any one or more of the following:

- i. Any act, event, circumstance, matter or omission that would constitute just cause for dismissal at law; or
- ii. A material and continuing refusal or failure to perform responsibilities assigned in accordance with the terms of the Agreement, if such refusal or failure shall continue for more than thirty (30) days after specific written notice thereof has been given by or under the authority of the Board to the Contractor, subject to a dispute of such notification by the Contractor, brought in good faith in accordance with Schedule A attached hereto.

b) Contractor's Right to Terminate

The Contractor shall have the right to terminate the Term:

- i. Immediately for any material breach by the Corporation under this Agreement, or
- ii. Upon 1 months notice provided by the Contractor to the Corporation.

c) Obligations Cease

Upon the termination of the Contractor's engagement in accordance with the provisions of this article, all obligations of the Contractor and the Corporation hereunder shall be terminated except to the extent that other provisions of the Agreement provide to the contrary.

7. BUSINESS DISCLOSURES; CONFIDENTIALITY

Except to the extent specifically authorized or to the extent impliedly authorized by virtue of the nature of its responsibilities hereunder, and except as such disclosures may be made in the ordinary course of business, or by court order, the Contractor shall not directly or indirectly disclose or divulge during its tenure, and thereafter, to any person, firm or corporation not affiliated with:

- a) the Corporation, or any of its corporate affiliates, or
- b) the Contractor, or its affiliates,

without the prior written consent of the Corporation, any confidential information as to the Corporation, including, without limitation, any information relating to the Business, customers, trade or marketing practices or trade secrets, and on termination of the Operations Term for any reason, the Contractor shall not disseminate any confidential figures, letters, papers, or copies thereof, or other confidential information of any type or description, and shall make such material available for the Corporation to collect upon three (3) days notice.

8. INDEMNITY

- 8.1 The contractor shall indemnify and save harmless the AVCFC, its employees, agents and authorized representatives and each of them from and against losses, claims, damages, actions, causes of action, costs and expenses (collectively referred to as "Claims"), that the AVCFC or any of its employees, agents, or authorized representatives may sustain, incur, suffer or be put to at any time, either before or after this agreement ends, that arises out of or occur, directly or indirectly, by reason of errors, omissions, or negligent acts of the contractor or its subcontractor(s), servant(s), or employee(s), under this agreement, excepting always that this indemnity does not apply to the extent, if any, to which the Claims are caused by errors, omissions, or negligent acts of the AVCFC, its other contractor(s), authorized representative(s) or any other persons.

8.2 None of the AVCFC Representatives in charge, their agents, authorized representatives, or employees are personally liable for any act performed in the discharge of any duty imposed or in the exercise of any power or authority conferred upon them by, or within the scope of, the Agreement if it can be demonstrated that all reasonable care was exercised in the conduct of the operations; in all such matters these persons act solely as agents and representatives of the AVCFC.

9. CONTRACTOR NOT LIABLE

Notwithstanding anything to the contrary herein, the Contractor shall not be liable to the Corporation for any costs, loss or damage to the Corporation caused by the Contractor in performing its duties as set out in this agreement, provided that:

- a) The Contractor acted honestly and in good faith with a view to the best interest of the Corporation;
- b) In the case of any criminal or administrative action or proceeding that is enforced by a monetary penalty, the Contractor had reasonable grounds for believing that its conduct was lawful.

10. DISPUTE RESOLUTION

10.1 Resolution Process

All disputes between the parties arising out of this Agreement shall be resolved as follows:

- a) The Alberni Valley Community Forest Corporation Board Chair, or his designate, and the Contractor shall first attempt in good faith to resolve any dispute within 30 days ("Discussion Period") of written request by either party;
- b) Failing such dispute being fully and finally resolved as per 10.1 herein,
 - i. Either party may, within a further 14 days after the expiry of the Discussion Period, by written notification delivered to the other party (the "Mediation Notice"), require that such dispute be referred to non-binding mediation (the "Mediation");
 - ii. The Mediation shall be completed within 30 days of the date of delivery of the Mediation Notice, or such greater time period as agreed to between the parties (the "Mediation Period");
 - iii. The Mediator shall be as agreed to between the parties within seven (7) days of the receipt of the Mediation Notice. If the parties are unable to agree on a Mediator, then both parties shall forthwith submit their nominee for Mediator to the last auditor for the Corporation, and the auditor shall draw the name of such Mediator randomly.
 - iv. The venue for the Mediation (the "Venue") shall be at such location as agreed to between the parties within seven (7) days of the receipt of the Mediation Notice. If the parties are unable to agree to a Venue, then both parties shall submit their choice of a neutral Venue to the last auditor for the Corporation, or if no auditor has been appointed, then the last external accountant for the Corporation, and such person shall draw such Venue randomly; and
 - v. The costs of the Mediator and the Venue shall be borne equally between the parties, unless otherwise agreed to in writing.

c) Failing such dispute being fully and finally resolved as per 10.1b) herein, within 10 days following the expiration of:

- i. the said 14 day period set out in 10.1b) herein,
- ii. the conclusion of the Mediation, or
- iii. the conclusion of the Mediation Period,

whichever is later, either party may refer the matter to arbitration by delivering notice of such to the other party (the "Arbitration Notice"). Such arbitration shall be by a single arbiter (the "Arbitrator") and shall be governed by the terms of the *Commercial Arbitration Act (RSBC 1996, ch. 55)*, and such arbitration shall be final and binding upon the parties. The parties agree that upon service of an Arbitration Notice, the parties will be bound to resolve such dispute through arbitration, unless both parties agree in writing to withdraw the Arbitration Notice.

10.2 No Court Action

The Parties shall not take any steps to resolve a dispute in Court before such time as the notice periods set out in 10.1 herein have expired, or by written agreement of the parties.

11. NOTICES

11.1 Delivery

All notices under this Agreement will be in writing, and will be deemed to be given if delivered or sent by email or fax as follows:

to the Corporation:

Jim Sears
Alberni Valley Community Forest
Corporation Board Chair
7500 Airport Road
Port Alberni, B.C. V9Y 8Y9
c/o manager@communityforest.ca
Phone: (250) 731-7377 Fax: (250)723-1479

to the Contractor

phone: _____
fax: _____

or to such other address as a Party may notify the other Party in the manner provided for in this paragraph. Delivered notices will be deemed to have been received upon delivery. Email and fax notices are to be deemed received on the same day if transmitted before 4:30 pm on a Business Day. If transmitted after 4:30 pm on a Business Day then it is to be deemed received on the next Business Day.

11.2 Change of Address

Any party may at any time change its address for service, electronic mail address, and facsimile phone number from time to time by giving notice to the other parties in accordance with the terms herein.

11.3 Email Delivery

Any notice sent by electronic mail must have been acknowledged by the recipient as having been received before the notice is deemed to have been given.

12. CONSTRUCTION OF AGREEMENT

12.1 Governing Law

This Agreement shall be considered for all purposes a British Columbia document and shall be construed pursuant to the laws of the Province of British Columbia and all of its provisions shall be administered according to same and its validity shall be determined under the laws of the Province of British Columbia.

12.2 Number, Gender and Persons

In this Agreement, words importing the singular number only shall include the plural and vice versa, words importing gender shall include all genders and words importing persons shall include individuals, corporations, partnerships, associations, trusts, unincorporated organizations, governmental bodies and other legal or business entities of any kind whatsoever.

12.3 Captions

Paragraph titles or captions contained in this Agreement are inserted only as a matter of convenience and/or reference, and they shall in no way be construed as limiting, extending, defining or describing either the scope or intent of this Agreement or of any provision hereof.

12.4 Counterparts

This Agreement may be executed in counterparts, each of which shall constitute an original and all of which taken together shall constitute one and the same instrument. A party's transmission by facsimile or electronic mail transmission of a scanned copy of this Agreement bearing that party's signature shall constitute an effective execution and delivery of the Agreement by that party to the party receiving the transmission.

12.5 Severability

The invalidity or unenforceability of any provision hereunder (or any portion of such a provision) shall not affect the validity or enforceability of the remaining provisions (or remaining portions of such provisions) of this Agreement.

12.6 Currency

All references to monetary amounts herein are expressed in Canadian dollars.

12.7 Entire Document

This Agreement (including all other documents executed simultaneously herewith or pursuant hereto) constitutes the entire agreement among the parties pertaining to the subject matter hereof, and supersedes and revokes any and all prior to existing agreement, written or oral, relating to the subject matter hereof, and this Agreement shall be solely determinative of the subject matter hereof.

12.8 Waiver

The Corporation or the Contractor may, at any time or times, waive (in whole or in part) any rights or privileges to which either or both of them may be entitled hereunder. However, no waiver by any party of any condition, or of the breach of any term, covenant, representation or warranty contained in this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such condition or breach in other instances, or as a waiver of any other condition or of any breach of any other terms, covenants, representations or warranties contained in this Agreement, and no waiver shall be effective unless it is in writing and signed by the waiving party.

12.9 Legal Costs

In the event that either party shall be required to retain the services of legal council to enforce any of their rights hereunder, the prevailing party shall be entitled to receive from the other party all costs and expenses including (but not limited to) court costs and legal fees (whether in a court of original jurisdiction or one or more courts of appellate jurisdiction) incurred by it in connection herewith.

12.10 Jurisdiction

Subject to Article 10 herein, any proceeding arising hereunder shall be instituted only in the Vancouver Registry of the Province of British Columbia and all parties hereto agree that venue shall be proper for all such legal or equitable proceedings.

12.11 Successors and Assigns

The rights and obligations of the parties under this Agreement shall ensure to the benefit of and shall be binding upon their successors and assigns and other legal representatives. This Agreement shall not be assignable by the Corporation or the Contractor without the expressed written consent of both parties, which consent may be arbitrarily withheld.

12.12 Agreement or Modification

This Agreement may not be amended, modified, superseded, cancelled, or terminated, and any of the matters, covenants, representations, warranties or conditions hereof may not be waived, except by a written instrument executed by the Corporation and the Contractor, or, in the case of a waiver, by the party to be charged with such waiver.

TO EVIDENCE THEIR AGREEMENT EACH OF THE PARTIES HAS EXECUTED THIS AGREEMENT
ON THE DATE APPEARING BELOW:

ALBERNI VALLEY COMMUNITY
FOREST CORPORATION

Contractor

Per: _____ Per: _____

Per: _____ Date: _____

Date _____



Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

SCOPE:

- To fully develop up to **20,000 m³** in Cutting Permit(s) ready for approval and harvesting.
- Final packages must be completed concurrently and final scheduled works submitted by no later than July 1, 2012.
- In most cases, the AVCFC will be familiar with the area of each development area and may provide 1:5000 working maps showing, within reason, the area that the Contractor is expected to develop.
- New cutblocks may be introduced into the work-plan as planning evolves and conditions and priorities change.
- In some cases the contractor may be required to complete works started by another contractor and rework existing road or block layout.
- The AVCFC reserves the right to use other contractors or its own employees to develop other harvest blocks in the general area encompassed by this contract.

OBJECTIVES:

The Contract objectives are to completely develop harvest blocks including engineering, all field marking, collection of ecological information, timber cruising, mapping, production of Site Plans, and electronic submissions. As required, documents will be signed and sealed by a Registered Professional Forester. All harvest systems must be considered in light of the reconnaissance findings, FSP, and higher level plans. The systems proposed shall be selected in consultation with the AVCFC Representative.

1. QUALIFICATIONS

- 1.1 The proponent must provide the qualifications of all personnel and/or subcontractors proposed to carry out work under the Contract. If there are any changes to this list it is the responsibility of the proponent to notify the AVCFC of those changes. It is also the responsibility of the proponent to check the qualifications of personnel or subcontractors before and after award of any Contracts with the AVCFC.

2. WORK PLAN

- 2.1 The Contractor shall designate a Project Manager for liaison with the AVCFC Representative and other agencies for the term of the contract. The Project Manager shall attend and participate in a Work Progress Plan meeting with the AVCFC Representative to review contract particulars.
- 2.2 The contractor shall employ experienced and competent personnel for all phases of this contract. Resumes of these personnel shall be provided by the Contractor at the Work Progress Plan Meeting. Personnel changes shall not be made without notification of the AVCFC Representative.
- 2.3 The Contractor shall prepare a Work Progress Plan for each project area including resources to be committed and timing of phases to ensure that milestones are met and the contract completed within the time frames approved by the AVCFC Representative.

- 2.4 The Contractor shall provide the telephone and facsimile numbers and e-mail address of the Project Manager and a back-up.
- 2.5 The AVCFC shall provide, on a loan basis, all available materials, plans and map requested by the Contractor unless of a confidential nature. The proponent should refer to the AVCF website for available documents: www.communityforest.ca
- 2.6 The Digital Use Agreement (Schedule E), shall be accepted and initialled by Contractor and presented at the Work Progress Plan Meeting. A format for submitting all electronic or digital information will be agreed to at the Work Progress Plan Meeting.
- 2.7 Proof of insurance shall be presented to show compliance with Schedule D.
- 2.8 Prior to commencement of the Work under the Contract, the Contractor must ensure that all of the Contractor's meet the following requirement of SAFE Certification Requirements (Schedule H).
- 2.9 Prior to the start of work, the Contractor and their designated Project Manager will attend a pre-work to review all requirements and conditions pertaining to the contract with the AVCFC Representative. Unless otherwise approved, fieldwork must commence **within 10 days** of award of contract.

A Work Plan will be developed by the AVCFC Representative to schedule the cutblocks to be developed. The order and dates in which blocks are to be completed must be adhered to and will not be amended unless authorized by the AVCFC Representative.

All work must be completed to the satisfaction of the AVCFC Representative prior to starting the next cut block. Working ahead of the work schedule will not be allowed unless authorized by the AVCFC Representative. The contractor will be expected to be able to add resources to the contract if the schedule is not being met.

- 2.10 The Contractor will designate a project supervisor to act on his or her behalf when the Contractor is absent from the project. No operations will be conducted unless under the direct and continuous supervision of the Contractor or his designated project supervisor.
- 2.11 New cutblocks may be introduced into the work plan by the AVCFC Representative as planning evolves and conditions and priorities change. New cutblocks introduced into the contract are not a "change in conditions" as set out in the contract, but rather are considered to be within the scope of work covered by this contract.
- 2.12 Work will be completed for payment as per the Schedule B of the contract (\$/m3 or alternate rates which would be pre-approved by the AVCFC Representative). Inspection by the AVCFC Representative will be made upon completion of each project. Receipt of invoices will be accepted after successful completion of a project. Invoices are to be submitted in a format acceptable to the AVCFC and as outlined in Schedule B of the contract. A 10% holdback will be taken for each invoice payment made by the AVCFC and will be returned upon completion of the contract term. Holdbacks shall be returned to the Contractor at the end of each term of the Agreement, subject to any liens or claims against it.

3. STANDARDS OF PERFORMANCE

- 3.1 All works and services shall be conducted according to all relevant Legislation i.e. Acts and Regulations and utilizing related Guidebooks.
- 3.2 The Contractor shall make Contract Specifications/Standards available to all staff.
- 3.3 Every work site shall have a contractor representative able to receive communications about the contract.
- 3.4 All questions, concerns, problems, delays and difficulties associated with this contract, are to be documented in writing and forwarded to the AVCFC Representative.
- 3.5 All phases shall be completed and submitted to the AVCFC Representative in accordance with the approved Work Progress Plan.
- 3.6 Unless otherwise approved, all digital submissions must be as agreed to under Section 2.6 Schedule A.
- 3.7 Submit all original field cards, working maps, electronic files, supporting background information and rationales and notes upon successful completion of each project. Such information shall become the property of the AVCFC.
- 3.8 Mapping and field marking standards as per BCTS Timber Marking Standards. Some variation from BCTS standards may be requested and amended at the Progress Plan Meeting(s). One example may be the elimination of tree blazing.
- 3.9 All electronic information, whether on disk or transmitted by other means, must be scanned for computer viruses prior to submission. If a virus is detected in any submission that submission shall be rejected and a \$200.00 charge shall be deducted from the contract price.
- 3.10 The Contractor shall only utilize personnel identified in the tender submission, for providing the Services, unless otherwise approved by the AVCFC Representative.

4. INSPECTION AND ACCEPTANCE

- 4.1 Request for Inspection and Acceptance
The Contractor's designated Project Manager/Field Supervisor must review all Preliminary, Draft and Final Submissions prior to submission, to ensure compliance with Contract Schedules and AVCFC Representative instructions.
- 4.2 The Contractor shall, upon completing all Work within a project area and/or phase, promptly request that the AVCFC inspect and determine the acceptability of the Work. The request must be in writing and confirmation that works have been completed as per contract and legal requirements and signed off by the designated Project Manager.
- 4.3 Inspection by the AVCFC
The AVCFC shall, following receipt of the Contractor's request for inspection and acceptance, promptly inspect and determine the acceptability of the Work performed in the Payment Area. Work shall be inspected in accordance with the Contract Documents. The Province is not obliged to make any determination of acceptability before receiving the written request.
- 4.4 The Contractor may observe inspections while they are underway. This will be at the contractor's own expense.
- 4.5 The AVCFC may provide the Contractor with a copy of inspection results.

- 4.6 The AVCFC reserves the right to inspect, at all times during the Term, any Work performed.
- 4.7 Inspections are conducted by the AVCFC in order to determine compliance with the provisions of this Agreement and to provide the basis for calculating the payment due. These inspections are conducted for the sole benefit of the AVCFC, and do not release the Contractor from the responsibility of providing quality control measures to assure that the Work strictly complies with this Agreement.
- 4.8 Re-Inspection
If the Contractor requests a re-inspection of the Work, the Province shall perform the re-inspection at a time mutually agreed to by the Parties, but in any event no later than ten (10) Work Days after receiving the request.
- 4.9 The results of the re-inspection shall be used to determine payment and shall be final and binding.
- 4.10 Actual Damages or Liquidated Damages for Non-compliance
If, in the opinion of the AVCFC, the Contractor fails to observe, perform, or comply with any provision in this Agreement, the AVCFC, may at its sole discretion:
- (a) permit the Work to continue, giving the Contractor a time limit for compliance, rectification, or both; OR
 - (b) suspend all or part of the operation of this Agreement including payments in whole or part to the Contractor, giving the Contractor a time limit for compliance, rectification, or both.
- 4.11 Where the AVCFC has set a time limit for compliance, rectification, or both and, in the opinion of the AVCFC, the Contractor fails to meet the time limit, the AVCFC, may employ whatever means necessary to rectify the non-compliance, which may include performance of the obligations on the Contractor's behalf, and the Contractor shall, on demand, pay the AVCFC an amount equal to the costs reasonably incurred by the AVCFC in rectifying the non-compliance.
- The AVCFC may demand payment of the following as liquidated damages where the contractor has been given notification to rectify unsatisfactory or incomplete works.
- 4.12 Liquidated Damages for Late Completion
Should the Contractor fail to complete the Work on or before the completion date specified in the contract and/or Work Progress Plan, but is subsequently completed, the Contractor shall pay to the AVCFC, **\$500.00/day** as agreed liquidated damages for every day for which the completion is after the specified completion date. Payment of such damages shall not limit any other remedy available to the AVCFC. It is understood that no bonus payments for early completion will apply under this Agreement.

5. PRELIMINARY ENGINEERING, SILVICULTURE AND TIMBER DEVELOPMENT (TD) (Phase 1)

Intention:

The intention of the TD (Phase 1) is for the contractor to review the identified area for timber quality, viability and access. The contractor will need to identify both the initial and second pass opportunities during this phase to ensure the access and boundaries will facilitate both entries. Once the area is determined to be viable the contractor will need to determine what professional assessments will be required in the final engineering. This will include and not limit the area identified but also the adjacent areas that will be impacted by the initial harvest. Included in the (phase 1) will be the review of the intended access to the timber sale which will identify all road sections both new and existing.

The Contractor shall:

- 5.1 Preliminary TD entails:
- Office review
 - Cutblock boundary location- flagged (traversing not required)
 - Road P-line recce/location- flagged (traversing not required)
 - Deflection and Tie lines as required
 - Identify harvesting considerations (aerial / grapple vs ground, steep slopes, hazards, rockfall etc)
 - Identify stand attributes (species composition, volume etc)
 - Identify resource features (wildlife, Red Listed Species, trails, rock outcrops, gullies, Karsts etc)
 - Identify forest health issues (Fir Bark Beetle, root rot etc)
 - Determine assessments required (terrain, windthrow, gully, Archaeological Survey, Root Rot Survey)
 - Riparian assessments (complete)
 - Establishment of viewpoints for VIA where required. (known or proposed)
 - Preliminary engineering report
 - AVCFC office review and approval

- 5.2 According to the Work Progress Plan, conduct a thorough office review of all relevant plans (operational and higher level), reports, surveys, maps, fish distribution data, agency comments, constraints etc., for each block. A copy of the plan must be submitted to the AVCFC Representative prior to the start of field works.

This information shall be utilized in all phases of this contract.

- 5.3 Classify and map all streams, lakes, wetlands, non-classified drainages (NCD) and non classified wetlands (NCW) within and adjacent (i.e. within the RMA distance) to the proposed cutblock or road right of way boundary. Measurements confirming stream classifications shall be recorded on field cards and the locations of measurements mapped. The contractor shall classify all streams as per the AVCFC Forest Stewardship Plan (FSP) and as detailed in the Stream Classification Guide Datasheets and Small Wetland & Amphibian Assessment Card or equivalent.

- 5.4 The Prescribing Forester shall walk the entire area and produce a draft ecological classification map. (Note the Prescribing Forester must not delegate this work) For each eco-type site series identified, a minimum of one sample plot with soil pit shall be established. Recommendations for level and type of retention shall be presented with approximate locations sketch mapped.

- 5.5 The Prescribing Forester shall review and identify strategies for addressing stand level biodiversity including potential wildlife tree retention areas (WTRA) and wildlife tree retention as per the FSP. Target levels shall be consistent with the approved FSP.

It is the intention of the AVCFC to demonstrate a variety of silviculture systems. The prescribing Forester shall meet with the AVCFC Representative to discuss these options and expectations.

- 5.6 Find, record and map all resource features (e.g. wildlife, red listed species, trails, dens, nests, karst, old growth trees / snags, recreation features, etc.) within or adjacent to the cutblock area.

- 5.7 Find, record, and identify all Invasive Plant Species and report as per the FSP requirement.

- 5.8 Establish a sufficient number of GPS ties (minimum 3 ties) to accurately map locations of all reconnaissance and p-lines and control points.
- 5.9 Identify all required assessments (e.g. Archaeological Impact Assessment, Fish Stream Inventory, Visual Impact Assessments, terrain stability, windthrow, cave / karst, root disease, forest health, etc).
- 5.10 Engineer and map on 1:5000 base the preliminary cutblock road locations, falling boundary locations and harvest systems.
- 5.11 Boundary, Roads, Deflection Lines, and Harvesting Considerations
When establishing preliminary boundaries the following timber volume criteria shall be used:
- For clearcut and clearcuts with reserves, the minimum timber volume for inclusion to be $350\text{m}^3/\text{ha}$.
 - For selection silviculture systems, the minimum timber volumes for inclusion are $50\text{m}^3/\text{ha}$.
 - Final decision for inclusion to be made by the AVCFC Representative based on market conditions, value and other considerations.
 - When establishing preliminary roads and boundaries, sufficient number of GPS and map ties (minimum 3 ties) should be taken to accurately map preliminary road and boundary. If GPS is unavailable, the acceptable alternative tie points will be significant features on the air photos.
 - All access options are to be explored. Consideration to protection of soils, water bodies, visual quality, heritage resources and other resource values, the location and design of all roads shall be such that the combined costs of construction, log hauling, site degradation, and site deactivation are minimized, while maximizing the development of merchantable timber. Indication of alternate routes reviewed must be submitted with the phase 1 report.
 - Roads and boundaries to be flagged (traversing not required) as per Section 3.8.
 - Identify all road sections that will have the following criteria: grades >18% favourable, >10% adverse, thru cuts, end haul sections, adverse switch backs, engineered fills, overland sections and any unique road building anticipated in the Phase 2 engineering.
 - Where old roads are to be used, provide information on upgrades required and assessments needed. All upgrade surveys required must be identified for approval by the AVCFC Representative prior to Phase 2.
 - For existing structures and all creek crossings to be identified and all structures noted for further assessment in Phase 2.
 - Identify bridge or large culvert crossings that will require a site plan (e.g. culverts >2000mm or bridges exceeding 5.9m in length+)
 - Stratify area by proposed silvicultural system (Note Harvest System must be approved by the AVCFC Representative for each sale prior to phase 2 proceeding.
 - Describe soil texture for each harvest area and any limitations

- Determine where ground based, cable (grapple, hi-lead, and skyline) or helicopters are to be used and suggest whether seasonal constraints to harvest are applicable. Identify service landings and drop sites.
- For cable harvesting ensure tailholds exist when establishing boundaries e.g. need 2 feet diameter stumps or sufficient backspar trees.
- For Ground based operations identify all slopes >35%
Stratify slopes > 60% and indicate areas of instability ("pistol butting", soil creep, slide tracts) identify all required terrain stability field assessments, soil erosion field assessments and road stability prescriptions for all proposed roads within, or above, areas of unstable or potentially unstable terrain (P or U polygons), moderate to high likelihood of landslides (Class IV or V polygons), high erosion potential (H polygons), slopes greater than 60%, or having indicators of slope instability.
- Identify any Hazards present and appropriate measures to mitigate
- Identify presence and location of gullies
- Identify green-up issues
- Identify the need for legal survey

5.12 **Stand Attributes – Note:** A Cruise for Appraisal purposes is NOT required as the AVCFC stumpage system is Tabular Rate.

- Estimate volume / hectare (through cruise or other agreed method)
- Estimate species composition (%)
- Determine average age of leading species
- Estimate Average diameter and height (and range) of all species
- Identify stand history if obvious
- Identify type stratum

5.13 Resource Features

- Within or adjacent to the cutblock area record and map resource features such as wildlife signs, trails, dens, nests, red listed species and other species at risk, karst, caves, old growth trees / snags, recreation features, rock outcroppings, potential wildlife tree patches.
- Presence of heritage resources-Culturally Modified Trees (CMT) or unique natural features.
- Adjacency to existing roads, hydro or fiber optic lines, gas or oil pipelines, private property (or other known tenure), "non greened up" forest land.

5.14 Forest Health

- Identify the presence of root rot, Douglas fir bark beetle, dwarf mistletoe etc. and an estimate of % affected area, with approximate locations.
- Identify windthrow and determine species, duration on the ground, direction of lean, catastrophic or endemic.

5.15 Invasive Plant Species

- Identify the presence of Invasive Plant Species as per the FSP requirements.

5.16 Assessments

- Identify and/or recommend assessments to be completed such as visual impact assessments (VIA), terrain stability, gully, windthrow, root disease, cave/karst, CMT or archaeological.
- Establish viewpoints for VIA.

5.17 Riparian Assessment

- Streams and Non Classified Drainage's will be traversed and documented as per the FSP and FPPR and Stream Classification Guidelines & Datasheets that are found within influence of the cutting areas or roads. Streams and/or NCD's within 50 meters, but outside of the block boundary, shall be traversed & mapped.
- Stream, NCD's, lakes, wetlands, estuaries, fisheries sensitive zones, vernal pools of ecological significance will be traversed and classified and mapped as required. Traverse notes (Stream Data sheets) will include location of potential gully instability, slide scars on gully walls, stepped scarps, tension cracks, soil creep, debris piles, multiple stream channels, barriers/obstructions, known downstream uses or concerns, and note mineral vs. bedrock controlled banks on streams. All stations will be marked on as per Section 3.8 of this schedule.
- If the stream channel is within the block or the influence of the block (50m) and meets the definition of a gully, a qualified professional must carry out a gully and/or terrain assessment.

5.18 Preliminary TD Report and Map

- For each cutblock a written report is required which summarizes the field data collected. Based on the data the report should make recommendations on assessments required and rationalize the location of proposed roads and boundaries and describe harvest chance as per the stand attributes. The report should identify the silviculture system and recommended harvest systems and constraints, and must also identify all applicable results and strategies and how they apply to the proposed block(s) and road(s). The report shall include copies of field notes.
- The TD Report should include a map, 1:5000 scale, showing riparian classifications, ecological classification, streams, water bodies, existing and proposed boundary, second pass opportunities if applicable and road locations (both new and upgrade road systems, resource features, different harvesting systems, gullies, sensitive areas, adjacent land features, root rot areas, major crossings, timber types, and windthrow areas. In addition to the preliminary block map a 1:20 000 scale FSP (Operational Plan) /block comparison map is required. The proposed block is to be located and mapped as accurate as possible to compare to existing map polygons.
- The contractor is responsible for identifying and mapping all CMT's or archaeological features found. The First Nations (F.N.) whose Traditional Territory may be impacted is to be contacted by the Contractor's Project Manager for the purpose of participating in an on-site review. The cost of a F.N. representative attending the review will be borne by the AVCFC.

The AVCFC may offer additional archaeological assessment work to the F.N. outside of this contract. The contractor will not be responsible for this additional work but may be asked to modify blocks as a result of assessment findings.

Any other traditional use information that is held by the AVCFC or a First Nation may be shared with the Contractor through a Confidentiality Agreement if necessary to carry out works under the contract. Traditional use information of a sensitive nature may not be shared with the Contractor and the reasons for exclusion of some works or areas may not be supplied.

- The Project Manager and Site Plan Forester shall meet with the AVCFC Representative for review and approval of the Preliminary TD Development Report, before commencing any subsequent work. At this time all extra works identified beyond the standard engineering requirements of the contract will be reviewed and approved prior to any further works are completed. This includes all anticipated day rate works for any identified Professional or Technical activities.

AVCFC must review and approve the Preliminary TD Report before the contractor is allowed to start Phase 2- Final Cutblock and Road Engineering.

6. FINAL ENGINEERING, SILVICULTURE AND TIMBER DEVELOPMENT (TD) (Phase 2)

Intention

The intention of the Phase 2 is to complete the final engineering of the blocks and roads and all required assessments as per the details from section 6.1 to and including section 12. of this contract. All field marking will be as per Section 3.8 of this Schedule.

6.1 Final Cutblock and Road Engineering entails:

- Final road location, traverse, and design
- Bridge Crossing & Large Culverts Site Plans
- Block boundary traversing, blazing, and painting
- Completion of Assessments- gully, terrain, windthrow, root rot, visual, fish resources
- Silviculture Site Plans and Road Site Plans
- Cruising
- CMT and/or archaeological assessments completed by Contractor or First Nation

6.2 A Road Site Plan must be prepared for any new road construction for which timber harvesting related to the road's construction is required and that is not covered by a Block Site Plan

6.3 With due consideration to protection of soils, water bodies, visual quality, heritage resources and other resource values, the location and design of all roads shall be such that the combined costs of construction, log hauling, site degradation, and site deactivation are minimised, while maximising the development of merchantable timber. The latest versions of the BCIT Manual for Roads and Transportation (Volumes I and II), FERIC Log Bridge Construction Handbook, Forest Road Regulations, Forest Road Engineering Guidebook and the Forest Service Bridge Design and Construction Manual should be consulted.

6.4 Road construction is recognized as a major cause of mass wasting and stream sedimentation. Accordingly, the amount of road built shall be minimized and road construction avoided through unstable areas. If it is deemed necessary to traverse unstable slopes or other areas sensitive to road construction, a qualified registered professional shall be consulted and site-specific construction techniques shall be proposed. Environmental impacts will be minimized.

6.5 Locate roads and landings away from streams, gully headwalls, slide areas, unstable slopes and marshes while utilizing benches, ridge tops and flatter slopes as much as possible.

- 6.6 **"All areas of Terrain Class III, (with a High Hazard Rating) Class IV, Class V and Gully or potential gully, must have an appropriate Professional Field Review and approval of the Final Road and Block Boundary".** (Any road sections with slope > 50% and any slope within a proposed cut block > 60%).

7. ROAD TRAVERSING

7.1 Scope of Work

The work shall include a P-line route survey; a roadway design including plans, profiles, cross sections and earthwork (mass haul) estimates; and L-line marking will only proceed after AVCFC Representative approval. Note L line will only be established for Permanent Roads as all Temporary roads will be permanently de-activated and will only require P-line surveys. The work shall also include site plans for crossing of all Class S1 to S4 Streams; crossings of any streams draining directly into Class S1 to S4 streams; and all crossings where volume per second flow during the 100 year flood will exceed 6 cubic metres per second or greater or meet the requirements for large culverts or bridges.

7.2 General Conditions

Road locations and landings are to be conspicuously marked with "winter grade" flagging tape and blazes highlighted with paint as per Section 3.8.

The Contractor shall carry out the survey and design work according to the specifications provided herein and shall submit outlining information contained herein.

7.3 Minimum Road Specifications

For an off-highway logging truck (unless approved by the AVCFC Representative):

Dimensions:

- permanent road width is 5 meters
- temporary road width is 5 meters

Favourable:

- Sustained favourable grade not to exceed 18%. (any road plans with grades > than 18% must have a risk assessment as per Worksafe Regulations and Guidelines)
- Maximum allowable grade in pitches not longer than 200 meters is 24%.

Adverse:

- Sustained adverse grade not to exceed 10%.
- Maximum allowable on momentum grade not longer than 100 meters is 14%.
- Not to be used as a starting grade from landings or loadouts.

Switchbacks:

- All adverse switchbacks will need AVCFC Representative approval.
- Grade not to exceed 8%.
- A switchback constitutes the travel from the beginning of the curve (BC) to the end of the curve (EC) plus one truck length along each tangent there from.

Alignment:

- Average design speed, 30 kilometres per hour.
- Minimum radius of curves, 65 meters in control section.
- Minimum radius of switchback curves, 18 meters.

Turnouts:

- Usable length to be not less than 30 meters including 5 meters of taper at either end.
- To be intervisible.

- There shall be not less than 4 turnouts per kilometre; curve widening can be used as Turnouts or incorporate landings bridges etc.
- Total road width of turnout to be 9 meters (including width of running surface)

Widening:

- All curves to be widened to allow for side tracking of truck trailer units, including lowbeds.
- Use the Forest Road Engineering Guidebook for road width requirement on various curve radius.

Culverts:

- Q100, calculations will be done for all stream and NCD crossings.
- Permanent / temporary culverts to be placed as required.
- Cross drains to be placed at grade breaks or on grades:
>8% not over 100 meters apart, and
0% to 8% not over 150 meters apart
- Minimum culvert size will be 600 millimetres diameter, unless otherwise specified, or a 0.75 x 1.5 meter width wooden culvert (Cw/Cy/Fdc for permanent structures and other species acceptable for temporary structures). Culverts to be installed with protective rock armouring at inlets and outlets and should be indicated on the applicable Plans. The Forest Road Engineering Guidebook is to be used to determine culvert sizing and installation requirements.

Right-of-way clearing Boundaries:

- Minimum-clearing width shall be 3 meters beyond the top of the cuts and toe of the fills unless otherwise specified. Note all R/W clearing widths will need to be determined on a site by site basis and approved by the AVCFC Representative.

7.4 Survey Specifications

- a) *Reconnaissance*. Traverse of the proposed route at a minimum of Survey level 1 standards.
 - Provide a photo line of the intended route for approval by the AVCFC Representative.
 - Provide a 1:20,000 map of the proposed route for approval by the AVCFC Representative.
 - Transfer to air photos of the proposed route.
 - Indicate all improvements or crossings, e.g. pipelines, hydro, railway that may be in conflict with the proposed route.
- b) *Preliminary Line (P-line)* -Survey Level 2 - **All roads either new/reconstructed**
Plan/profiles and plotted cross sections will be completed for the P-line. The plan/profile will be drawn to a scale of 1:2000 horizontally and 1:200 vertically.

Following the approved reconnaissance, a series of turning points (TPs) (compass shots will suffice) are to be set along the P-line to establish the best horizontal and vertical alignment. The dimensions of all TPs will be not less than 2 centimetres in diameter/width and not less than 1 meter in height. The TPs are to be intervisible and marked in continuous horizontal chainage; the TPs so marked shall be left upright and securely placed in the ground or on solid rock. Ribbon marks are permissible if approved by an AVCFC Representative.

Should a transit be utilized, turning hubs will be driven into the native ground and marked with a 0.3 meter length guard stake. Brushing of P-line location is required to ensure there is a clear compass and chain shot between stations and to allow easy foot access.

The relative precision of the P-line survey will be not less than 1:200. Vertical error will be not greater than 1-meter vertical in 1000 meters of distance.

Cross sections must be taken at all traverse stations, along all proposed culvert centerlines and at all ground breaks greater than 0.5 meters along the center line, at intervals of not more than 30 meters (or 15m apart or in rock sections) and shall be perpendicular to the back tangent. The cross sections shall extend from the P-line tangent at least 25 meters on each side of line or as required to accommodate the roadway design. Ground breaks on the cross section profile will be recorded to the nearest 0.1-meter in distance and nearest slope percentage.

All stream and NCD locations (whether they be "in block" streams, streams intersecting roads and adjacent to a block) will be assessed as per the Q100 procedure (as per the Forest Road Engineering Guidebook - Stream Culvert Discharge Design). Streams, wetlands, lakes and fish sensitive areas will be assessed using the Riparian Management Guidebook. Stream dimensions are to be recorded in field notes.

Final classification of all streams will be done by the prescribing forester.

Identify all drainage structures requiring professional design (i.e. 2000 millimetres or greater in diameter or with discharges of 6 cubic meters per second or greater Q100 or structures exceeding 5.9m).

P-line reference trees will be established at 300-meter intervals. Benchmarks shall be set in areas of large cuts, fills, bridge or large culvert crossings. Two benchmarks are required for each major stream crossing with one benchmark on each side of the crossing. The reference trees will be established outside the proposed clearing width on the uphill side. Such trees will have an internal angle of not less than 60 degrees and not more than 120 degrees, to the mean road tangent direction. Reference trees will have aluminum tags affixed with staples on each of four corners showing the P-line chainage, elevation, bearing and horizontal distances from the tree to the station.

There will be a minimum 1 GPS tie per 400m or 1 photo tie and each photo tie will be common with either the preceding or following photo in the flight line.

Soils will be categorized by recording data from natural sources (e.g. uprooted stumps) and shallow pits. More extensive testing requiring test holes may be required as determined by recce.

Soils will be catalogued and their location shown on the plan profile in the following types:

- Solid rock
- Rippable rock or hardpan
- Soil types as per the Forest Road Engineering Guidebook
- Sources of surfacing material or quarry rock
- All property monuments within 150 meters of the P-line will be found, traversed and tied to the P-line. It should be noted, if no evidence of monuments were found in field. Particular emphasis to be placed on the location of private property monuments.

7.5 Location Line and Design

Plan/profiles and plotted cross sections will be completed for the L-line. The plan/profile will be drawn to a scale of 1:2000 horizontally and 1:200 vertically.

. L-line stations are to be marked in meters and be sequential in distance.

Final L-line location in the field will be located within 1 meter of design location for Permanent Roads Only.

7.6 Plans will include:

- North arrow with magnetic declination shown
- Preliminary line traverse (P-line)
- Accumulated chainage and TP number at every fifth TP
- Overlap between plans of 150 meter
- Change equations
- Reference points plotted and labelled
- Existing roads complete with road name
- Existing structures (bridges, culverts, buildings, fences, etc.)
- Existing services and utilities including but not restricted to telephone, power, gas, oil, sewer and water lines
- Percent side slope and direction
- Terrain features and direction (rock outcrops, creeks, rivers, swamps, wetlands, wet areas vernal pools, and comments from terrain reports etc.)
- Show all Riparian Reserve and Management Zones (RRZs & RMZs) that fall within 25m each side of centerline.
- Designed L-line complete with curves
- curve information including radius (R)
- accumulated L-line chainage at beginning (BC) and end of curves (EC)
- Bearing of the L-line tangents shown on the plan to the nearest 30 seconds
- Kilometre stations on the L-line
- 100 meters of existing road alignment from junction or extension of existing roads
- Clearing boundaries
- Title block indicating: road name, kilometre, date of survey, and scale (horizontal and vertical)
- Special notes indicating: land district, road class, survey class and design class; datum of elevation
- A key map shall be included on the first drawing of the set to a scale of 1:50,000
- No curves are required where the angle of intersection is less than or equal to 5 degrees
- all legal boundaries and plan numbers
- all monuments found and tied
- Location of existing heli spot /pads (if applicable)
- Location of all potential pits, spoil sites and end haul sections

7.7 Profiles will include:

- Chainage and elevation equations
- Description of soils
- Terrain features (creeks, rivers, swamps, wet areas, etc.)
- Show all Riparian Reserve and Management Zones (RRZs & RMZs) that fall within 25m each side of centerline.
- Penetration depths at swamps and wet areas to solid ground if possible
- Grade lines complete with grades (adverse or negative)
- Grade breaks at grade changes of 2% or less
- Vertical curves at grade changes greater than 2%
- Turnout locations and dimensions
- Design notes (extra ditching, lateral ditching, road widening, forest cover, etc.)
- Culvert locations with recommended diameter, length and skew
- Kilometre stations
- Primary excavation and primary embankment volumes summarized in bank cubic meters at each station.
- Secondary embankment (gravel) volumes summarized in bank cubic meters at 200-meter intervals
- Waste and borrow locations and quantities in bank cubic meters
- Scale H = 1:2000 V=1:200
- 100 meters of existing road grade and horizontal alignment at junction

- Balance points and direction of material movement
- Show position of cut and fill slope changes
- - Location of all potential pits, spoil sites and end haul sections
- Show areas of overland construction (and volumes)

7.8 Cross Sections:

- All cross sections taken in the field will be plotted at a scale of 1:100 to 1:500 and will show the full stabilized subgrade template as a solid line, unstable subgrade width as dashed lines and cut and fill slopes as determined by material stratum. Cross sections do not show Crown.

7.9 Road Design Specifications

- Road Eng. 4.0 or better is the accepted road design software.
- Cut and fill slopes shall be designed according to soil types as shown in the "Road Cut slopes and Fill slopes" section of the Forest Road Engineering Guidebook.
- All excavation quantities are to be shown in cubic meters.
- The Contractor will submit a table of volumes, expansion and compaction factors, sidecast and local mass calculations of embankment and excavation accompanied by the mass graph of the calculated volumes showing proposed movements and balance lines.

7.10 Roadway Design Approvals

- The final design will be one which the AVCFC Representative has approved as being the most economical with respect to firstly minimizing rock quantities balanced and secondly OM quantities by horizontal and vertical alignment changes within the Minimum Road Specifications.

P-Line / L-line chainage indicated in the Road Design MUST match what is found on the ground for a given station.

7.11 Bridge and Major Culvert Site Plan Specifications

General

- All bridges fabricated for AVCFC projects and FSRs must have a unique structure number identifier label on the as-fabricated bridge. The unique structure number identifier should also appear on the associated original signed and sealed design and as-constructed documentation.
- Please ensure that structural bridge designs that are produced for the AVCFC conform to the foregoing and that signed and sealed design drawings provided to the AVCFC for each project contain the unique structure number identifiers for each specific bridge project.

Site Conditions

- Site conditions should be such that the ground surfaces and any existing structures within the limits of survey are clearly visible (i.e. snow free).

Survey Accuracy

- The site survey(s) will be conducted with a theodolite/transit or total station with a relative precision not less than 0.1 percent horizontally and 0.33 Percent vertically.
- Field referencing and benchmarks will be established with a relative precision not less than 0.1 Percent horizontally and 0.33 percent vertically.

Limits of Survey

- Extend the site plan in the following directions:
 - upstream to show any bend which may influence the current pattern at the site, either at normal stage or in flood (generally, assume a distance up to seven (7) stream widths or to the second bend, minimum of 20 meters);
 - downstream three (3) stream widths, or to the limit of possible location changes; or to show all creek cross-sections, minimum 20 meters;

- back from each bank to cover potential overflow channels, or to well above the high water mark;
- along the existing or proposed road location a minimum of 50 m back from each existing or proposed abutment, or far enough to show approach problems. The surveyed area must be large enough to cover possible bridge and road location changes.
- establish a control traverse to gather site information and tie to the road P-line.

Field Referencing

References Points

Establish two (2) reference points at each site to allow for relocation and control surveys. The references will consist of a ground hub and a reference back site in a tree or a reference ground hub back site, on tangent with a transit hub, on each side to the stream crossing. Both reference hub and back site will be placed out of the right-of-way to avoid disturbance.

Bench Marks

Establish at least two (2) benchmarks, away from any potential disturbance, to be placed on firm fixed objects that will not be disturbed, one on each stream bank. Preferably place the benchmarks where they will be visible from both proposed bridge abutments and within 1500 mm above high water level. Where elevations have not been established, use reference elevation datum of 100.000 m and note as "assumed datum of 100 m". Generally install 200-mm spikes in the side of a blazed, live tree (greater than 50-mm diameter), using the head as a benchmark and placed below Stump Ht (30cm).

Construction Reference Stakes

Establish a minimum of two (2) pairs of offset construction reference stakes to the existing center line or P-line at each site; to allow for establishment of the location of the proposed bridge center line with horizontal measurement. One (1) pair on each side of the crossing, right and left of the center line, away from potential disturbance and preferably outside the right-of-way. Where possible, stakes should be placed at approximately the same elevation as the road surface to allow for level, tape measurement.

Data Collection

- Present Water Level (PWL): Collect spot elevations every 15-m along both sides of stream to an accuracy sufficient to determine stream surface slopes.
- High Water Level (HWL): Collect spot elevations where evidence is clear; note evidence.
- Stream flow pattern: use floats dropped at several points across the stream to collect relative flow velocities. Note measured velocities; signs of bank erosion (overhanging trees and roots, vertical banks, areas where present channel differs from that in older air photos).
- Site features: note sloughs, abandoned channels, overflow channels, sand or gravel bars, bed rock, boulder areas, log jams, debris accumulations, fords, vegetation boundaries, trails, ice-jam areas or other significant features.
- Note descriptions and boundaries of soil and rock types as seen on the surface, including stream bed substrate, particularly where exposed rock may affect bridge structure or abutment location. Note any test hole locations and their logs.

For existing bridge structures within the limits of survey obtain:

- a) Spot elevations for each corner of the existing deck and/or edges of existing traveled road surface;
- b) Spot elevations for the upper corners of the existing abutments;
- c) Spot elevations showing the perimeter of the abutments where they contact the ground surface and outline the edges of the existing bridge;

- d) Outline of the outside perimeter of the existing structure.
- Other existing features:
 - a) Structures such as: buildings, fences, and roads, driveways and gates;
 - b) Utilities such as: power poles with numbers of, height of, and direction of wires; gas lines with any surface markings and structures;
 - c) Right-of-way markings such as: Forest Service Road, pipeline, gas line, easement, railway and power line R/W pins.
- Descriptive photographs shall be taken to show the bridge-crossing site. At minimum, photographs of each stream bank from the opposite stream bank and from the upstream and downstream of the proposed or existing bridge site shall be taken. Where difficult and convoluted ground or soil conditions occur, additional photographs shall be taken at the time of the data collection detailing conditions.
- In addition to collecting sufficient data points for production of the site plan drawing, carry out the following profiles and cross-sections:
 - a) For proposed crossings, take a center line profile, including soundings where appropriate, of the expected crossing line and include approach alignment (a minimum of 50 m each side or adequate distance to resolve any approach or alignment problems), high water line, present water line, wetted perimeter, top of banks and other topographic features.
 - b) If the downstream reach is uniform, take one other section about three to five stream widths (minimum 15 meters) below centerline and the same upstream. If flow is non-uniform, take two or more sections below centerline at points of change, and do the same upstream.
 - c) Where a bridge structure exists, cross sections shall be taken, parallel to the centerline, along the upstream and downstream edge of the bridge to show stream bed and ground lines adjacent to the abutments.

Plan Details:

Using a preferred scale of 1:200, plot the following information on the plan drawing:

- The designation, location, and description of reference points and the bench marks, including elevation and datum;
- Contours: the contour interval shall be 0.5 m; this may have to change on rock cliffs; make a conspicuous warning note if two intervals are used on the same plan; show all cross-sections and points read; extend contours across the stream bed where possible particularly at the proposed crossing location and at possible sites for a work bridge or ford; accuracy should permit interpolation to a 0.3 m error on rock, around existing bridge structure components and along the stream banks;
- PWL and date of data collection; show spot elevations every 15 m along both sides of stream to an accuracy sufficient to determine stream surface slopes;
- HWL; show spot elevations where evidence is clear and if possible join with a dashed line; describe evidence
- Existing bridge structures show:
 - a) Spot elevations for each corner of the existing deck (indicate "deck");
 - b) Spot elevations for the upper corners of the existing abutments (indicate as "top abut" or "top crib");
 - c) Spot elevations showing the perimeter of the abutments where they contact the ground surface; and
 - d) Outline of the perimeter of the existing structure;

- Show and label significant features from data collection such as sloughs, abandoned channels, overflow channels, sand or gravel bars, boulder areas, log jams, debris accumulations, fords, vegetation boundaries, cabins, trails, ice-jam areas or other significant features. Provide descriptive notes to describe such features;
- Show and describe boundaries of soil and rock types as seen on the surface, including the streambed, particularly where exposed rock may affect bridge structure or abutment location. Show test hole locations and their logs;
- Existing structures, utilities and rights-of way;
- Vegetation boundaries and types;
- Location of stream cross-sections taken;
- Land status and right-of-way boundaries, where known;
- Control traverse;
- North arrow and magnetic declination;
- Key map showing location of bridge site, direction and distance to town, ;
- Legend of symbols and lines;
- Scales;
- Title Block showing: bridge structure number, FSR or forest road name, kilometre location, stream name, who completed the survey, who completed the drawing, date of survey, and drawing number.

Profile/Cross Section Drawings

Show the following information:

Profile/Cross Sections

- a) Creek Cross sections: 1:200 scale horizontal and vertical
 Road Centerline: Profile: 1:200 scale horizontal and vertical on existing/proposed bridge centerline.
 Detail Bridge centerline Profile: 1:100 scale horizontal and vertical (detail of previous extending 10m each side of bridge).
 Creek Centerline Profile: 1:200 scale horizontal and vertical.
- b) Show the ground and stream bed elevations along the existing or proposed road and bridge centerline.
- c) Extend the center line ground profile at least 50 m beyond either end of existing or proposed bridge along the existing or proposed road center line. A stationing of 00+000 used at the beginning of and at the town side of the survey.
- d) Where a bridge structure exists, on the same drawing, using distinct line types, show the streambed and banks along the upstream and downstream edge of the bridge (where possible); show ground lines adjacent to the abutments.
- e) Show the present water level and right bank/left bank.
- f) Show high water level.

Stream bed/surface water profile - using a scale of 1:200 horizontal and 1:200 vertical.

- g) Show the profile of the stream bed and water surface for the length of the site plan including streambed gradient.

7.12 Miscellaneous

- a) Or crossings of pipelines, hydro lines, railways, highway junctions or crossings, are all covered by standard instructions by each agency and other specific instructions provided by AVCFC or MFLNRO.
- b) The terminus of all roads is to be tied to a falling corner established on the cutting boundary, unless otherwise authorized by the AVCFC Representative.

- c) All favourable road gradients > 18% must be indicated on the Plan and Profiles and also marked on the Harvest Guide Map and Road Construction map and noted as a Hazard. Note the Standard Operating Procedures for Layout and Design for Hauling on steep grades must be followed and specific road construction techniques may be required for these sections. (refer to Feric Descent Guideline Tables).

8.0 CUT BLOCK ENGINEERING

8.1 Harvesting Systems

a) General

All field marking will be completed as per Section 3.8 of this Schedule.

The objective of harvesting system selection and layout is to provide a safe, productive and efficient harvesting plan according to standard coast logging methods. This requires a sound working knowledge of equipment and personnel limitations by the engineer. Boundary locations, landings and deflection lines are to be conspicuously marked with "winter grade" flagging tape and paint, and with metal tags where required.

All cutblocks must be established with reference to a legal survey post; a line located with GPS, or with a traverse tape, compass and clinometer must be run from the survey post to the point of commencement, which is a clearly identifiable point on the legal status clearance boundary of the tenure.

Where it is impractical to tie the boundary to a legal survey or an identifiable GPS location, the triangulation of a recognizable topographic feature (e.g.-junction of river and creek, junction of two creeks, road junction, bridge, etc.) from the aerial photographs to the base map will be acceptable for tying in the point of commencement and the nearest legal surveyor a GPS location as per Schedule A-1.

After the Contractor has initial recce of the planning unit, the AVCFC Representative shall approve the harvesting method to be utilized before final engineering of the setting.

Harvesting boundary location must be done in the following manner on the entire perimeter of the harvesting area(s):

- Each block edge must be given a windthrow hazard and risk rating. Windthrow Cards (FS712-1, FS712-2, and FS712-3) are to be completed for edges with moderate to high hazard or risk. The completed assessment will consist of the cards and a corresponding map showing applicable treatment strategies and is to be submitted with the SP.
- Complete Gully Assessments for all gullies within or adjacent to the TD blocks. These assessments are to be completed by a qualified professional. Gully Assessment cards (FS197A, FS197B, FS197C) must be included with the final package.
- Traverse notes will include: station, slope distances, percents lope, fore sight and back sight azimuth bearings
- Closed traverse with linear error of 1% or less for all cutblocks or GPS traverse to the standards acceptable to the AVCFC Representative.
- Tight-chain traverse with fore sights and back sights
- Traverse to be photo-tied and tied to square blazed trees
- Marking should be established at such a frequency to enable them to be clearly visible from painted tree to painted tree.
- Falling corners shall be approximately at 100-meter intervals along the cutting boundary line or where there are major changes of direction and denoted as tie points.

b) Stream Management

- For each NCD, stream, wetland and lake in or adjacent to the harvest area, the classification of the above must be determined by an RPF as per the FSP and FPPR. Appropriate field cards completed with an attached map indicating stream reach and disposition as per the Stream Classification Guidelines and Stream data sheets, and or Small Wetland Assessment field cards. All streams must meet the requirements of the FSP and all appropriate strategies for Riparian Reserve and Management must be approved by an AVCFC Representative.
- For each stream, wetland and lake:
 - The Riparian Reserve Zone must be identified on the ground with ribbon as per Section 3.8 and labelled as such; field marked as the harvesting boundary, if applicable;
 - A description of the purpose and extent of any removal or modification of trees that the person proposes to carry out in the Riparian Reserve Zone;
 - The Riparian Management Zone must be field marked with ribbon as per Section 3.8 and labelled as such, when there is a proposed removal or modification of trees within the zone and a description of the residual basal area or stems per hectare to be retained. If any stems are to be retained these must be identified either by the leave trees marked conspicuously (painted at DBH and below stump height <30 cm) or the cut trees.
- RMA infringement areas are to be identified (where projected road locations infringe upon the RMA of streams).

c) Deflection Line Requirements

Cable Yarding

After the Contractor has conducted initial recce of the planning unit, the AVCFC Representative shall approve the harvesting method to be utilized before final engineering of the setting. This may be one or more methods based upon the following general guidelines:

- i) Stationary Spar; (Prior Approval from AVCFC Representative only)
 - At least 3 deflection lines evenly, Hip-chained traversed, spaced per 180o, (e.g. 6 per full circle landing)
 - Grade breaks on ground profile greater than 10% must be shown
 - Obstacles to yarding (rock bluffs, draws must be shown)
 - Deflection line will be run beyond yarding limit (usually to slope change)
 - Deflection lines will be prefix numbered by landing, e.g. 6-1, 6-2, 6-3 etc. from landing #6
 - Areas under 6% deflection or where there are obstacles to yarding should have more deflection lines run in order to map notate the difficult area accurately.
 - Ground lead or conditions outside of the above must have AVCFC Representative approval.
- ii) Mobile Spar - same as above except:
 - Deflection lines hip chained traversed will be run to show best yarder location and yarding direction. (Note that yarder is mobile)
 - Deflection lines must intersect roads, splitline or setting boundary at a maximum interval of 50 meters
 - Deflection lines will be labelled numerically, e.g. G-1, G-2, G-3 etc.
 - Areas under 6% deflection or where there are obstacles to yarding should have more deflection lines run in order to map notate the difficult area accurately.
 - Intermediate supports may be used but actual support trees in the field must be located, described and marked. AVCFC approval is required for this option.

- Use of mobile backspar is at the discretion of AVCFC Representative.
- Ground lead or conditions outside of the above must have AVCFC Representative approval.

The following standards shall apply:

Deflection line profiles shall be plotted:

- At a scale of 1:2 000 horizontal and vertical
- Showing areas of ground lead
- Showing creek and road crossings
- On plain paper. Plotting of the deflection line profiles on graph paper is acceptable providing the graph paper is of the type where the graph paper lines are not visible when photocopied

Deflection line profiles shall not be drafted using free hand text.

- Landing and road locations numbered and referenced to appropriate landings and deflection profiles, (for stationary yarder).
- Deflection lines shall be numbered and referenced to appropriate landings and deflection profiles. Deflection lines will indicate best estimated yarding pattern for cable yarding and identify appropriate tail holds or back rigging details. Trial deflection lines which do not indicate yarding pattern shall not be drafted on map
- Maximum line spacing is 50m
- Dispersed leave will be taken into account

Where deflection is a problem applicable load analysis for each deflection line must be submitted as per AVCFC Representative request. The load analysis must specify

- Yarder make
- Tower type *E.G. SWING BOOM*
- Tower height
- Carriage weight, if applicable
- Cable diameters, weight per meter, span weight and length of span for the:
- Skyline
- Mainline
- Haulback
- Slackpulling
- Guylines
- Full suspension payload
- Dragging payload
- Haulback tension
- Mainline tension
- Carriage to ground clearance

Simple third point deflection should be 6% where use of chokers are recommended e.g. high lead and 8% to 10% for grapple yarding (to reflect the weight/sag associated with the grapple.) 8% deflection should be used for short grapple yarding (<100m) and 10% for longer grapple yarding (200meters +).

All data is to be in metric units of measure.

The load analysis is to be calculated at a maximum interval of 50 meters, at all grade breaks, and at all critical points. All software and calculation methods must be approved at the pre-work conference.

d) Cutting Boundary Traverse

The cutting boundary is to be measured using GPS or when not possible with a controlled traverse to an accuracy of one percent.

A printout of the closing error, or calculation is to be submitted with the final harvesting report.

Falling corners or stations shall be established on average every 100 meters along the cutting boundary.

e) Confirmation of Areas that cannot be developed

Field notes of proposed road locations and harvest techniques considered must be submitted.

Deflection lines shall be established to confirm the area cannot be developed, and must be submitted with the final submission.

Field plots of deflection lines are acceptable.

9. FIELD DATA

9.1 The field data for items listed below is to be submitted in a digital format as per Appendix 2.

- a) Boundary traverse data.
- b) Road traverse, and road, plans, profile and cross-sections (Road Engineering Design Program format)
- c) Deflection line ground profile data and load analysis data.

10. SILVICULTURE SITE PLANS

10.1 The Site Plan (SP) is to be prepared in accordance with the Forest and Range Practices Act and associated regulations (and other relevant legislation), the Alberni Valley Community Forest - Forest Stewardship Plan, and as directed by the AVCFC Representative. All SP's will be entered into an electronic file agreed to by the AVCFC.

10.2 Prior to the start of each SP and Road SP the Prescribing Forester shall discuss with the AVCFC Representative the specifics related to the Prescription (i.e. Standard Units to be created/mapped, permanent/temporary access, road widths, landing sizes, dispersed NP etc.).

10.3 Each SP and Road SP and related professional documents must be signed; dated and sealed by a Professional Forester registered in the province of British Columbia.

10.4 The following will be submitted upon completion:

- Signed hardcopy SP and a copy digitally (disk or CD)
- SP Supporting Document including Stream Data Sheet (a summary of the field data cards)
- Site Plan Checklist
- Completed field/plot cards (FS 711A&B or FS39A&B)

10.5 The Site Plan map must be submitted in a digital format as per Appendix 2.

10.6 In the riparian management strategy section of the SP, do NOT use AHC (or "assess for hand cleaning") as a stream management prescription option. Rather use one of the three following options: MC - "machine clean", HC - "hand clean" or NC - "no cleaning required".

- 10.7 Plot cards (FS711A&B or FS39A&B or other field notes) must be completed and submitted.
- 10.8 The original reports, worksheets and field cards from all assessments that support the SP (e.g. gully, riparian, windthrow, VIA, AIA, etc.) shall be submitted.
- 10.9 The Contractor shall ensure that all elements of the SP are clearly marked and discernible in the field, in accordance with the field marking standards in Section 3.0.

11. CRUISING STANDARDS

- 11.1 All phases of the cruise must meet the most recent MFLNRO Cruising Procedures and Cruise Compilation, (Provincial Cruising Manual), Operational Cruising Requirements in the Coast Forest Region and appropriate Coastal Cruising Supervisors Task Force Information letters. Note that for each block cruised the blocks will be cruised with the standard method with the accompanying compilation.

Cruising is not required for Appraisal purposes but is required for payments under this contract as well as operational and planning needs.

- 11.2 Cruising is required for each cut block: Variable Plot Prism shall be used. All phases of the cruise must meet the standards outlined in section 11.1.
- 11.3 Cruising shall not commence until the AVCFC Representative approves the Cruise Plan. Cruise Plans must meet the minimum standard as per the above standards. Each individual block will be construed as the cutting authority.
- 11.4 Cruise plot identification is to be recorded with orange and blue colored flagging tape as described in Section 3.8 of this Schedule and the cruising manual.
- 11.5 Full measure and count plots are to be established in the field. The plot identification is to be clearly noted on the plot center ribbon. The following information must be recorded and field procedures followed and as per the Cruising Manual:
- Tally all live and dead potential trees by species and diameter class as per cruising manual.
 - Record most severe slope relative to plot center within the harvest area.
 - Borderline trees must be measured
- 11.6 Quality control – it is the Contractor's responsibility to ensure that all of the above conditions are adhered to and that there are no data omissions prior to compilation. Omissions or failure to pass a check cruise will necessitate a rework scenario, at the Contractor's expense.
- 11.7 The Contractor is required to submit a cruise compilation as per the manual and Coast Forest Region Requirements:
- Compilation will separate volumes by block, by type, by harvest method, "in-block" vs. R/W volume, by cutting permit, by silviculture system, cut and leave volumes.
 - Compilations will use the appropriate loss factors depending on where the block(s) are located.
 - Compilation will be submitted in .pdf and .dat format.
 - Compilation will be submitted to meet the Coast Forest Region Operational Cruising Requirements for CGNF and Standard Cruises.
 - Compilations will be made available to the AVCFC in a digital format or as requested by the AVCFC.

12. ROOT ROT SURVEYS

- 12.1 Where determined by a Forester that the incident of root rot is low in a second growth forest, the area of root disease may be mapped based on a walk through. Where a Forester determines a high level of root disease incidence, the area is to be surveyed using the "Line Transect Survey" method as per the Root Disease Management Guidebook.
- 12.2 A POC (point of commencement) must be established on the ground with a tag on a tree or a tie to a permanent photo tie. The survey should extend one tree length beyond the proposed cutblock boundary or at least to the nearest logical cut-off, i.e. large stream, road, rock bluff. Use minimal flagging that does not conflict with boundaries (orange) and roads (pink) and streams (yellow).
- 12.3 Root Rot areas are to be mapped at 1:5000 scale. The map is to show POC and survey transect lines, proposed block boundaries and roads. Individual pathogens and infection areas are to be clearly mapped and rated as very high, high, mod, and low. Infected areas should be mapped with a 10-meter buffer

13. ENTERING TD DATA INTO CENGEA RESOURCES

- 13.1 An electronic data management system has not yet been established for the AVCFC. A system should be established in time to submit all electronic files which make up part of this tender. The system is expected to be one familiar to most users and not require additional resources for prospective bidders. The system status and required inputs will be discussed at the time of Contract signing and Work Progress Plan Meetings. The standards presently adopted are found in Appendix 2.

14. FINAL TD PACKAGE SUBMISSION

Intention: This phase is to compile a complete TD package which is the summary of all information gathered in the field combined to produce a Cutting Permit document ready for submission to MFLNRO as well as both digital and original field data packaged for storage and future referral.

- 14.1 Harvest Plan Maps:
A Harvest Plan Map will be included in all Tender packages. Naming convention requires that the map is labelled "Harvest Plan Map." The intent is to supply a map that clearly shows all requirements that apply to the road building and harvesting phases of the TD (A harvest plan template is included with the package for all final map formats to be followed). Site Plan details applicable to the above phases should be included on the map and may require an additional back page to include all data,

The Harvest Plan map is to be created digitally. Scanned maps are not acceptable.

The map should be created on a contour base map to show the general topography of the block. This base would generally be at a 1:5000 scale.

To allow adequate space for all text and spatial information, maps should be based on an 11 X 17 inch size but can be printed at 8.5 X 11 inch size for the Tender Package but must stay readable.

The Harvest Plan Map must be composed of the following elements:

- Title block
- Legend
- Spatial data (Map)
- Text box containing field marking codes specific to the block
- Text box detailing stream treatments and special harvesting techniques

- The Title Block includes the following elements:
- Title of map must include, unique block identifier, FSP# etc, that reflects the marking that is in the field. Title should also AVCFC Name and any logos supplied.
- Scale bar and north arrow
- Latitude and longitude (or UTM Coordinates) of block center point. This can be included in the header or as an inset text box pointing to the specific location on the map
- Geographic location of block
- Map production date and revision date (if revised)
- Safety concerns that are applicable (rubble, steep slopes, avalanche etc)
- Indicator for slopes >35% in block and all road sections with grades >18% favourable and .10% adverse
- Map sheet reference number
- Declination
- The spatial data must show the following items:
- Cut block, wildlife tree patches and reserve patch boundaries. Reserve tree locations where possible.
- Falling corners
- Streams, wetlands and lakes identified as per stream prescription table, reach breaks, designated crossings
- Proposed road labelling including junction and end stations, road name and number, existing roads and permanent and temporary access
- Existing roads, permanent and temporary access must be differentiated in the legend
- Recreation trails and structures
- Gullies, rock, slides, terrain features, hydro or gas lines, private property, iron pins from legal survey, windthrow and any other applicable feature
- Bridges, culverts and stream crossings
- Gravel pits or quarries
- Areas requiring special harvest techniques (e.g. tree crown modification, backspare trail, punchon machine free zones etc)
- Yarding direction, split lines, designate harvesting methods (ground, cable, aerial)
- Adjacent resource features that may be impacted by harvesting
- The field marking section must list in a tabular format, all ribbon and paint marking colours, specific to the block that may be encountered on the cut block with a description of how each colour is applied.

Road and Road Re-Construction Maps:

Applicable title and legend according to the Harvest Plan Map criteria but indicating appropriate attributes noted below:

- Scale to be 1:5000
- Proposed road and stations with road names as per AVCFC Representative requirements
- Existing road
- Reconstruction road and stations
- Delineate road R/W widths
- Road grades: favourable >18%, adverse > 10% & adverse switchbacks
- Proposed bridges and culverts indicating size and cmp/wood/permanent/temporary
- Existing bridges and culverts indicating size and cmp/wood/permanent/temporary
- Identify overlanding road sections
- Partial & of full end haul, engineered fills (colour fill to highlight sections)
- Pullouts, landings,
- Stream, swamp, wetland, lakes and NCD's include RMA's
- Identify any road sections encroaching on the RMA as per the site plan requirement
- Block boundaries and Falling Corners
- Gas line, hydro lines, parks, private land & recreational areas
- Quarry, gravel pits

- Legal lines, iron pin locations
- Reference trees
- Contour lines
- Tree crown modification

Cruise Maps:

Final cruise maps required for this Contract shall conform to the Ministry of Forests' Cruising Manual and as per the following standards:

- Scale to be 1:5 000
- Tenure
- Forest region and district
- Scale used
- Timber Supply Area
- North arrow and declination
- Cut block(s) must be identified as mature or immature,
- Plots must be numbered (measure and count identified), and Types, area and summary, see Section 7.3, Card Type C, timber type label codes
- Existing and proposed roads
- Adjacent logging and burn history
- Inventory region and compartment number
- UTM grid
- Forest Inventory Zone, and PSYU
- Plots used in the compilation are to be clearly indicated and numbered on the map as to their field locations
- Locations of baselines (when used), boundary tie lines, points of commencement and actual strip line location with direction of travel must be indicated
- Timber type lines
- Contour lines are recommended and must be indicated in such a fashion that they are clearly legible and indicative of local topographic features. Note if 1:5000 contour base maps are not provided the contour lines must be generated by field note data.
- Physiographic features must be shown
- Legal survey features must be shown
- Forest and non-forest type boundaries must be clearly indicated
- Status clearance boundaries and cutting boundaries must be shown
- Any other features of significance with respect to the timber (i.e., windfall areas, fire areas, insect or disease infestations, fish-bearing streams) and contour logging considerations must also be shown

Site Plan Maps:

Applicable Title and legend as per the Harvesting Map criteria but indicating the appropriate attributes noted below

- SP(s) and Road SP(s) will include an accompanying 1:5,000 map(s). The map must include as appropriate:
 - Cutblock boundaries
 - Elevation contours
 - Ecological associations
 - Standard units
 - Wildlife tree patches
 - Retention areas
 - The total area under prescription (TAUP)
 - All watercourses/bodies (NCD's/streams/ wetlands/lakes/wetlands) by riparian class showing riparian reserve zones (RRZ's)
 - Roads, landings location of gravel and rock pits

- Biogeoclimatic Ecosystem Classification
- Stream crossings, machine stream crossings, machine free zones, non-productive (NP) areas or any other pertinent features relating to the management of the development area
- Maps are to be prepared in accordance with Ministry of Forests Cartographic Standards and meet all requirements of the relevant Acts above
- Standard units must be identified using numbers (1, 2, 3, etc.). All non-harvest reserves, wildlife tree patches, and retention areas within the cutblock will be included in the TAUP

Detailed Location Map:

Applicable Title and legend as per the Harvesting Map criteria but indicating the appropriate attributes noted below:

- Scale 1:20,000 – 1:50,000
- Text box indicating detailed travel instructions from the nearest community starting at the Post Office or other known starting point (i.e. Hwy and town junction)
- Location of cutblock and associated blocks and roads
- Road status and Road Radio Channels
- Latitude and longitude for center of cutblock
- Location of cutblock and associated blocks and roads

14.2 A Final TD Package shall be submitted both in paper and digitally as per Section 13 of this Schedule and Schedule E and will include the following:

- Cover Page
- Table of Contents
- Final Submission Checklist (Appendix 1)
- Deflection Line and Payload and Tensions Report, where required.
- Timber Cruise Plan Map(s) (1:5000)
- Timber Cruise Compilation
- Boundary Stream and Road Traverse Field Note Printouts and assessment cards
- Signed and sealed Site Plan and Road Site Plan Documents
- Completed site plan checklist
- Site Plan Map(s) (1:5000)
- Harvest Plan Maps (1:5000)
- Road and or Road Re-Construction Maps (1:5000)
- Deflection Line Profile Map (1:2000)
- Assessment Maps; VIA, Terrain, Riparian, Root Rot... (1:5000)
- Detailed Location Map (1:20,000– 1:50,000)
- Reports from all required assessments with the appropriate maps
- Road Design Data per Forest Road Engineering Guidebook, June 2002
- Site Plan Surveys with Bridge and Major culvert designs

14.3 All original field notes will be systematically organized into large envelopes and submitted upon project completion or as required for AVCFC field review.

14.4 All digital files (mapping and designs) will be systematically organized and submitted on Compact Disk and/or electronically submitted (with associated Text File, Level and Plot Driver Information) upon approval of paper copies submitted. Format of digital data to be submitted as per Section 13 of this Schedule.

14.5 The medium for digital data delivery is on a recordable Compact Disk (CD).

14.6 A Submission Package Checklist will be completed for all submissions as per Appendix 1.

15. STANDARDS OF PERFORMANCE

- 15.1 All works and services shall be conducted according to all relevant Legislation i.e. Acts and Regulations and utilizing related Guidebooks.
- 15.2 The Contractor shall make Contract Specifications/Standards available to all staff.
- 15.3 Every worksite shall have a contractors' Representative able to receive communications about the contract.
- 15.4 All questions, concerns, problems, delays and difficulties associated with this contract, are to be documented in writing and forwarded to the AVCFC Representative.
- 15.5 The Contractor shall provide at least five working days notice prior to any required field review.
- 15.6 All phases shall be completed and submitted to the AVCFC Representative in accordance with the approved Work Progress Plan.
- 15.7 The Contractor's designated Project Manager/Field Engineer must review all Preliminary, Draft and Final Submissions prior to submission, to ensure compliance with Contract Schedules and AVCFC Representative instructions.
- 15.8 Unless otherwise approved, all digital submissions must be in PDF format as well as in a format that can be read by Microsoft Word 2007, Excel 2007, RoadEng 4.0 and / or Arcview 3.2, and will meet all requirements of Section 13 of this Schedule.
- 15.9 Submit all original field cards, working maps, electronic files, and notes upon completion of each phase. Such information shall become the property of the AVCFC.
- 15.10 Mapping and field marking standards are identified in Section 3.8 of this Schedule.
- 15.11 All electronic information, whether on disk or transmitted by other means, must be scanned for computer viruses prior to submission. If a virus is detected in any submission that submission shall be rejected and a \$200.00 charge shall be deducted from the contract price.
- 15.12 The Contractor or his designated representative is encouraged to observe inspections while they are underway, but the Contractor's absence from such inspections shall in no way invalidate them.
- 15.13 The Contractor shall only utilize personnel identified in the tender submission, for providing the Services, unless otherwise approved by the AVCFC Representative.

16. MISCELLANEOUS

- 16.1 The AVCFC reserves the right to award contract works to other contractors for the area covered in this contract.



Alberni Valley Community Forest
Corporation

**SCHEDULE B –
CONTRACT PAYMENT**

Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

1. FEES

1.1 Your fees (exclusive of HST) will be based on a rate as per the following:

1.1 Table 1 – Unit Prices for Items of Work

Item #	Item or Description of Work	Unit of Measurement	A Estimated Quantity	B Price per Unit Excluding HST	C Extended \$\$ amount Excluding HST (include cents to two decimal places (C=AxB)
1	multi-phase engineering, silviculture and timber development	Cubic metre	20,000	\$	\$

The total hourly rate for partial layout shall not exceed the rate that would normally be charged under the cubic metre rate for layout. Payment will be based on the appraisal net harvest volume based on standard cruise information (loss factor).

1.2 Table 2 – Day Rate and Unit Rates Schedule for Additional Activities

Item #	Item or Description of Work	Unit of Measurement	Price Per Unit Excluding HST
1	Office technical/professional	Per day	
2	Office clerical	Per day	
3	Field technical staff	Per day	
4	Field R.P.F.	Per day	
5	Field R.P. Bio	Per day	
6	Field P. Geo	Per day	
7	Field P. Eng	Per day	
8	Heli Pad construction	Per pad	
9	Cruise plot full measure	Per plot	
10	Cruise plot count	Per plot	
11	Road re-construction survey	Per metre (horiz.distance)	
12	New road construction survey line	Per metre (horiz. distance)	
13	Traverse and blaze boundary	Per metre (horiz. distance)	
14	Site Plan	Per block	
15	Road Site Plan	Per road permit	

- 1.3 Ten **(10)** hours is the equivalent of one day.
- 1.4 Cruise Plot price will include compilation costs and will meet requirements as per Schedule A.
- 1.5 Road Re-construction Survey data will meet Coast Appraisal Manual requirements and Schedule A.
- 1.6 New Road construction survey standards will meet the requirements as per Schedule A.
- 1.7 Traverse and boundary standards will meet the requirements as per Schedule A.
- 1.8 Site Plan and Road Site Plan will meet the requirements as per Schedule A.
- 1.9 Marshalling Point for the Day rate is the Centre of Port Alberni
 - (a) The day rate is an all found rate that starts at the marshalling point. Only pre-approved water and heli access will be reimbursed as expenses.
- 1.10 There will not be any additional payment for expenses, overhead, equipment rental, permits, or camp for the completion of the Services for works completed at the m3 rate. Any additional work required will be done as a change of work and will be paid out at the unit prices wherever quoted and negotiated with the contractor if not quoted.
- 1.11 Fees for services will be based on the unit rate as described in the tables above provided during the term of this Contract and the unit amounts as they occur and approved by the AVCFC. The estimate of units used in the tender for this contract was solely for the purpose of describing the scope of work and for determining the tendered bidding order and may vary from actual amounts or conditions of access. The total Estimated # of units (m3) is 20,000 with no breakdown of isolated vs accessible.

(Estimated # of units may vary from 18,000 to 30,000).
- 1.12 New cut blocks may be introduced into the contract or amended into the contract from time to time. Introduced new cut blocks will not constitute a change in conditions as set out in the contract.

2. TOTAL PAYABLE

- 2.01 In no event will the Total Payable for fees (**exclusive of HST**) (**as per Table 1**) and, where applicable, expenses (**exclusive of HST**) (**as per Table 2**) in accordance with this Schedule exceed in total an estimated \$_____ (enter fee and expense total.)

3. HOLDBACK FROM PAYMENT

- 3.01 As per the Agreement, the AVCFC will withhold 10% of the calculated amount from any payment. The 10% holdback will be retained for 40 calendar days after completion, or earlier termination, of all Services and interest is not payable on the amount held back by the AVCFC.

The AVCFC is authorized, but not obliged, to apply the holdback funds as follows:

- a) firstly, to any unpaid government agencies or boards;
- b) secondly to the Contractor's workers, direct subcontractors and suppliers, where required to do so by court order; and
- c) thirdly as security for the correction of any breach of a provision of the Agreement.

4. SUBMISSION OF STATEMENT OF ACCOUNT

- 4.01 In order to obtain payment for any fees (and any applicable HST) and, where applicable, expenses (excluding HST) under the Agreement, you must submit to us a written Statement of Account in a form satisfactory to us upon completion of the services or portions thereof.
- 4.02 The Statement of Account(s) must show the following:
- a) your legal name, address, the date and the period of time which the invoice applies ("Billing Period"), the contract number, and a statement number for identification;
 - b) the calculation of all fees claimed under this Agreement for the Billing Period, with hours, dates, rates, and name(s) of persons providing the Services, a description of specific services/works completed during the Billing Period, including a declaration that the Services have been completed;
 - c) and where expenses are to be paid under this Agreement, a chronological listing, in reasonable detail and with dates, of all expenses claimed by you under this Agreement for the Billing Period with receipts or copies of receipts, where applicable, attached; and
 - d) the calculation of any applicable HST tax payable by the AVCFC in relation to the Services provided under this Agreement and for the Billing Period as a separate line item;
 - e) your HST registration number, and
 - f) any other billing information reasonably requested by the AVCFC.
- 4.03 It is suggested that Billing be associated with the completion of phases set out in the Work Plan.
- 4.04 Within thirty-one days of our receipt of your invoice, or the date we authorize payment, whichever is the latter, we must pay you fees and, where applicable, expenses for those Services we determined were satisfactorily received during the Billing Period.
- 4.04 Invoices are to be submitted to:
manager@communityforest.ca
- Subject Line format: Contractor Name and Invoice #



Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

1. GENERAL PROVISIONS

- 1.1 If the Contractor engages a Subcontractor, the Contractor shall not be relieved from the subcontracted obligations or any obligations under this Agreement.
- 1.2 The actions of any Subcontractor engaged to carry out any of the Work shall be deemed to be the actions of the Contractor.
- 1.3 If the Contractor engages a Subcontractor to carry out any of the Work, any provision in this Agreement requiring the Contractor to meet an obligation associated with the Subcontractor's Work shall be deemed to mean the Contractor shall ensure the Subcontractor meets that obligation.
- 1.4 The AVCFC may, for a reasonable cause, object to the use of an intended Subcontractor and require the Contractor to employ another qualified Subcontractor.
- 1.5 The Contractor acknowledges and agrees that the Subcontractor (or any of the Subcontractors' directors, officers or members) is not an affiliate or an associate of the Contractor (or any of the Subcontractors' directors, officers or members) within the meaning of the *Business Corporations Act* of British Columbia.
- 1.6 Nothing in this Agreement will create any direct or indirect contractual relationship between the AVCFC and any Subcontractor or impose any obligation or liability upon the AVCFC to any Subcontractor.
- 1.7 The Contractor must ensure all approved Subcontractors obtain WorkSafe BC coverage and comply with all conditions of the *Workers Compensation Act* and regulations thereunder and where general Worksafe BC coverage is not obtainable, the Contractor will ensure all Subcontractors obtain Personal Optional Protection under the *Workers' compensation Act*, and upon request must provide us with proof of such compliance.
- 1.8 The Contractor shall ensure that all its Subcontractors performing services under this Agreement carry insurance in the form and limits as specified in the Insurance Requirements Schedule, and upon request must provide us with proof of such compliance.

2. INSPECTION BY THE CONTRACTOR

- 2.1 The Contractor is not entitled to subcontract any obligations with respect to inspection to the Subcontractor whose work is being inspected. Any inspection must be done by the Contractor, or by a different Subcontractor approved by the AVCFC.
- 2.2 The Contractor shall inspect each phase or part thereof for the purposes of determining the quality of work.
- 2.3 The Contractor shall inspect the work in the following manner: as per Schedule A.

- 2.4 The Contractor shall provide the AVCFC with a written statement of the Work quality achieved, supported by inspection data and a map of the Payment Area (or portions thereof). The AVCFC may examine such portion or portions of the Payment Areas as it considers appropriate to verify the quality of the Work.
- 2.5 If the AVCFC determines the inspection carried out by the Contractor does not correctly indicate the quality of the Work the AVCFC may require the Contractor to carry out additional inspection.

3. APPROVED SUBCONTRACTORS

- 3.1 The Contractor acknowledges and agrees that only the following are approved by the AVCFC to be Subcontractors:

Subcontractor	Name and qualifications	Function



Alberni Valley Community Forest
Corporation

**SCHEDULE D – INSURANCE
REQUIREMENTS**

Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

1. Without restricting the generality of the indemnification provisions contained in the Agreement, the Contractor shall, at its own expense, provide and maintain, during the term of this Agreement, the following insurance coverage as fully specified in Paragraph 8 and any additional insurance which it is required by law to carry or which it considers necessary to cover risks not otherwise covered by insurance specified in this Schedule in its sole discretion.
 - a) Commercial General Liability
 - b) Automobile Liability
 - c) Professional Liability
2. Insurance shall be placed with Insurers registered in and licensed to underwrite such insurance in Canada. All such insurance shall be at no expense to the AVCFC. If the AVCFC requires additional Insurance Coverage to be obtained by the Contractor, the additional expense of such additional insurance shall be borne by the AVCFC.
3. The Contractor shall, prior to the commencement of services and before any payments are made under this Agreement, file with the AVCFC Representative evidence of insurance coverage in a form acceptable to the AVCFC Representative.
4. The insurance policies shall provide that the insurance shall not be cancelled or materially changed so as to affect the coverage provided under the Agreement, without the Insurer giving at least thirty (30) days prior written notice to the AVCFC. Material change with respect to Professional Liability Insurance does not require the Insurer to give thirty (30) days prior written notice to the AVCFC.
5. Failure to provide the required insurance documentation shall result in termination of this Agreement.
6. If the insurance policies expire prior to the end of the Agreement Term, the Contractor shall provide the ministry evidence of insurance renewal in a form acceptable to the AVCFC Representative at least ten (10) days prior to the expiry date of the policies listed in this Schedule.
7. The Contractor shall ensure that all its subcontractors performing Services under this Agreement carry insurance in the form and limits specified in Paragraph 8.
8. The following forms of insurance and specified minimum limits are required:
 - a) **Commercial General Liability**
Commercial General Liability insurance in an amount not less than \$2 million inclusive per occurrence against bodily injury, personal injury, and property damage and including liability assumed under the Agreement.

Such policy(s) of insurance shall include, but not be limited to:

- i) Products and Completed Operations Liability;
- ii) Owner's and Contractor's Protective Liability;
- iii) Contingent Employer's Liability;
- iv) Blanket Written Contractual Liability;
- v) Personal Injury Liability;

- vi) Non-Owned Automobile Liability;
- vii) Cross Liability;
- viii) Employees as Additional Insured; and
- ix) Broad Form Property Damage.

b) **Automobile Liability**

Automobile Liability insurance on all vehicles owned, operated or licensed by the Contractor in an amount not less than \$2 million inclusive per occurrence.



Alberni Valley Community Forest
Corporation

SCHEDULE E
DIGITAL USE AGREEMENT

Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

1. This agreement is granted for the sole purpose of permitting the Contractor to use the digital data provided by the AVCFC in its business activity, relevant to this contract only and for no other purpose whatsoever. The Contractor shall not use the data on behalf of any other person or organization (including, but not limited to, networks, timesharing or CPU arrangements) unless authorized in writing by the AVCFC. The agreement granted herein is restricted to use by the Contractor solely for its own internal operation, relevant to this contract only, at its place of business. The products shall reside only on computers under the control of the Contractor and accessed only by the Contractor's employees.
2. The Contractor shall not duplicate the data except for the following:
 - a) The Contractor may make one copy of the data for backup purposes as long as the Contractor agrees not to use the backup copy for any other purpose other than to replace original data if lost or damaged.
 - b) The Contractor may translate the data into other formats and/or media. These "reformats" shall be subject to the same restrictions as the data under this agreement.
3. Three (3) months after completion of the contract the Contractor agrees to return all of the data provided by the AVCFC and any "reformats" and/or backup copies generated from this contract.

Contractor's signature

Date



Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

Terms such as “employer”, “independent operator”, “multiple employer workplace”, “owner”, “prime contractor”, and “worker” have the meanings given those terms by Part 3 of the *Workers’ Compensation Act (WC Act)*.

1. OTHER SAFETY CONSIDERATIONS

- 1.1 In accordance with the *WC Act* and its regulations, the Contractor must submit a notice of project, as applicable, to WorkSafe BC, unless the Contractor is notified in writing that the AVCFC will submit the notice of project. Where the Contractor submits the notice of project, a copy must be provided to the AVCFC. Where the AVCFC submits the notice of project, the Contractor must provide, upon our request, all the information necessary to support the notice of project and the AVCFC will provide the Contractor with a copy of the notice of project.
- 1.2 The Contractor will commence and conduct all operations consistently with the notice of project.
- 1.3 The Contractor must immediately submit written notice to the AVCFC on all matters reported to WorkSafe BC by the Contractor or the Contractor’s Subcontractors. The written notice must include all information necessary to allow the AVCFC to adequately collect and address safety or other related incidences, but will be anonymized so as not to include personal information about an identifiable individual including their name, address, telephone number, age, sex, race, religion, sexual orientation, disability, fingerprints, or blood type, health care, educational, financial or employment history and anyone else’s opinion about the individual. This scope does not include business contact information (e.g., name, title, address, telephone or fax numbers or email address used for business contact purposes).
- 1.4 Where the AVCFC brings safety concerns to the attention of the Contractor, it shall give full consideration to the issues raised and provide the AVCFC with a considered response, including any information necessary to demonstrate that the Contractor is in compliance with *WC Act* and its regulations.
- 1.5 If the Contractor or any Subcontractors are exempted from being certified as a SAFE Company under BC Forest Safety Council standards, they must, in addition to any conditions associated with said exemption, provide evidence to the satisfaction of the AVCFC that the Contractor or its Subcontractors have:
 - (a) an employee monitoring system that will periodically ensure the well being of all the Contractor’s or its Subcontractor’s employees commensurate with the risks associated with the employee’s activities; and
 - (b) an emergency response plan and employee understanding of said plan that will ensure adequate and timely response to any emergency that can be reasonably expected to occur in relation to the Works or Services being performed; and
 - (c) evidence of training and any required certifications required under *WC Act* or its regulations; and

- (d) evidence of a maintenance program for all equipment and vehicles owned or operated by the Contractor or its Subcontractors commensurate with the risks associated with such equipment and vehicles.

2. PRIME CONTRACTOR PROVISIONS

- 2.1 The Contractor acknowledges, agrees, and warrants that:

The Contractor will be considered to be the Prime Contractor and shall enter into a Prime Contractor Agreement with the AVCFC and shall carry out the duties described therein, where any of the following conditions exist:

- (a) the AVCFC gave notice that the Successful Bidder would be the Prime Contractor;
- (b) the AVCFC designates the Contractor to be the Prime Contractor at any time during the performance of the Work or Services;
- (c) the Contractor creates a multiple employer workplace through subcontracting any of the Work or Service at any time.

- 2.2 Where the Contractor is being considered as the Prime Contractor as per clause 2.01, the following is applicable:

- (a) upon request, the Contractor must satisfy the AVCFC that the Contractor has the experience and capacity to address Prime Contractor responsibilities in accordance with the Agreement and the WC Act and its regulations; and
- (b) the AVCFC provides written acknowledgement of the Contractor's experience and capacity to function as Prime Contractor; and
- (c) where the Contractor creates a multiple employer workplace, the Contractor will provide or acquire at their own expense all resources necessary to discharge the Prime Contractor responsibilities; or
- (d) the AVCFC may, in its sole discretion, give consideration for compensation related to any additional costs where, after commencement of the work, the AVCFC creates a multiple employer workplace and designates the Contractor to be the Prime Contractor.

- 2.3 The AVCFC may from time to time give prior written notice that a person other than the Contractor is designated as the Prime Contractor. The Contractor agrees that on receiving such written notice, the Contractor will cooperate with the Prime Contractor and shall coordinate health and safety activities and ensure compliance with the Prime Contractor's safety program.

- 2.4 The Contractor shall, upon becoming aware of any apparent deficiencies in the Prime Contractor's work which would affect the Work or Services, shall report such deficiencies in writing to the AVCFC Representative.



Alberni Valley Community Forest
Corporation

**SCHEDULE G
PRIME CONTRACTOR
AGREEMENT**

THIS AGREEMENT DATED FOR REFERENCE THE _____ DAY OF _____, 2012

PROJECT DESCRIPTION:

MULTI-PHASE ENGINEERING, SILVICULTURE AND TIMBER DEVELOPMENT WITHIN THE SPROAT
AND TAYLOR OPERATING AREAS OF THE ALBERNI VALLEY COMMUNITY FOREST

Between:

The Alberni Valley Community Forest Corporation (AVCFC)
7500 Airport Road
Port Alberni, B.C. V9Y 8Y9
Phone Number: (250)731-7377
Fax Number: 250 723-1479
AVCFC Representative: Shawn Flynn, R.P.F.
Email Address: manager@communityforest.ca
(the "AVCFC")

And:

Company Name
Physical and Mailing Address including postal code
Phone Number
Fax Number
Email Address
Name of Company Representative
Corporate Business Number
Worksafe BC Number

(the "Prime Contractor")

Referred herein to as "the Parties".

Whereas:

- A.** The AVCFC and the Prime Contractor have agreed that the *Workers Compensation Act (WC Act)* and its regulations allow the AVCFC to establish Prime Contractor responsibilities.
- B.** The Prime Contractor agrees to be the prime contractor at the Place of Work or Work Area.
- C.** The Prime Contractor has the required knowledge and control of the Place of Work or Work Area to execute the responsibilities of a prime contractor as described in the *WC Act* and its regulations.
- D.** The AVCFC and the Prime Contractor have agreed that the prime contractor functions shall be carried out in accordance with this Agreement and any Contract Documents or other agreements between the Parties.

Accordingly, the Parties agree as follows:

1. DEFINITIONS

- 1.1 In this document, the following words have the following meanings:
- (a) "**Affected Parties**" means other parties described in Article 2 that create a multiple employer workplace;
 - (b) "**Agreement**" means this Prime Contractor Agreement between the Parties;
 - (c) "**Amending Document**" means an Amendment form or another standard form of similar nature specified by the AVCFC;
 - (d) "**Contract Documents**" means those documents described in Section 3.1.
 - (e) "**Principal Contractor**" means a party who holds a contract for service or works with the AVCFC and does not include any tenures or authorizations under the Forest Act.
 - (f) "**Term**" means the period of time this Agreement is in force pursuant to Section 3.
- 1.2 If any of the words in section 1.1 are used in any other Contract Document, they have the same meaning as in this document unless the context dictates otherwise.

2. AFFECTED PARTIES

The following other parties are a party to the creation of a multiple employer workplace and are affected by this Agreement and the responsibilities of the Prime Contractor as laid out herein:

Firm Name	Address	File #

3. CONTRACT DOCUMENTS AND AMENDMENTS

Contract Documents

- 3.1 The Parties entered into the agreement dated for reference the _____, identified as Agreement Number _____ that is applicable to and forms part of this Agreement.

Amending Documents

- 3.2 No change to the Agreement is effective unless the change is in the form of an Amending Document signed by both Parties.

4. TERM OF AGREEMENT

- 4.1 Subject to Clause 3.2, the Term of this Agreement is from August 24, 2012 to December 31, 2012 inclusive.
- 4.2 Time is of the essence in this Agreement.

5. PRIME CONTRACTOR RESPONSIBILITIES

- 5.1 The Prime Contractor shall:
- (a) Establish and maintain a system or process that will ensure compliance with Part 3 of the *WC Act* and its Regulations applicable to the Place of Work or Work Area.
 - (b) When requested, co-operate with contract monitoring by the AVCFC Representative, by providing up-to-date information to the AVCFC Representative including but not limited to:
 - i. the Prime Contractor's safety program;

- ii. a system for first aid coordination;
 - iii. emergency transportation provisions for injured workers;
 - iv. workplace inspection results for Prime Contractor's own workers and for the Affected Parties;
 - v. safety meeting minutes from the Prime Contractor and the Affected Parties and all accident investigations.
- (c) Immediately notify the AVCFC Representative should there be any circumstance arising which another party claims or purports to be the prime contractor at the Place of Work or Work Area. There can be only one prime contractor on any multiple employer workplace.
 - (d) Prior to the Work or Services commencing on the Place of Work or Work Area ensure a safety program is in place.
 - (e) Familiarize itself with the Place of Work or Work Area and receive from the AVCFC Representative a list of hazards which have been observed at the Place of Work or Work Area and conduct workplace inspections to identify additional or new hazards at the Place of Work or Work Area.
 - (f) Enforce the required safety rules and all regulatory requirements on all workers of the Prime Contractor and of the Affected Parties at the Place of Work or Work Area.
 - (g) Ensure there is appropriate first aid coverage for all workers of the Prime Contractor and of the Affected Parties at the Place of Work or Work Area.
 - (h) Comply with the *WC Act* and its Regulation.
 - (i) Ensure a notice of project is delivered to WorkSafe BC for itself and all Affected Parties in accordance with the *WC Act* and its regulation.
 - (j) Whenever the Place of Work or Work Area is a multiple employer workplace, ensure the activities at the site are coordinated to eliminate or minimize risk of injuries to the Prime Contractor and to the Affected Parties and their workers.
 - (k) Ensure all workers of the Prime Contractor and of the Affected Parties at the Place of Work or Work Area are given any information known to you that is necessary to identify and eliminate or control hazards to the health or safety of all workers.
 - (l) Immediately notify workers, suppliers, and Affected Parties and any other persons of any hazard created by overlapping or adjoining work activities of two or more contractors and ensure the hazards are addressed throughout the duration of such activity.
 - (m) Ensure there is a system in place to alert you when workers, suppliers, and Affected Parties enter the Place of Work or Work Area so their work can be coordinated. This will include all Affected Parties providing you with the name of a person designated by them to supervise their workers.
 - (n) Monitor the work of the Prime Contractor's workers and of the Affected Parties' workers to ensure compliance with the *WC Act* and its Regulation.
 - (o) Ensure Affected Parties adequately supervise their workers. 5.02 The Prime Contractor shall not assign this Agreement, or subcontract any obligations under this Agreement.
- 5.2 The Prime Contractor shall not assign this Agreement, or subcontract any obligations under this Agreement.
- 5.3 Where the Prime Contractor or Affected Parties identified in this Agreement are Principal Contractors for the AVCFC, this Agreement forms the written notice of Prime Contractor.

The Parties hereto have duly executed this Agreement.

<p>SIGNED AND DELIVERED on behalf of the AVCFC by an authorized representative of the AVCFC</p> <p>_____</p> <p>Authorized signatory of the AVCFC</p> <p>Printed Name: _____</p> <p>Dated: _____</p>	<p>SIGNED AND DELIVERED by or on behalf of the Prime Contractor (or by an authorized signatory of the Prime Contractor if a corporation).</p> <p>_____</p> <p>Prime Contractor or authorized signatory</p> <p>Printed Name: _____</p> <p>Dated: _____</p>
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Alberni Valley Community Forest
Corporation

**SCHEDULE H
SAFE CERTIFICATION
REQUIREMENTS**

Attachment to the Agreement with _____ for multi-phase engineering, silviculture and timber development within the Sproat and Taylor Operating Areas of the Alberni Valley Community Forest.

1. Prior to commencement of the Work or Services under the Agreement, the Contractor must ensure that all of the Contractor's Subcontractors are:
 - (a) Certified in the BC Forest Safety Council SAFE Company Program; or
 - (b) Endorsed by BC Forest Safety Council as new entrants to the industry, or
 - (c) Certified under another safety scheme recognized by BC Forest Safety Council,and that certification or endorsement is maintained in good standing while working or providing direction on the Place of Work or Work Area.
2. The Contractor may apply in writing to the AVCFC for exemption of the requirement for certification in the SAFE Companies Program of its Subcontractors under the following situations:
 - (a) where the Work or Services is not normally performed by persons working in the forest industry;
 - (b) where, by requiring SAFE Company certification, the Contractor would put an undue hardship on its Subcontractors performing the work or might prevent required work from being done under the Contract.
3. The AVCFC must provide exemption approval in writing. Where approval or conditional approval is given, the Contractor must ensure its Subcontractors comply with the terms and conditions of the approval.
4. Should the Contractor or its Subcontractors no longer be in good standing in the SAFE Company Program or other recognized program at any time during the Term of the Agreement, the Contractor shall immediately advise the AVCFC and shall submit to the AVCFC, within five (5) days, evidence satisfactory to the AVCFC that the Contractor or its Subcontractors are actively engaged with the BC Forest Safety Council or other applicable organization in obtaining re-certification.

The Contractor or its Subcontractors must achieve re-certification within a reasonable period of time, and the reasonable period of time will be determined by the AVCFC in its sole opinion.

When re-certification is obtained, the Contractor shall promptly submit proof of re-certification to the AVCFC.



Contract #: 2012-6

Submission Date: _____

AVCFC Review Date: _____

Please check off the items submitted.

GIS Information:

- ☐ GIS Data Folder

TD Documents:

- ☐ TD Package Safety highlights (word format)
- ☐ TD Table of Contents (word format)
- ☐ Road Permit (word format)
- ☐ Road Use Permit and Permit Map (word format)
- ☐ Cutting Permit Final Submission Package
(all info required for CP submission)
- ☐ Site Plan (.pdf format)
- ☐ Site Plan Map (.pdf format)
- ☐ Road Site Plan (.pdf format)
- ☐ Cruise Report (pdf format)
- ☐ Cruise Map (.pdf format)
- ☐ Cruise (.dat file)
- ☐ Detailed Location Map (.pdf format)
- ☐ Harvest Plan Map (.pdf format)
- ☐ Harvest Plan Written (.pdf format)
- ☐ Road Plans (pdf format)
- ☐ Road Profiles (.pdf format)
- ☐ Road Cross Sections (for culvert locations, end haul,
landings, spoil sites, steep terrain or as directed) (.pdf format)
- ☐ Road Construction Map (includes reconstruction) (.pdf format)
- ☐ Road Construction Prescription (includes reconstruction) (.pdf format)
- ☐ Bridges and Large Culverts Site Plans (pdf format)
- ☐ Other as directed, i.e. Log Dumps, Heli Drop Zones etc.

Block Supporting Information

- ☐ Phase 1 Preliminary TD Engineering Report and Map (Schedule A (5.18))
- ☐ Cruise Plan
- ☐ Full Cruise Reports (.pdf format) CGNF and % reduction report and appraisal versions
- ☐ Deflection Line and Payload Tension Report
- ☐ Deflection Lines and Deflection Line Profile Map
- ☐ Road Site Plan survey Data for bridges and major culvert designs
- ☐ Boundary Stream and Road Traverse Field notes Printout (hand traverse only)
- ☐ Consultation Records and Guidance (i.e. Utilities, Highways, Environment etc. – documentation of all email, phone calls meeting etc.)

Assessments

- ☐ Gully Assessment Report
- ☐ Terrain Stability Assessment Report
- ☐ Visual Impact Assessment Report
- ☐ Stream Crossing Table and Professional Sign off (Measurements, Class, Substrate, Culvert type/size) Appendix 4, Schedule A (5.17)
- ☐ Riparian Management Infringement Documentation
- ☐ Stream Side Checklist (required for all RMZ's in and adjacent to TD and Roads) as per Appendix 3 or other format
- ☐ Pest Incidence Survey

The following items must also be completed as part of the final submission

- ☐ Genus data entry as per Schedule A
- ☐ Genus Site Plan data entry
- ☐ Genus Cruise data upload
- ☐ Genus appraisal data entry and download to ECAS
- ☐ All electronic information scanned for viruses as per Schedule A Digital Submission Standards 2012
- ☐ CD Submission and final TD Package File (paper copy of submission and non digital items)
- ☐ Return all AVCFC property on loan; ie. files, aerial photos etc.

I have reviewed the above final submission checklist and have determined that it meets all Contract specifications:

Signature: _____

Print name: _____

Date: _____



STANDARDS FOR DIGITAL MAP PRODUCTION AND DATA CAPTURE

1. The Contractor shall produce a 1:5000 (1:5000 Site Plan map, 1:5000 Logging Plan map, Road Permit map, Road Construction / Reconstruction map, 1:5000 Cutting Permit map, 1:5000 Cruise map, 1:20,000 Location map). All maps are to be submitted in .pdf format and as hardcopy.
2. The Contractor shall submit completed digital files in SHP format including projection file. The Contractor is responsible for insuring that all digital files have undergone adequate quality control procedures before delivery.
3. Digital files shall be submitted in a complete, systematic format (organized by block) with logical file names, associated text file, plot drivers and level/style information. Digital files shall be geo-referenced using BC Albers projection, NAD 83 Datum
4. Digital files should also include shape files that were used for CP and RP esf submissions and separate shape files for future use for Results submissions (Opening and Forest Cover (NSR) submissions) where areas match Site Plan information.
5. **DIGITAL FILES MUST BE VECTOR AND POLY CLEAN.** The standards for Level 3 topology (see definition below) must be met in order for the files to be accepted. The following errors are unacceptable: dangling nodes, undershoots, intersection errors, zero area polygons, and label point errors.

Level 3 - Full Implicit Topology

This level of topology expands Level 2 topology to include the structuring of the spatial data to adhere to a set of rules or conditions including: "continuity rule", "polygon closure rule", "right hand rule", "connectivity and network rule", downstream rule", horizontal feature rule", and "point in polygon rule". Duplicate data is only tolerated to close polygonal features. Annotation on spatial features exists as text elements, not explicitly related in the data structure to the spatial feature.

Level 3 topology is the highest level of spatial topology achievable without using non-spatial data linkages or complex spatial data models.

6. The medium for digital data delivery is on a recordable Compact Disk (CD).



Alberni Valley Community Forest
Corporation

Appendix 3
STREAM CLASSIFICATION GUIDELINES
AND DATA SHEETS



BCTS
BC Timber Sales



Stream Classification Guidelines and Datasheets for
Contractors in the Strait of Georgia Business Area



- 1) Stream ID: _____
- 2) Tenure and Block ID: _____
- 3) Crew: _____ Date: _____
- 4) GPS file # _____ Start time _____
- 5) Fish presence (yes/no/unknown) _____

Measurements:

Station (ID)	Width (m)	Gradient (%)	Station (ID)	Width (m)	Gradient (%)

Mean bankfull width = _____

Mean Gradient = _____

Note: Record gradients in spaces above, **or use gradient measurements used to create the channel profile.**

- 6) Stream Classification: _____

Reasons for the Classification:

Crew: _____ Date: _____

PHOTO - DOCUMENTATION

[illegible]

Frame #	Comments
---------	----------

[illegible]

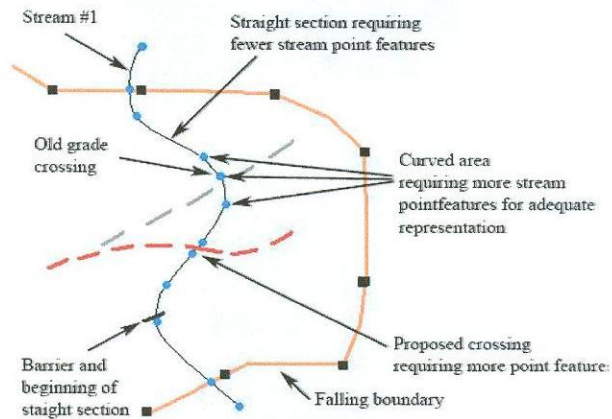
BARRIER MEASUREMENTS

Station ID	Max. Pool Depth (m)	Barrier Height (m)	Gradient (%)

Comments

GPS Stream points and lines

1. If a stream generally follows the same bearing and has no unique or significant features, fewer points are necessary
2. In areas where there are many bends in the stream or unique features are present more stream points are necessary
3. Unique features would be considered to be things such as barriers to fish migration, old grades, rail lines, slides, extreme bank confinement, gully features etc.
4. The stream line feature can be used to map the spaces between the stream point features.

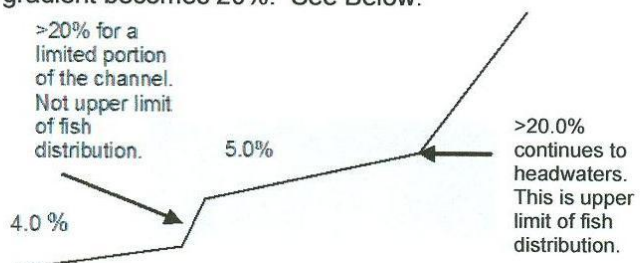


Example of stream point and line requirements

Definitions

Gradient >20%:

A short channel segment (i.e. 50 m) of >20% is **not considered the upper limit of fish**. The upper limit is when gradient >20% **continues to increase** as you move upstream from the point where the channel gradient becomes 20%. See Below.



Stream Classification

Stream Width	Riparian Class
>20 m	S1
>5 – 20 m	S2
1.5 – 5 m	S3
<1.5 m	S4
>3 m with gradient >20%	S5
≤ 3 m with gradient > 20%	S6
See definition	FSZ
<100m long and is not a wetland	NCD

Bankfull width: A minimum of 10 measurements should be done within the section surveyed.

FSZ

An area does not meet the definition of a stream but is a swamp, pond, side or back channel, a seasonally flooded area, or an area exposed to periodic flooding,

that has any possibility of flowing into fish bearing habitat through flows or seepage.

Photographic Records:

Photograph Protocol (general):

Photographs should be taken at locations that are representative of the channel section surveyed. At each location a photographic view looking upstream and downstream is required. A minimum of 10 photographs should be taken from 5 separate locations.

NOTE:

1. **Make sure there is something in the photo to give scale** (ie. Another crew member, mini stadia, note book etc.)
2. **Check your photo's before you move to the next location.**
3. **When referring to left bank or right bank, the reference point is always facing downstream.**

Photograph Codes:

Orientation

US = Looking upstream

DS = Looking downstream

L = Looking right to left across the channel

R = Looking left to right across the channel

Photograph Type

C = Channel

B = Barrier

FSZ = Fisheries Sensitive Zone

WL = Wetlands

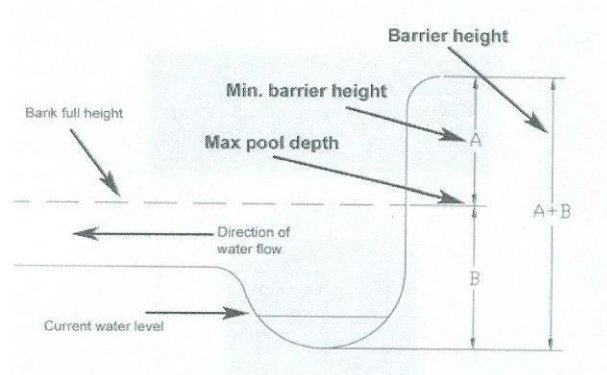
NCD=Non-classified drainage

Comments: should contain all other observations, including, information on fish and wildlife. Barrier information is to be recorded here as well.

Barrier Measurements

Max pool depth is defined as the **maximum possible water depth** at the bottom of a barrier. This level is consistent as the bank full height at the outlet of the plunge pool.

Barrier height is defined as distance from the top of the barrier to the lowest point in the plunge pool below the barrier



Note: when a bedrock cascade/chute is suspected to be a barrier its length and slope should be recorded in the comments section. In addition, any side channels, steps, or resting places for fish on the suspected barrier should be noted. Photo documentation of such areas are essential.

Photographic Examples

Barriers:



Plate 1. An example of a barrier that would require detailed measurements (fish sampling, height and gradient) to confirm if it was a permanent barrier to fish.

Bankfull width measurements:

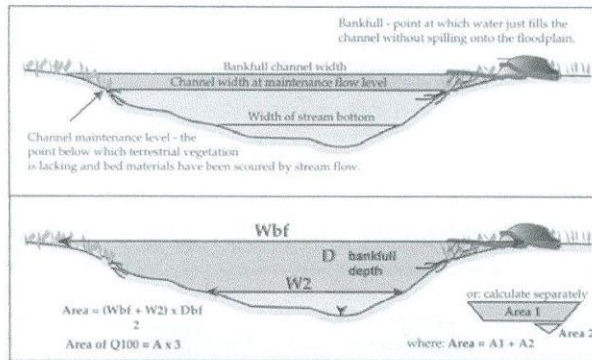


Plate 2. Various width measurements can be taken for engineering purposes as depicted above (bottom pane). With respect to stream classification **only the bankfull width is to be used** not the maintenance flow level. Bankfull widths are located at the rooted edge.

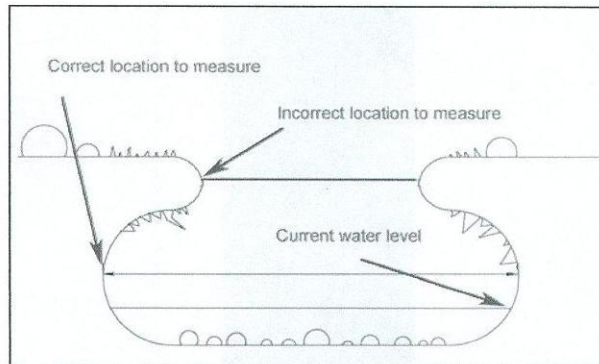


Plate 3. View of correct location to measure stream width when dealing with undercut banks.

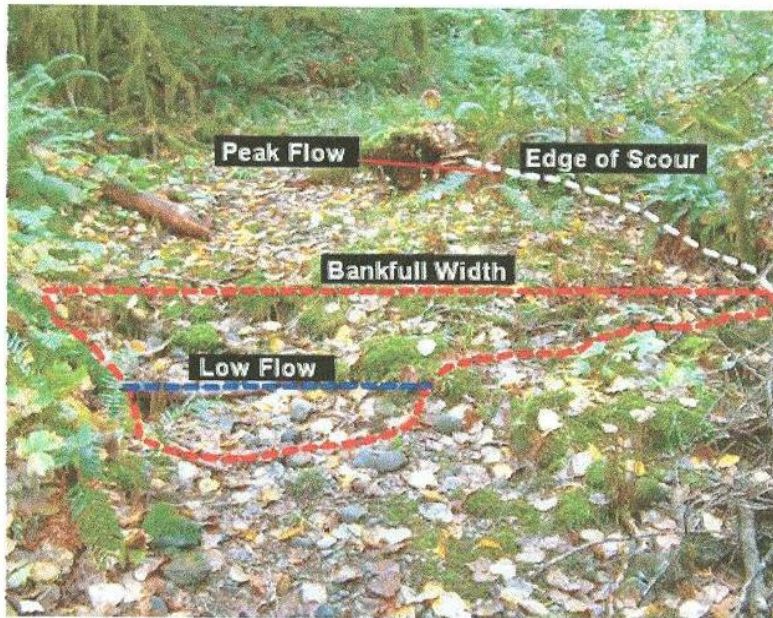


Plate 4. Showing the scour edge / rooted edge used to determine the bankfull width. The low flow scour mark indicated by the blue is an incorrect location for width measurement.



Plate 5. The red line in the photograph indicates the correct location to measure bankfull channel width.



Plate 6. This photograph shows both the correct location to measure bank full width (red line), and the incorrect location to measure bank full width (white line).



Plate 7. Shows the correct location to measure the Bank Full width.

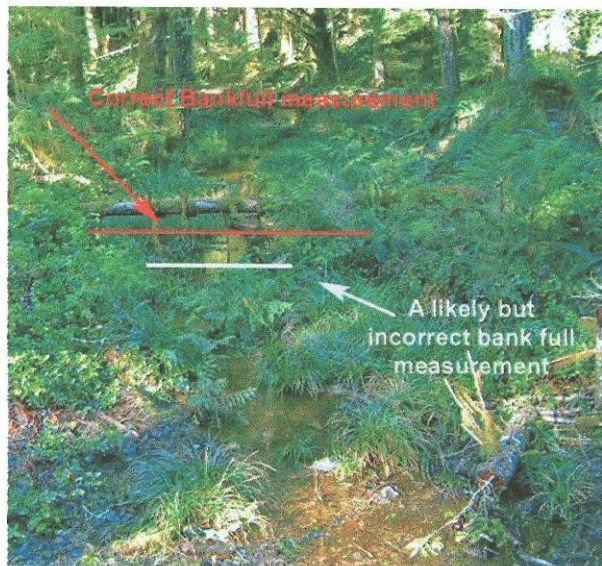


Plate 8. Correct bankfull measurement location (red) and incorrect bankfull measurement location (white).

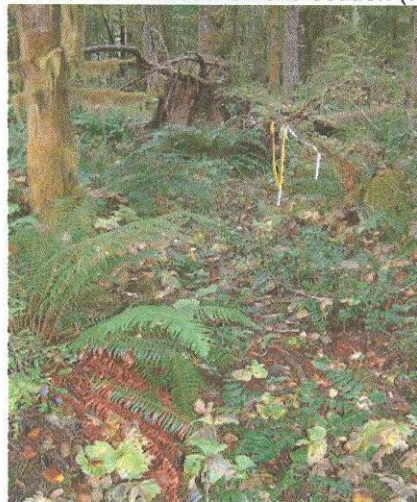


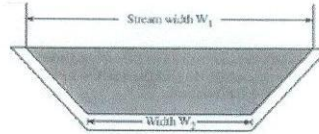
Plate 9. An example of an NCD

Stream Crossing Calculations

Location	
Road Name	
Stream Name	
Chainage	
Block Accessed	
Date of Measurements	
Field Crew	

$$A_c = \left(\frac{W_1 + W_2}{2} \right) \times D \times 3.0$$

{all measurements in metres}



W ₁ (high water)	W ₂ (channel bottom)	D (depth= w1 to w2)	A _c (cross-section)

Circle the appropriate size culvert

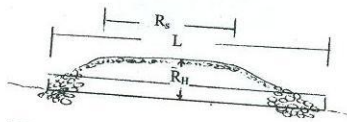
A _c (m ²)	.13	.20	.28	.50	.64
Culvert Diameter (mm)	400	500	600	800	900
A _c (m ²)	.79	1.13	1.54	2.01	2.54
Culvert Diameter (mm)	1000	1200	1400	1600	1800

(Culverts over 2000mm must be prescribed by an engineer)

Culvert Length Calculation $L = R_s + (R_H \times 3)$

R_H = estimated final running surface height above the creek bottom R_s = road running surface width

This culvert length calculation assumes a skew of $\leq 5^\circ$ and a stream slope of $\leq 5\%$. Where the design calls for a skew and/or slope that exceeds these limits calculations will be required to determine the appropriate length.



R _s	R _H	L	Diameter



Areas of interest for this contract are contained in the "Alberni Valley Community Forest Recce Report May 2012" prepared by Len Apedaile, RPF. Areas to be specifically considered are identified in this Report and will be further prioritised upon contract award and at the initial pre-work meeting. This document is available on the AVCFC website as Part II of this Contract Package.

Contractors should also review the August 10, 2007 (DRH Forestry Consulting) Viability Assessment. To find this Document, go to the Viability Assessment within the Forest Management Section on the AVCF Website. Additional mapping can be obtained under the Forest Stewardship Plan section, as well as the Mapping section.

Alberni Valley Community Forest Website:

<http://www.communityforest.ca/>

Viability Assessment:

http://www.communityforest.ca/pdf/PACF_presentation_august10.pdf

AVCF Maps

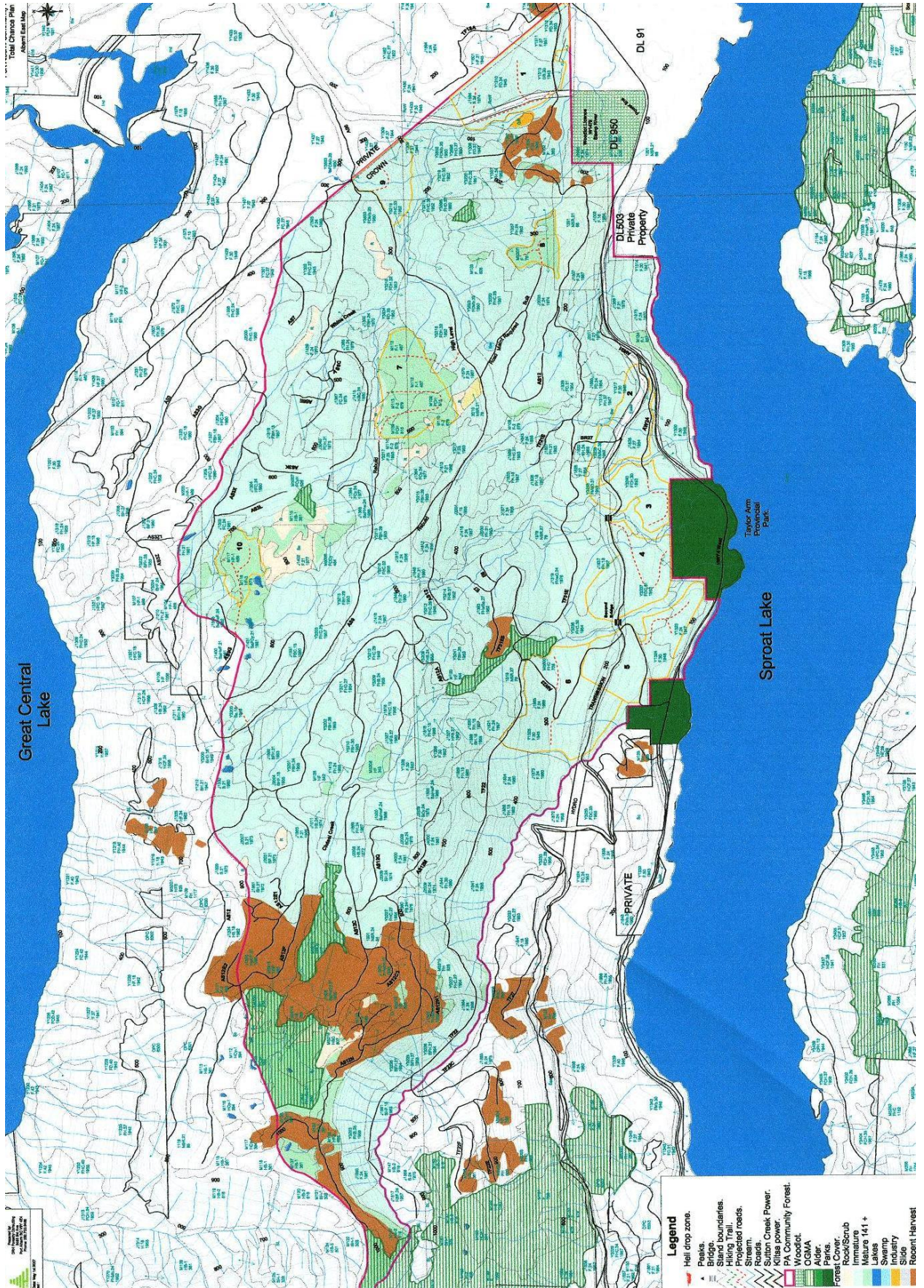
http://www.communityforest.ca/maps/FSP_%20AVCF-Sproat%20FDU-A.pdf

<http://www.communityforest.ca/maps/AVCF%20Overview%20Map.pdf>

<http://www.communityforest.ca/orthophoto-maps>

AVCF Forest Stewardship Plan

<http://www.communityforest.ca/pdf/AVCF%20FSP.pdf>





Contract #: 2012-6

Submission Date: _____

AVCFC Review Date: _____

Please check off the items submitted.

GIS Information:

- ☐ GIS Data Folder

TD Documents:

- ☐ TD Package Safety highlights (word format)
- ☐ TD Table of Contents (word format)
- ☐ Road Permit (word format)
- ☐ Road Use Permit and Permit Map (word format)
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(all info required for CP submission)
- ☐ Site Plan (.pdf format)
- ☐ Site Plan Map (.pdf format)
- ☐ Road Site Plan (.pdf format)
- ☐ Cruise Report (pdf format)
- ☐ Cruise Map (.pdf format)
- ☐ Cruise (.dat file)
- ☐ Detailed Location Map (.pdf format)
- ☐ Harvest Plan Map (.pdf format)
- ☐ Harvest Plan Written (.pdf format)
- ☐ Road Plans (pdf format)
- ☐ Road Profiles (.pdf format)
- ☐ Road Cross Sections (for culvert locations, end haul,
landings, spoil sites, steep terrain or as directed) (.pdf format)
- ☐ Road Construction Map (includes reconstruction) (.pdf format)
- ☐ Road Construction Prescription (includes reconstruction) (.pdf format)
- ☐ Bridges and Large Culverts Site Plans (pdf format)
- ☐ Other as directed, i.e. Log Dumps, Heli Drop Zones etc.

Block Supporting Information

- ☐ Phase 1 Preliminary TD Engineering Report and Map (Schedule A (5.18))
- ☐ Cruise Plan
- ☐ Full Cruise Reports (.pdf format) CGNF and % reduction report and appraisal versions
- ☐ Deflection Line and Payload Tension Report
- ☐ Deflection Lines and Deflection Line Profile Map
- ☐ Road Site Plan survey Data for bridges and major culvert designs
- ☐ Boundary Stream and Road Traverse Field notes Printout (hand traverse only)
- ☐ Consultation Records and Guidance (i.e. Utilities, Highways, Environment etc. – documentation of all email, phone calls meeting etc.)

Assessments

- ☐ Gully Assessment Report
- ☐ Terrain Stability Assessment Report
- ☐ Visual Impact Assessment Report
- ☐ Stream Crossing Table and Professional Sign off (Measurements, Class, Substrate, Culvert type/size) Appendix 4, Schedule A (5.17)
- ☐ Riparian Management Infringement Documentation
- ☐ Stream Side Checklist (required for all RMZ's in and adjacent to TD and Roads) as per Appendix 3 or other format
- ☐ Pest Incidence Survey

The following items must also be completed as part of the final submission

- ☐ RESULTS data entry as per Schedule A
- ☐ RESULTS Site Plan data entry
- ☐ All electronic information scanned for viruses as per Schedule A Digital Submission Standards 2012
- ☐ CD Submission and final TD Package File (paper copy of submission and non digital items)
- ☐ Return all AVCFC property on loan; ie. files, aerial photos etc.

I have reviewed the above final submission checklist and have determined that it meets all Contract specifications:

Signature: _____

Print name: _____

Date: _____