BRITISH COLUMBIA

Ministry of Forests, Lands,
Natural Resource Operations and
Rural Development

Minister's Office

MEMORANDUM

Ref: 280-20

December 4, 2018

To: Sharon Hadway, Regional Executive Director, West Coast
Allan Johnsrude, Regional Executive Director, South Coast

From: The Honourable Doug Donaldson
Minister of Forests, Lands, Natural Resource Operations and Rural Development

Re: New *Coast Appraisal Manual*

I hereby approve the new *Coast Appraisal Manual* and attach a copy for your use. The manual is available at the following link:

http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/coast-appraisal-manual

This manual will come into force on December 15, 2018. Further amendments or revisions to this manual require my approval.

Doug Donaldson
Minister

pc: Chris Stagg, Assistant Deputy Minister,
Timber Operations, Pricing and First Nations Division
Vera Sit, Executive Director, Timber Operations, Pricing and First Nations Division
Allan Bennett, Director, Timber Pricing Branch

TIMBER PRICING BRANCH

Coast Appraisal Manual

Effective December 15, 2018

Includes Amendments **Effective Date**

New Coast Appraisal Manual Highlights

The new *Coast Appraisal Manual* includes clarification to policy, an update to the market pricing system, and an update of the tenure obligation adjustments and specified operations for December 15, 2018 onward. By section, the significant changes are as follows:

Section #	Comment
1.1	Revised definitions
2.1.2	Revised
2.2.2, 2.2.3	Revised cutblock requirements within a cutting authority area
4.2	Updated list of variables. Updated average number of bidders table
4.2.2.1(1) and (6)	Updated cross references
4.2.2.2	Updated cross references
4.2.2.3(1)	Updated cross reference
4.2.5.3	Corrected code
4.3.1	Updated EWB – Loss Factor Based
4.3.2	Updated EWB – Call Grade Net Factor Based

4.4	Updated cross reference
4.4.2	Updated Inland Water Transportation cost adjustment
4.4.3	Updated Clayoquot Sound Operating adjustment
4.4.4	Updated Tree Crown Modification adjustments
4.4.5	Updated Ecosystem Based Management Operating adjustment
4.4.6	Updated Long Haul Cost estimate
4.4.7	Updated High Development cost estimate
5.1	New subsection FESBC-related excluded TOAs
5.2	Updated Forest Planning and Administration cost
5.2.1	Updated Low Volume Cost
5.3.2.2 (3)(g)	New subsection FESBC ineligible for Development Distribution Agreements
5.3.3.1	Revised section, and updated road cost estimates
5.3.3.2.1	Updated log bridge cost estimates
5.3.3.2.2	Updated permanent/portable bridge cost estimates

5.3.3.2.3	Updated culvert cost estimates
5.3.4(5)(b)	Updated dates
5.4	Updated Road Management cost
5.6	Updated Basic Silviculture costs
5.7	Updated Low Grade Fractions
5.8.1	Updated Market Logger Cost
5.8.2	Updated BCTS Infrastructure and Services cost
5.8.3	Updated Competitive Timber Sales Specified Operations Adjustment
5.9	Updated Return to Forest Management Factor
7.2	New subsections FESBC and Community Forest Agreements and Woodlot Licences
7.4	Revised subsection (2)
7.7(3)	Updated silviculture cost adjustment for linear tenures
7.10(2) and (3)	Updated cross references
7.11	New section FESBC wording

Appendix I	Updated Equipment and Labour Rates
Appendix V	Appraisal Map Content – revised subsection (2)

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1 Definitions and Interpretations

1.1 Definitions and Interpretations

In this manual:

"**Act**" means *Forest Act*;

"**Accurate**" for the purposes of Section 105.1 of the *Act* as it applies to this manual means submitted in accordance with the requirements of this manual;

"**Anniversary date**" means the annual recurrence of the month and day when the term of the cutting authority began;

"**Appraisal Data Submission (ADS)**" means the information required by the person who determines the stumpage rate to determine the stumpage rate including a forest professional's signed submission in the form required by the director and any other information required by the regional manager or district manager;

"**Billing history record**" means a record of log scale data derived from a record kept by the Timber Pricing Branch of log scale data reported on stumpage invoices issued by the Timber Pricing Branch for timber scaled under Section 94 of the *Act*; and for greater certainty does not include billing data from cruise based cutting authorities; but for any cutting authority with an effective date prior to October 1, 2012, the billing history record to be used in a minister-directed reappraisal under Section 3.3.8 shall include billing data from cruise based cutting authorities;

"**BCTS**" means BC Timber Sales;

"**BCTS licence**" means a timber sale licence entered into under Section 20 of the *Act* or Section 21 as it was before it was repealed;

"**Bonus Bid**" means a bonus bid described in Section 103(1)(d) of the *Act*;

"**Bonus Offer**" means a bonus offer described in Section 103(2) of the *Act*;

"**Changed Circumstance Certification**" means a Changed Circumstance Certification statement submitted in ECAS by a forest professional (refer to section 3.3.1);

"Coast Area" means West Coast and South Coast forest regions or Coast Forest Region;

"Coast Mountain Forest District" means that part of the Coast Mountain forest district that is within the geographic boundaries of the Great Bear Rainforest North;

"**Coniferous cruise volume**" means that part of the total net cruise volume which is coniferous timber;

"**Controlled Recreation Area**" means controlled recreation area as defined in the *Resort Timber Administration Act*;

"**Cruise based billing cutting authority**" means a cutting authority where under Section 106 of the *Act* the stumpage payable is calculated using information provided by a cruise of the timber conducted before the timber is cut;

"**Cutting authority**" means:

a. a cutting permit issued under a forest licence, a timber sale licence, a timber licence, tree farm licence, a community forest agreement, a community salvage licence, a woodlot licence, a master licence to cut, a forestry licence to cut, or First Nations woodland licence;

b. a timber sale licence that does not provide for the issuance of a cutting permit;

c. all other licences to cut, or

d. a road permit;

"**Cutting authority area**" means the area where timber may be harvested under authority of;

a. a cutting permit;

b. a timber sale licence that does not provide for the issuance of a cutting permit;

c. a licence to cut, or

d. a road permit;

"**Deciduous timber**" means timber that is any of the alder, birch, cottonwood and maple species;

"**Detailed engineering**" means non-tabular;

"**Director**" means director of Timber Pricing Branch of the Ministry of Forests, Lands Natural Resource Operations and Rural Development, or the Director's designate;

"**District manager**" means:

a. Except as provided in paragraph (b) of this definition, the district manager or district manager's designate;

b. Where the cutting authority area being appraised or reappraised is located in a controlled recreation area designated under the *Resort Timber Administration Act*, then district manager means an employee of the Ministry to whom the minister has delegated the minister's powers and duties under Section 2 of the *Resort Timber Administration Act;*

"**Effective Date**" means, unless otherwise specified in the manual:

a. the date the upset stumpage rate is determined when required for advertising for competitive award, or

b. the effective date of the cutting authority when the stumpage rate is determined for a cutting permit or a direct award licence;

"**Executive Director, BCTS**" means Executive Director, BCTS or Executive Director, BCTS' designate;

"**Forest Professional**" means a Registered Professional Forester (RPF) or a Registered Forest Technologist (RFT) or a special permit holder acting within the scope of their permit, registered and in good standing with the Association of British Columbia Forest Professionals;

"Great Bear Rainforest North (GBRN)" means all Crown land that is within the geographic boundaries of:

a. the GBR North Timber Supply Area as prescribed by regulation; and

b. that part of the Tree Farm Licence No. 25 within the Coast Mountain and North – Island Central Coast Forest Districts; and

c. within Forest Licences A91438 and A94535 cutting authority areas;

"**Harvest Area**" means the area indicated for harvest on an appraisal map submitted by the licensee;

"**Helicopter Selection**" means the harvesting of single trees within standing residual timber that have been felled and then removed using a helicopter;

"**Hogged Tree Material**" means tree residues or by-products that have been shredded into smaller fragments by mechanical action and is made from post-harvest material where a waste assessment has been made. Where the post-harvest material is removed from an area that is or was a cruise based billing cutting authority, a waste assessment is not required;

"**Immature coniferous timber**" means coniferous timber that is younger than 121 years old;

"Intact cutblock" means 90% or more of a cutblock's total net cruise volume approved under the cutting authority remains unharvested (standing, felled or decked);

"**Licensee**" means the holder of a cutting authority;

"**Low grade**" means grades 'X' and 'Y' of all species and 'U' grade hemlock and balsam;

"**Main Access Road**" means a long-term (i.e., in use for more than ten years) mainline road that is tributary to the appraised cutting authority area, or is used to transport bulk fuels, supplies, equipment or harvesting crews necessary to carry out day-to-day harvesting activities on that area, and has an average stabilized subgrade width greater than seven metres;

"**Manual**" means *Coast Appraisal Manual*;

"**Mature coniferous timber**" means coniferous timber that is 121 years old or older;

"**Minister**" means Minister of Forests, Lands, Natural Resource Operations and Rural Development;

"**Ministry**" means Ministry of Forests, Lands,Natural Resource Operations and Rural Development (FLNRORD);

"**Net cruise volume**" means the gross volume of all species listed in Section 4.2.3(1), plus alder, birch, cottonwood and maple in the cutting authority area minus the volume of decay, waste and breakage in that timber unless otherwise specified in the *Cruising Manual*;

"**Old growth coniferous timber**" means coniferous timber that is 141 years old or greater;

"**Primary Harvesting Activities**" means the cutting and removal of timber from a cutting authority area;

"**Regional Executive Director**" means regional executive director of the West Coast Region or South Coast Region or the regional executive director's designate;

"**Regional manager**" means regional executive director of the Ministry or except for Section 2.1.1(1)(a), regional executive director's designate;

"**Regulations**" means regulations under the *Act*;

"**Remaining volume**" means the total net cruise volume of a cutting authority area minus the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal of the cutting authority area;

"**Road Permit**" means road permit or the timber mark for a road permit that is associated with the applicable tenure listed in Section 115(1) of the *Act*;

"**Scale Based cutting authority**" means a cutting authority where under Part 6 of the *Act*, the stumpage payable is based on a scale of the timber harvested from the cutting authority area;

"**Second growth coniferous timber**" means coniferous timber that is less than 141 years old;

"**Selling price zone 51**" means the table of coast market pricing system log values for old growth coniferous timber, approved by the Director;

"**Selling price zone 52**" means the table of coast market pricing system log values for second growth coniferous timber, approved by the Director;

"**Skyline**" means any method of yarding where the logs are fully suspended above the ground by a short span, long span, or multi-span system using a carriage with standing or running lines;

“Stand as a Whole (SAAW) Pricing`` means the stumpage payable is a single amount for the Total Net Cruise Volume of the cutting authority area that will be based on a cruise of the timber as authorized under Section 106 of the *Act*,

“Stumpage Appraisal Parameters” means the:

a. BC Consumer Price Index (CPI);

b. Applicable Coast Domestic or Export-Adjusted Log Average Market Values;

c. Total Coast Harvest and Export Share; and

d. Lumber Average Market Values for each of Cedar, Fir and Hemlock

as approved and published by the Director;

"**Timber Pricing Branch**" means Timber Pricing Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development;

“**Timber Sales Manager**” means a timber sales manager appointed under the *Ministry of Forests and Range Act* for a BC Timber Sale business area, or the timber sales manager’s designate;

"**Total net cruise volume**" of a cutting authority area (tncv) is the product of the net cruise volume per hectare of the cutting authority area (ncv/ha) multiplied by the total merchantable timbered area to be harvested under the cutting authority (tmta). Expressed as an equation: $tncv = \frac{ncv}{ha} x\, tmta$;

"**Tributary cutting authority area**" means a cutting authority area from which timber must be transported over the road that is developed, or a cutting authority area to which bulk fuels, supplies, equipment and harvesting crews necessary to carry out the day-to-day harvesting activities on that area must be taken on a regular basis over the road that is developed;

"**Unit cost**" means cost estimate expressed in dollars per cubic metre;

“**Woodchips**” means timber that has been cut into small pieces by a chipper and is made from post-harvest material where a waste assessment has been made. Where the post-harvest material is removed from an area that is or was a cruise based billing cutting authority, a waste assessment is not required.

2 Scope and Requirements

2.1 Terms of Reference

1. Pursuant to Section 105 of the *Act*, the provisions of this manual are the policies and procedures to be used in the determination, redetermination and variance of stumpage rates for Crown timber harvested in the Coast Area (except Manning Park) and including all cutting authority areas within the Great Bear Rainforest North.

2.1.1 Responsibility for Stumpage Determinations

1. The following employees are authorized to determine, redetermine and vary rates of stumpage:
   a. The director, and employees of the Timber Pricing Branch of the Ministry, and
   b. Regional managers, regional appraisal coordinators and employees of the regional revenue sections, of the Ministry.
2. The employees of the Timber Administration Section, Resort Development Branch of the Ministry are authorized to determine or redetermine stumpage rates in accordance with Section 7.8(1) or (2).

2.1.2 Market Pricing System Stumpage Appraisal Parameters

1. The Market Pricing System stumpage appraisal parameters are compiled, calculated and/or adopted by Timber Pricing Branch.
2. Once approved by the director they become an integral part of this manual.
3. The parameters are published by Timber Pricing Branch.
4. Current and historical parameters may be found at the following web site:

   http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/coast-appraisal-parameters

2.1.3 Minimum Stumpage Rate

A stumpage rate determined using this manual shall not be less than the prescribed minimum stumpage rate.

2.2 Numbering System

The following exemplifies the numbering system that is used in this

manual.

1. = Chapter
1.1 or 1.1.1.1 - Section
1.1.1.1(2) = Section with subsection
1.1.1 (2)(a) = Section with subsection and paragraph
Table 4-2 = Table 2 within Chapter 4

2.2.1 Calculation Conventions

1. Every calculation required to be performed will be performed to the full capacity of a calculating machine with the results truncated at four places of decimals and rounded to two places.

2. A result from 5 to 9 will be rounded upward and a result from 1 to 4 will be rounded downward.

3. Each calculation of a tenure obligation adjustment or specified operation adjustment expressed in dollars per cubic metre will be rounded to the nearest cent.

4. Where a value is specified as a limit, for example a constraint or a requirement for an equation,

   a. the value will be treated as an absolute value, and

   b. an actual measurement or record will not be rounded before use unless otherwise specified in this manual.

2.2.2 Cutblocks within a Cutting Authority Area

1. Except as provided for in subsections 1(c), 2 and Section 2.2.3, all cutblocks within a cutting authority area must:

   a. have each of their geographic centres within the same appraised point of origin area as identified in Section 4.2.5.3; and

   b. be fully contained within the same timber supply block, or in the case of a cutting authority area under a tree farm licence, be contained within the same forest district.

   c. For a cutting authority issued under Section 20 of the *Act* within the GBRN Timber Supply Area, all cutblocks within a cutting authority area must:

      i. have each of their geographic centres within the same appraised point of origin area as identified in Section 4.2.5.3; and

ii. be located and fully contained within only Timber Supply Blocks:

1. 46A, 46B, 46C, 46D, 46E and or 46F; or

2. 46G, 46H, 46I, 46J and or 46K.

2. The road right of way that provides access to and is sold as part of a BCTS licence, is exempt from the requirement to be located within the same timber supply block or tree farm licence as the BCTS licence.

2.2.3 Great Bear Rainforest North (GBRN)

1. This section does not apply to:

   a. cutting authorities entered into under Section 20 of the *Act*; and

   b. subject to Section 7.10, to any cutting authority appraised in accordance with Chapter 7.

2. A cutblock(s) within a cutting authority area other than within a cutting authority described in subsection 1 above, for the purposes of the GBRN:

   a. must be located and contained within the same forest district where the licensee is entitled to harvest under the licence that the cutting authority has been issued under; and

   b. must be located and fully contained within only:

      i. Timber Supply Blocks:

         1. 46A, 46B, 46C, 46D, 46E and or 46F; or

         2. 46G, 46H, 46I, 46J and or 46K; or

      ii. that part of Tree Farm Licence No. 25 within the Coast Mountain and North Island-Central Coast Forest Districts; or

      iii. within Forest Licence A91438; or

      iv. within Forest Licence A94535.

2.3 Appraisal Data Submission Requirements

2.3.1 Cruise Information

1. Except as provided for under subsection 7, and unless otherwise specified by the director, cruise data must be gathered and compiled in accordance with the following Ministry publications and the coast timber merchantability specifications in Table 2-1:

   a. *Cruising Manual*, at the following website:

   http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/timber-cruising-manual,

   b. *Cruise Compilation Manual* at the following website:

   http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/cruise-compilation-manual

Table 2-1 Coast Timber Merchantability Specifications

Description The following coast timber merchantability specifications must be used in all appraisals.	**Mature**	**Immature**
1. Maximum stump height (measured from the top of the stump down to the highest ground level adjacent to the stump)	30.0 cm	30.0 cm
2. Minimum slab thickness for cedar only	15.0 cm	10.0 cm
3. Minimum top diameter (inside of the bark)	15.0 cm	10.0 cm
4. Minimum length of a log or slab	3.0 m	3.0 m

2. When cruise information is submitted to the district manager or the regional manager in order to determine a stumpage rate or an upset stumpage rate, that information must include:

   a. The cruise compilation reports, and

   b. The ASCII data files (i.e. .dat and .red or .pr).

   c. The CSV (if applicable, also the percent reduction CSV file) for appraisals submitted on or after November 1, 2013, when the cruise was compiled using the 2013.00 version of the approved cruise compilation program.

3. When requested by the district manager, a copy of the original field data and traverse notes must be provided by the licensee.

4. a. The cutting authority area will be appraised using the total net cruise volume of timber authorized for harvest in that area.

   b. The total area of merchantable timber in the cutting authority area is obtained from the appraisal summary of the cruise compilation report.

5. If the licensee or BCTS modifies its application for a cutting authority the applicant must recompile the cruise data when any of the compiled plots used in the cruise lie outside the boundaries of the proposed cutting authority area.

6. a. Where a boundary of a cutting authority area has been changed after the appraisal or reappraisal of the cutting authority area, every reappraisal of the cutting authority area must use the total net cruise volume of the cutting authority area as it is after the boundary has changed.

   b. If, after a cruise compilation or recompilation was used for an appraisal or reappraisal, the total of all additions or deletions of areas containing merchantable timber made to the cutting authority area exceeds fifteen hectares or fifteen percent of the area containing merchantable timber, whichever is less, the entire cruise must be recompiled.

7. The holders of the following types of agreements and cutting authorities are exempt from the requirement to provide a timber cruise:

   a. Community forest agreements and woodlot licences under Section 7.2,

   b. Salvage cutting authorities under Section 7.4,

   c. Cutting authority areas with less than 2 500 m^3 of timber volume that have been authorized under Section 7.5(1) to use tabular rates,

   d. Decked timber under Section 7.6(1),

   e. Linear tenures under Section 7.7 with not more than 2 500 m^3 of timber volume, and

   f. Controlled recreation areas under Section 7.8.

8. The person who determines the stumpage rate may direct that cruise information be gathered and compiled fully or partially for linear tenures under Section 7.7 with more then 2 500 m^3 of timber volume that have been authorized to use tabular rates.

2.3.2 Appraisal Data Forms

1. Unless otherwise specified in paragraph (b) or (c) of this Section, the form of appraisal data submission required by the director for:

   a. The market pricing system is the Electronic Commerce Appraisal System (ECAS) which can be found at:

      http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/electronic-commerce-appraisal-system

   b. Miscellaneous timber pricing policies is the miscellaneous appraisal data submission (Misc ADS) which can be found at:

      http://www.for.gov.bc.ca/rco/revenue

c. Community forest agreements and woodlot licences is the Tabular Rate Form for Community Forest and Woodlot (Tab Rate Form), which can be found at:

http://www.for.gov.bc.ca/rco/revenue/

A submission under subsection c) is not required to be made by a forest professional.

2.3.3 Appraisal Map

The appraisal map must be completed in accordance with the requirements of Appendix V of this manual, and must be submitted with the appraisal data submission in ECAS.

3 Appraisals, Reappraisals and Quarterly Adjustments

3.1 Types of Determination

1. A stumpage rate is determined, redetermined or varied by:
   a. an appraisal, reappraisal or a quarterly adjustment,
   b. an Order-in-Council under Section 105 of the *Act*, or
   c. a procedure identified in Chapter 7 of this manual.

3.2 Appraisal Process

1. Except where the sawlog stumpage rate or an upset stumpage rate is determined in Chapter 7:

    a. an appraisal is a process used to determine a stumpage rate for a cutting authority area using the manual in effect on the effective date of the cutting authority.

    b. the appraisal is effective on the effective date of the cutting authority.

2. A forest professional on behalf of a licensee or BCTS shall submit an appraisal data submission to the district manager when the licensee or BCTS makes an application for a cutting authority.

3. The district manager may require the forest professional to complete and submit an estimated stumpage rate calculation for both helicopter and cable methods of harvesting when the district manager is not satisfied that the method proposed by the licensee or BCTS is the only method that is suitable for the area intended to be harvested.

4. The district manager may review the appraisal data submission and may inform the forest professional of any omissions, or errors, or provisions of the manual that, in the opinion of the district manager, the forest professional may not have considered.

5. The forest professional may consider the district manager's information and may revise the appraisal data submission.

6. The district manager shall give any information supplied by the forest professional under this section to the person who determines the stumpage rate together with any other information that the district manager considers relevant to the appraisal.

7. The person who determines the stumpage rate may review the appraisal data submission, and information supplied by the district manager and may inform the forest professional of any omissions, or errors, or provisions of the manual that, in the opinion of the person who determines the stumpage rate, the forest professional may not have considered.

8. The forest professional may consider the information and may revise the appraisal data submission.

9. The person who determines the stumpage rate shall consider:

    a. the information provided by the forest professional,

    b. the information provided by the district manager, and

    c. any other information available to the person who determines the stumpage rate that is relevant to the appraisal.

10. The person who determines the stumpage rate may change the information in ECAS when determining the stumpage rate.

11. a. For licensees, once Coast Area appraisal staff determines the stumpage rate, Timber Pricing Branch's General Appraisal System will advise those licensees who have been submitted an email address that the stumpage determination has been made.

    b. The details of the licensee's stumpage determination will be made available on the web in Timber Pricing Branch's GAS application.

12. For BCTS, once Coast Area appraisal staff determines the upset, BCTS will be advised by email from Coast Area appraisal staff of the upset determination.

3.3 Reappraisals

1. Where these policies and procedures require a reappraisal to be performed, except as provided in Section 3.6, the stumpage rate must be redetermined in accordance with the relevant policies and procedures that are or were in effect as the case may be on the effective date of the reappraisal.

2. Except as provided in subsection (3) of this section, paragraph 3.3.1(1)(d), or sections 3.3.2 to 3.3.7, or otherwise directed by the Minister under Section 3.3.8, a reappraisal is a complete reassessment of the cutting authority area at the time of the reappraisal by the person who determines the stumpage rate taking into account:

   a. a revised appraisal data submission submitted by the licensee in accordance with this manual, and

   b. information available to the person who determines the stumpage rate.

3. Road development costs originally estimated using ministry approved competitive bids may not be re-estimated in a reappraisal.

3.3.1 Changed Circumstances

1. A changed circumstance on or in relation to a cutting authority area means a circumstance where:

   a. i. the licensee or a contractor working on the licensee's behalf has harvested or will harvest at least fifteen percent of the volume of timber on the cutting authority area using a harvest method that is different from the harvest method used in the most recent appraisal or reappraisal of the cutting authority area, and

      ii. the different harvest method when taken into account in a changed circumstance reappraisal will produce the highest stumpage rate within the meaning of Section 4.1.

   b. there will be a difference of at least fifteen percent between the total road development unit cost in the changed circumstance reappraisal and the total road development unit cost that was used in the most recent appraisal or reappraisal where this difference results from circumstances other than a change in the manual or a change as a result of a stumpage adjustment.

   c. the cutting authority is scale based and land containing merchantable timber has been either added to or deleted[1] from the cutting authority area since the most recent cruise compilation or recompilation that was used in that most recent appraisal or reappraisal that exceeds either:

      i. fifteen hectares or

ii. fifteen percent of the area of the cutting authority area as it was prior to the addition or deletion of the land, or

d. at least fifteen percent of the total net cruise volume that was used in the most recent appraisal or reappraisal of the cutting authority area has been suddenly and severely damaged, unless the timber was damaged by a fire for which the licensee was responsible and the licensee failed to comply with the *Wildfire Act* and Regulations.

e. the cutting authority is cruise based billing and there has been a change[1] in the harvest area when compared to the most recent appraisal map submitted that exceeds three hectares.

The area used for cruise based billing shall only be changed to reflect the new area when:

i. the harvest area has decreased and the cutting authority has been amended,

ii. the harvest area has increased, or

iii. the change in harvest area described in this subsection triggers a changed

f. i. the cutting authority is scale-based, consists of two or more cutblocks, has expired or has been currendered, and one or more intact cutblocks, remain and greater then fifteen percent of the cutting authority area remains unharvested.

ii. The cutting authority will be reappraised:

aa. excluding all applicable appraisal information associated with the intact cutblock(s), provided that at least one cutblock in the cutting authority is not an intact cutblock; or

bb. including all applicable appraisal information associated with the timber removed, provided that each cutblock in the cutting authority is an intact block.

iii. Planned and existing road development cost estimates associated with the intact cutblock(s) that is excluded from the cutting authority reappraisal may be included in future appraisals or reappraisals.

iv. This subsection is only applicable to cutting authorities with an effective date on or after September 1, 2016.

2. The licensee must notify the district manager immediately of a changed circumstance.

3. Where the district manager believes that a changed circumstance has occurred, the district manager will notify the licensee of that belief.

4. A cutting authority area other than a cutting authority area that is the subject of a road permit or a cutting authority with fixed rates must be reappraised when a changed circumstance has occurred.

[1] Measured as the absolute change, e.g. an addition of 15 hectares and the subtraction of 15 different hectares is a 30-hectare change for the purposes of this section.

5. Where a cutting authority area is reappraised because of a changed circumstance, any bonus bid or bonus offer in existence prior to the reappraisal does not change and remains in effect.

6. For cutting authority areas appraised under a cutting authority issued on or after July 1, 2018, and except for a minister's direction or sudden and severe damage reappraisal, the forest professional must certify:

    a. that no changed circumstances exist; or
    b. a changed circumstance reappraisal

    no later than 60 days after the completion of primary harvesting activities, or the cutting authority expiry date, whichever comes first.

7. The forest professional may request an extension to the 60-calendar day submission deadline of a changed circumstance certification by submitting a work plan and a proposed new submission date to the Coast Area appraisal staff. If agreed to, the proposed submission date is the new submission deadline date.

3.3.1.1 Changed Circumstance Reappraisal Procedure

1. Where the cutting authority area must be reappraised because of a changed circumstance, the licensee shall submit to the district manager an appraisal data submission.

2. Thereafter, the reappraisal procedure shall be the procedure required by Section 3.2(2) through 3.2(11).

3.3.1.2 Effective Date of Changed Circumstance Reappraisal

1. Except as provided in subsections (2) and (3) of this section, a reappraisal because of a changed circumstance under Section 3.3.1(1) is effective on the day after the effective date of the most recent appraisal or reappraisal of the cutting authority area prior to the changed circumstance reappraisal.

2. Where the changed circumstance is a result of sudden and severe damage referred to in subsection 3.3.1(1) (d), the effective date of the reappraisal is the first day of the month following the date when the event that caused the sudden and severe damage stopped on the cutting authority area.

3. A Section 3.3.8 minister directed reappraisal after January 15, 2009, will not be considered an appraisal or reappraisal for the purpose of determining the effective date of the changed circumstance reappraisal.

3.3.2 Annual Reappraisal of a Road Permit

1. Subject to Sections 3.3.7 and 7.3, a cutting authority area that is the subject of a road permit must be reappraised effective February 1 of every year.

2. The stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

3.3.3 Annual Reappraisal of Salvage Logging Stumpage Rates

1. Except where a cutting authority requires the payment of a bonus bid or a bonus offer, where the stumpage rate for a cutting authority has been determined under Section 7.4, the cutting authority area authorized for harvest under that cutting authority must be reappraised effective March 1st of every year.

2. A stumpage rate determined under subsection 1 of this section will be a fixed stumpage rate between the time that the cutting authority area is reappraised and the time that it is subsequently reappraised.

3.3.4 Annual Reappraisal of a Linear Tenure

1. Subject to Section 7.7, a cutting authority area that is the subject of a linear tenure must be reappraised effective March 1 of every year.

2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

3.3.5 Annual Reappraisal of a Cutting Authority in a Controlled Recreation Area

1. Subject to Section 7.8, a cutting authority area within a controlled recreation area must be reappraised annually on the anniversary date of the cutting authority.

2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

3.3.6 Annual Reappraisal of a Cutting Authority with Stumpage Rates Determined Under Section 7.5

1. A cutting authority area with stumpage rates determined under Section 7.5 must be reappraised effective March 1 of every year.

2. A stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the cutting authority area is reappraised.

3.3.7 Annual Reappraisal of a Cutting Authority in the Great Bear Rainforest North

1. Subject to Section 7.10, all road permits, and a cutting authority area with an effective date on or after June 15, 2016, located within the Great Bear Rainforest North must be reappraised effective March 1 of every year.

2. Stumpage rates determined under subsection (1) of this section will be fixed stumpage rates until the cutting authority area is reappraised.

3.3.8 Minister's Direction

1. The Minister may direct:

   a. a determination, redetermination or variance of a stumpage rate at any time, and that

   b. the determined, redetermined or varied stumpage rate will be effective on any future date.

3.3.8.1 Minister's Direction Procedure

1. If requested by the person responsible for stumpage determinations, the licensee shall submit to the district manager an appraisal data submission within forty-five days of the request.

2. Thereafter, the procedure for determining, redetermining or varying a stumpage rate under Section 3.3.8 shall be the same procedure as that required by subsections 3.2 (3) through 3.2 (12) except as may otherwise be directed by the minister.

3.4 Quarterly Adjustments

1. Unless a cutting authority, previous manual, or a provision of this manual specifies that the stumpage rates of a cutting authority are fixed, the stumpage rate of a cutting authority is adjusted quarterly on January 1, April 1, July 1, and October 1, of each year.

2. At the time of the quarterly adjustment referred to in subsection (1), the stumpage rate will be recalculated using the following criteria that is effective on the month of the adjustment:

    a. The equation applicable for the appraisal effective date and the appraisal data submission which was used in the most recent appraisal or reappraisal; and

    b. The stumpage appraisal parameters as approved by the Director for the month, in conjunction with, and as and where applicable with the following appraisal or reappraisal effective dates:

        i. Coast domestic log market values for effective dates prior to March 1, 2016 and on or after December 15, 2017;

        ii. Coast export-adjusted log market values for effective dates on or after March 1, 2016 and before December 15, 2017;

        iii. EXPORTSHARE, and TOTALHARVEST, for effective dates on or after December 15, 2017;

        iv. Lumber AMVs for each of cedar, fir and hemlock, for effective dates on or after December 15, 2017; and

        v. BC Consumer Price Index (CPI); and

    c. All other data will remain unchanged.

The procedure referred to in this subsection is conducted each quarter until the cutting authority area is reappraised or the cutting authority expires.

3.5 Fixed Rates and Extensions of Term

Timber Sale Licences

1. A fixed stumpage rate for a timber sale licence means that the upset stumpage rate and bonus bid will not change during the term of the timber sale licence and all extensions, except where:

   a. a reappraisal is done under Section 3.3.1(1)(d) due to sudden and severe damage, or

   b. a reappraisal is done under Section 3.3.8 due to the Minister's direction.

2. Every timber sale licence entered into under Section 20 of the *Act* that was advertised on or after November 1, 2003 must have a fixed stumpage rate.

3. Notwithstanding anything to the contrary in this manual, a fixed stumpage rate for a timber sale licence may not be corrected where there has been an error in the appraisal.

Miscellaneous Stumpage Rates

4. Except where miscellaneous stumpage rates are otherwise specified in a cutting authority the miscellaneous stumpage rates applicable to timber under Section 7.9 are the rates that are in effect on the date that the timber is scaled.

3.6 Correctable Errors

1. In this section, a correctable error means:

    a. an error made by a Ministry employee in selecting or transcribing the correct log grade source, or

    b. a stumpage adjustment calculation that has not been made by using a stumpage appraisal parameter in effect on the effective date of the stumpage adjustment.

1.1 The inclusion of billing data from cruise based cutting authorities in the billing history recordfor cutting authorities with effective dates prior to October 1, 2012, is not a correctable error for purposes of subsection 1(a).

2. Where a person believes that a correctable error has been made in a stumpage determination, that person shall give written notice of the correctable error as follows:

    a. in the case of an appraisal or a reappraisal, the notice shall be given to the regional manager, and in the case of a quarterly adjustment, the notice shall be given to the director, and

    b. the notice shall identify the stumpage determination, the correctable error, and the cause of the correctable error to the extent reasonably possible.

3. The regional manager or the director, upon receipt of the notice shall determine whether or not a correctable error was made.

4. Where the regional manager or the director determines that a correctable error has not been made, the person who determined the stumpage rate or director shall notify the person who gave the notice of the correctable error.

5. Where the regional manager or the director determines that a correctable error has been made, then:

    a. the regional manager or the director will notify the person who gave the notice of the correctable error,

    b. the regional manager or the director will take reasonable steps to ensure that all licensees who may have been affected by a similar correctable error are informed of the decision, and

    c. i. where the regional manager determines that a correctable error has been made in an appraisal or a reappraisal the cutting authority area shall be reappraised to correct the error by the person who determined the stumpage rate, using the procedure under subsections 3.2(9) to 3.2 (12), and

    ii. the effective date of the reappraisal shall be the first day of the month following the date on which the notice of the correctable error was

received by the regional manager; and

iii. the stumpage rate will be determined using the manual in effect on the effective date of the most recent appraisal or reappraisal prior to the correctable error reappraisal.

d. i. where the director has determined that a correctable error has been made in the calculation of a quarterly stumpage adjustment, the adjustment must be correctly recalculated unless the cutting authority, the appraisal manual or the application and tender for a timber sale licence specifies that the stumpage rate is fixed, and,

ii. the effective date of the redetermined rate shall be the first day of the month following the date on which the notice of the correctable error was received by the director.

3.7 Redetermination of Stumpage Rate by Agreement

1. If within twenty-one days of the date of determination or redetermination of a stumpage rate, (the "original stumpage rate") the licensee and an employee of the ministry authorized under Section 2.1.1 (the "employee") agree to a redetermination consistent with the version of the manual used for the original stumpage rate, the employee may redetermine the original stumpage rate.

2. The stumpage rate redetermined under subsection (1) shall be effective on the same date as the original stumpage rate.

3. The licensee and the employee may agree to extend the twenty- one day period referred to in subsection (1).

4 Estimated Winning Bid

4.1 Appraisal Methodology

1. Except as provided in Section 6.1 and Chapter 7, the licensee must submit an appraisal data submission for the cutting authority area that is capable of being used to produce the highest stumpage rate for the cutting authority area.

2. Except as provided in Section 6.1 and Chapter 7, the person who determines the stumpage rate must estimate the stumpage rate for a cutting authority area in a manner that will produce the highest stumpage rate for the cutting authority area.

3. For each part of the cutting authority area, the person who determines the stumpage rate must use the procedures in this manual that must be used for the harvest method that produces the highest stumpage rate other than a method that the district manager states is unsuitable for that part of the cutting authority area.

4. Regardless of the harvest method that the holder of a cutting authority uses or intends to use on the cutting authority area or a part of the cutting authority area, or any other fact or law pertaining to the harvest method to be used, the district manager when deciding whether a harvest method is unsuitable may only consider:

    a. the physical features and terrain stability of the cutting authority area and the areas through which access to the cutting authority area may be gained,

    b. the physical features of the areas outside of the cutting authority area that may be affected by the harvesting in or the transportation of the timber from the cutting authority area, and

    c. visual quality objectives.

4.2 Estimated Winning Bid (EWB) Variables

In this section, the estimated winning bid (EWB) equation variables are described in the order that they appear in the applicable EWB equation(s) required to be used as described in Section 4.3. Note that components of an applicable, associated EWB variable are marked with an asterisk (*). For example the component CPI is associated with the variable CPIF.

CPIF	CPI divided by 148.0
*CPI	Monthly BC Consumer Price Index as published in the approved stumpage appraisal parameters.
ALP	Average coniferous log selling price estimate expressed in $\$/m^3$. This is based upon a consideration of log grades and species for the cutting authority area, and subject to Section 4.2.1 the schedules of export-adjusted log market values for those cutting authorities that are collected and published by the Timber Pricing Branch.
CEDLBRAMV	Cedar Lumber AMV as published in the approved stumpage appraisal parameters.
CEDAR	The fraction of the coniferous cruise volume that is cedar. CEDAR is in decimal form, rounded to 2 decimal places.
FIRLBRAMV	Fir Lumber AMV as published in the approved stumpage appraisal parameters.
FIR	The fraction of the coniferous cruise volume that is Douglas fir. FIR is in decimal form, rounded to 2 decimal places.
HEMLBRAMV	Hemlock Lumber AMV as published in the approved stumpage appraisal parameters.
HEMLOCK	The fraction of the coniferous cruise volume that is Western Hemlock. HEMLOCK is in decimal form, rounded to 2 decimal places.
CYPRESS	The fraction of the coniferous cruise volume that is cypress. CYPRESS is in decimal form, rounded to 2 decimal places.
SLOPE	The average side slope percentage for that part of the cutting authority area that will not be helicopter yarded.
HELI	The fraction of the total net cruise volume, including deciduous volume, of timber in a cutting authority area that must be helicopter yarded or yarded by skyline where logs are fully suspended more than 600 m in a straight line to the centre of the closest possible landing. This is calculated by dividing the total volume of timber that must be helicopter yarded or skyline yarded over 600 m by the total net cruise

	volume of the cutting authority area. HELI is in decimal form, rounded to 2 decimal places.
HELILAND	The fraction of HELI that is not water dropped.
HELIWATER	The fraction of HELI that is water dropped.
VPH	[(1 – HS) * NHSVPH] + [HS * 260]. VPH is expressed in m^3/ha and is rounded to 2 decimal places.
*HS	The fraction of the total net cruise volume, including deciduous volume, of timber in a cutting authority area that will be harvested by a helicopter selection method. HS is in decimal form, rounded to 2 decimal places.
*NHSVPH	Non-helicopter selection volume per hectare is the cruise volume of coniferous timber per hectare for that part of the cutting authority area that will not be harvested by a helicopter selection method. NHSVPH is expressed in m3/ha and is rounded to 2 decimal places.
LOCATION	The net cruise volume weighted average straight line distance based on a BC Albers projection measured in kilometres between the geographic centre of each cutblock of a cutting authority area and the BC Albers Coordinate listed in Table 4-1 (which lists the major centres) that is closest to that part of the cutting authority area.
DFIR2G	If selling price zone in the appraisal data submission is 52, then DFIR 2G is the fraction of the coniferous cruise volume that is Douglas-fir. If the selling price zone is not 52, then DFIR 2G = 0. DFIR2G is in decimal form, rounded to 2 decimal places.
GAMBDIST400	Where GAMBDIST is equal to 400 or greater GAMBDIST400 = 1, otherwise GAMBDIST400 = 0
*GAMBDIST	POA distance is the average straight line distance based on a BC Albers projection, weighted by net cruise volume, between the geographic centre of each cutblock in the cutting authority area and Gambier Island. GAMBDIST is measured and rounded to the nearest kilometre. The Gambier Island BC Albers coordinate is northing 499,955 and easting 1,185,166

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CRUISE	If cruise is used as source of log grades for the appraisal for greater than 50 percent of the total net cruise volume, then CRUISE = 1, otherwise CRUISE = 0
ISOLATED	As applicable, an isolated cutting authority area or individual cut block(s) is one where all parts of the cutting authority area or individual cut block(s) are not connected, or the service landings used to support the yarding of timber from a cutting authority area or individual cut block(s) by helicopter are not connected, by a road suitable for motor vehicles to the centre of the nearest community. The nearest community must be a city, district municipality, town or village and must have retail food and gasoline services located nearby. This includes all communities serviced by public ferry. ISOLATED will be the fraction that results from dividing the net cruise volume of the individual cut block(s) that is/are ISOLATED, by the net cruise volume of the cutting authority.
LUMPSUM	If the cutting authority is a cruise based competitive timber sale with a stand-as-a-whole rate, then LUMPSUM = 1, otherwise LUMPSUM = 0
EXPORTSHARE	Rolling 12-month average of non-BCTS export volume divided by the total exportable non-BCTS harvest volume, as published in the approved stumpage appraisal parameters.
*CEDARCYPRESS	The fraction of the coniferous cruise volume that is cedar and cypress. CEDARCYPRESS is in decimal form, rounded to 2 decimal places.
TOTALHARVEST	Rolling 12-month total Coast harvest volume, as published in the approved stumpage appraisal parameters.
VOL	That part of the total net cruise volume in the cutting authority area that is coniferous timber except that where the cutting authority is a timber licence or is issued under a licence with an AAC greater than 10 000 m^3, then VOL = 34,300. VOL is expressed in m^3, rounded to the nearest whole number.
DISTAVGNBID	The average number of bidders for the forest district within which the cutting authority area is located is listed in Table 4-2.

Table 4-1: BC Albers Coordinates

BC Albers		At or Near	Code
Northing	**Easting**		
555,923	1,053,751	Campbell River	CARV
471,591	1,297,829	Chilliwack	CHWK
1,042,589	957,885	Houston	HOUS
580,589	1,373,908	Merritt	MERR
463,314	1,149,638	Nanaimo	NANA
1,041,636	719,914	Prince Rupert	PRRU
1,060,362	832,121	Terrace	TERR
+476,584	1,211,198	Vancouver	VANC
381,554	1,196,533	Victoria	VICT

Table 4-2: Average Number of Bidders by Forest District

Forest District	Average Number of Bidders
Campbell River Forest District	5.45
Chilliwack Forest District	3.33
Coast Mountain (North Coast) Forest District	1.67
Haida Gwaii Forest District	2.90
North Island - Central Coast Forest District	4.61
Sea to Sky (Squamish) Forest District	3.20
South Island Forest District	5.07
Sunshine Coast Forest District	4.12

4.2.1 Log Selling Prices

1. The Timber Pricing Branch shall:

    a. Compile invoiced free on board log market values using prime, domestic, arm's-length sales reported to the Timber Pricing Branch prior to sixty days before the stumpage rate adjustment date that have occurred in areas adjacent to:

        i. the Strait of Georgia;

        ii. the Strait of Juan de Fuca;

        iii. Alberni Inlet east of a line drawn south from Amphitrite Point;

        iv. Quatsino Sound;

        v. Johnstone Strait; the Queen Charlotte Strait south of a line drawn west from Cape Caution; and

        vi. Fraser River west of Hope.

    b. Subject to subsections 1(c), 1(d) and 2 of this section compile schedules of average domestic and average export-adjusted log market values by species and log grade using sales data for each one-month reporting period. The data shall be summarized into three-month schedules of average domestic and average export-adjusted log market values by species and log grade for old growth timber and for second growth timber stumpage rate determinations. These schedules can be found at:

        http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/coast-appraisal-parameters

    c. Appraisals or reappraisals effective prior to March 1, 2016, and on or after December 15, 2017, shall use the average domestic log market schedules referred to in subsection 1(b), unless othwerise specified in Section 3.6.

    d. Appraisals or reappraisals effective on or after March 1, 2016 and before December 15, 2017, shall use the average export-adjusted log market schedules referred to in subsection 1(b), unless otherwise specified in Section 3.6.

2. The volumes and prices of alder, birch, cottonwood and maple shall not be included in the schedules of average domestic and average export-adjusted log market values.

3. The director shall approve schedules of average domestic and average export-adjusted log market values for use in stumpage appraisals, reappraisals and quarterly adjustments.

4.2.1.1 Coniferous Timber

1. The volume of old growth coniferous timber and the volume of second growth coniferous timber in a cutting authority area will each be compiled from the timber cruise of the cutting authority area on a tree by tree basis.

2. Where the volume of second growth coniferous timber in a cutting authority area is at least eighty percent of the volume of all of the coniferous timber in that cutting authority area, the cutting authority area will be appraised and reappraised as if all of the coniferous timber in that cutting authority area were second growth coniferous timber.

4.2.2 Log Grade Percentages

Log grade percentages are obtained for each species of timber in each cutting authority area being appraised or reappraised as described in Section 4.2.2.1, 4.2.2.2, 4.2.2.3, 4.2.2.3.1, 4.2.2.3.2 and 4.2.2.4.

4.2.2.1 Billing History Record

1. Except as provided in sections 4.2.2.2 (5) and 4.2.2.4, the billing history record that will be used in an appraisal or reappraisal of a cutting authority area will be determined using either Table 4-3 or Table 4-4 as may be required by this manual.

2. The date of issue of a stumpage invoice shall determine the period for which the log scale data in that invoice will be included in a billing history record.

3. Except as provided in sections 4.2.2.3.1(8), 4.2.2.3.2(8) and 4.2.2.3.2(11), the billing history record shall be for a period of two years.

Table 4-3: Billing History Record

Column 1 Date of Appraisal or Reappraisal	Column 2 Billing History Record Ends on the Preceding
January 1 to March 31	November 30
April 1 to June 30	February 28/29
July 1 to September 30	May 31
October 1 to December 31	August 31

4. Except as provided in subsection (6) of this section, where the effective date of the appraisal or reappraisal falls within the period of the year listed in Column 1 of Table 4-3, the two-year billing history record shall be for the two-year period ending on the corresponding date in Column 2 of Table 4-3 which immediately precedes the effective date of the appraisal or reappraisal.

5. Where the log grade percentages must be determined in accordance with Section 4.2.2.3.1(8), 4.2.2.3.2(8) or 4.2.2.3.2(11) and the effective date of an appraisal or reappraisal falls within the period of the year listed in Column 1 of Table 4-3, the five-year billing history record shall be for the five-year period ending on the corresponding date in Column 2 of Table 4-3 which immediately precedes the effective date of the appraisal or reappraisal.

6. Where the log grade percentages must be determined in accordance with Section 4.2.2.2(6) and where the effective date of the appraisal or reappraisal falls within the period of the year listed in Column 1 of Table 4-4, the two-year billing history record shall be for the two-year period ending on the corresponding date in Column 2 of Table 4-4 which immediately precedes the effective date of the appraisal or reappraisal.

Table 4-4: Billing History Record Dates

Column 1 Date of Appraisal or Reappraisal	Column 2 Billing History Record Ends on the Preceding
January 1 to 31	November 30
February 1 to 28/29	December 31
March 1 to 31	January 31
April 1 to 30	February 28/29
May 1 to 31	March 31
June 1 to 30	April 30
July 1 to 31	May 31
August 1 to 31	June 30
September 1 to 30	July 31
October 1 to 31	August 31
November 1 to 30	September 30
December 1 to 31	October 31

4.2.2.2 Log Grade Percentage Criteria

The person who determines the stumpage rate will apply the following criteria when determining the log grade percentages to be used for the cutting authority area being appraised or reappraised:

1. The log grade percentage is the percentage by volume that a log grade is of the total net cruise volume for the species of timber being considered.

2. Except as provided in subsection (5) of this Section and Section 4.2.2.4, the log grade percentages for a species of timber are derived from the billing history record.

3. The source of log grade percentages may vary by species of timber.

4. a. Except as provided in paragraph (b) of this subsection, before a two year billing history record for a species of timber can be used in an appraisal or reappraisal, the volume of that species of timber in that two year billing history record must be at least 25 percent of the net cruise volume of that species in

the cutting authority area being appraised or reappraised, or 2 000 m^3, whichever is greater.

b. Where the cutting authority area being appraised or reappraised is outside of a tree farm licence area and has been authorized for harvest under a cutting authority issued under a timber licence, then before a two-year billing history record for a species of timber can be used in an appraisal or reappraisal the volume of that species of timber in the two-year billing history record must be at least 25 percent or 2 000 m^3 for each species of timber that comprises at least 20 percent of the cutting authority area's total net cruise volume.

5. The log grade percentages for each species of timber will be derived from the cruise compilation when:

   a. at least eighty percent of the timber in a cutting authority area being appraised or reappraised is second growth coniferous timber, or

   b. the cutting authority area has been authorized for harvest under:

      i. a cutting permit entered into with a timber sales manager,

      ii. a licence that is entered into with a timber sales manager,

      iii. a cutting permit issued under a replaceable timber sale licence,

      iv. a woodlot licence that does not have its stumpage rates determined under Section 7.2(1).

6. Where the cutting authority area is not a cutting authority area referred to in subsection (5)(b) of this Section and the timber in the cutting authority area has been authorized for harvest under:

   a. a cutting authority issued under a licence awarded under Section 47.3 of the *Act*,

   b. a forestry licence to cut with cutting permits, or

   c. a cutting authority issued under a woodland licence awarded under section

43.54 of the *Act*,

the log grade percentages for each species of timber will be derived from,

d. the two year billing history record of all cutting authority areas of the licence authorizing harvest, if the two-year billing history record for that cutting authority includes at least 25 percent of the cutting authorities' net cruise volume of that species or 2 000 m^3, whichever is greater, or

e. where there is no such billing history record, the person determining the stumpage rate will proceed to:

   i. Section 4.2.2.3.1(6) if the cutting authority area is within the boundaries of a tree farm licence, or

   ii. Section 4.2.2.3.2(9) if the cutting authority area is within the boundaries of timber supply area.

7. Where:

   a. a forest licence or a tree farm licence is subdivided under Section 19 or 39 of the *Act* (the "subdivided licence"), and

   b. the licences resulting from the subdivision are held by:

      i. the same licensee that held the subdivided licence prior to the subdivision (the "original licensee"),

      ii. a licensee legally associated to the original licensee, or

      iii. severally, a combination of licensees comprising, the original licensee and/or one or more licensees legally associated to the original licensee,

   for the purposes of Section 4.2.2.3.1 or 4.2.2.3.2, the billing history record for each of the licences resulting from the subdivision will be the two-year history from the common pool of:

   c. the records for the subdivided licence, and

   d. all the records for the licences resulting from the subdivision,

   for so long as condition (b) continues to exist.

8. Where:

   a. two are more forest licences are consolidated under Section 19 of the *Act* or two or more tree farm licences are consolidated under Section 39 of the *Act* (the "consolidated licences"), and

   b. the licence resulting from the consolidation is held by:

i. the same licensee that prior to the consolidation held one or more of the consolidated licensees (the "original licensee"), or

ii. a licensee legally associated to the original licensee,

for the purposes of Section 4.2.2.3.1 or 4.2.2.3.2, the billing history record for the licence resulting from the consolidation will be the two-year history from the common pool of:

c. all the records for the consolidated licences, and

d. the records for the licence resulting from the consolidation,

for so long as condition (b) continues to exist.

4.2.2.3 Source of Log Grade Percentages for Each Cutting Authority Area

1. Except for those cutting authorities or cutting authority areas referred to in subsection 4.2.2.2(5), 4.2.2.2(6),4.2.2.2(7), and 4.2.2.2(8) the log grade percentages for each species of timber for the cutting authority area being appraised or reappraised will be determined in accordance with:

   a. Section 4.2.2.3.1, where the cutting authority area is entirely within the geographic boundaries of one tree farm licence, or

   b. Section 4.2.2.3.2, where the cutting authority area is entirely within the geographic boundaries of one timber supply area.

4.2.2.3.1 Log Grade Percentages for a Cutting Authority Area Within the Geographic Boundaries of a Tree Farm Licence

Where the cutting authority area being appraised or reappraised is entirely within the geographic boundaries of a single tree farm licence area, the log grade percentages for the cutting authority area will be determined in the following manner:

1. a. Where at least eighty percent of the timber in the cutting authority area is second growth coniferous timber, the log grade percentages for that cutting authority area will be determined in accordance with the requirements of subsection 4.2.2.2(5).

   b. Where at least eighty percent of the timber in the cutting authority area is not comprised of second growth coniferous timber, the person determining the stumpage rate will proceed to subsection 2 of this section.

2. a. Where the cutting authority area is the only cutting authority area in the cutting authority and is entirely within the geographic boundaries of a single timber licence, the person determining the stumpage rate will proceed to subsection 3 of this section.

   b. Where subsection 2 (a) of this section is not applicable, the person determining the stumpage rate will proceed to subsection 4 of this section.

3. a. Where the species being considered has a billing history record for cutting permits issued under the timber licence under which the cutting permit that authorizes harvesting on the cutting authority area being appraised or reappraised has been issued that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

   b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 4 of this section.

4. a. Where the species being considered has a billing history record derived from cutting permits issued under the tree farm licence or licence to cut and their associated road permits authorizing harvest in that part of the tree farm licence area that lies within the geographic boundaries of the forest district that contains the cutting authority area being appraised or reappraised and that billing history record meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

   b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (5) of this section.

5. a. Where the species being considered has a billing history record derived from cutting permits issued under the tree farm licence or licence to cut and their associated road permits authorizing harvest and that billing history meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the

source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (6) of this section.

6. a. Where the species being considered has a billing history record for cutting authority areas in that part of the tree farm licence area that lies within the geographic boundaries of the forest district that contains the cutting authority area being appraised or reappraised that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (7) of this section.

7. a. Where the species being considered has a billing history record for cutting authority areas in a tree farm licence area that contains the cutting authority area being appraised or reappraised that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection (8) of this section.

8. a. Where the species being considered has a five-year billing history for cutting authority areas in a tree farm licence area that contains the cutting authority area being appraised or reappraised, and that record includes at least 100 m^3 of scale for that species then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will use the log grade percentages for that species from the cruise compilation.

4.2.2.3.2 Log Grade Percentages for a Cutting Authority Area Within a Timber Supply Area

Where the cutting authority area being appraised or reappraised is entirely within the geographic boundaries of a single timber supply area, the log grade percentages for the cutting authority area will be determined in the following manner:

1. a. Where at least eighty percent of the timber in the cutting authority area is second growth coniferous timber, the log grade percentages for that cutting authority area will be determined in accordance with the requirements of subsection 4.2.2.2(5).

b. Where at least eighty percent of the timber in the cutting authority area is not second growth coniferous timber the person determining the stumpage rate will proceed to subsection 2 of this section.

2. a. Where the cutting authority area is entirely within the geographic boundaries of one or more timber licences, the person determining the stumpage rate will proceed to subsection 3 of this section.

   b. Where the cutting authority area is not entirely within the geographic boundaries of one or more timber licences, the person determining the stumpage rate will then proceed to subsection 4 of this section.

3. a. Where the cutting authority area being appraised or reappraised is authorized for harvest under a cutting permit issued under a timber licence, and the species being considered has a billing history record for cutting permits issued under that timber licence and any other timber licence with which that licence has been amalgamated and approved by the district manager that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

   b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 6 of this section.

4. a. Except for the Pacific timber supply area (44), where the cutting authority area in a timber supply block being appraised or reappraised is authorized for harvest under a cutting permit issued under either a forest licence or licence to cut, and the species being considered has a billing history record for cutting permits issued under the licence authorizing harvest in that same timber supply block and associated road permits, and that billing history record meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

   b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 5 of this section.

5. a. Where the cutting authority area in a timber supply area being appraised or reappraised is authorized for harvest under a cutting permit issued under either a forest licence or licence to cut, and the species being considered has a billing history record for the cutting permits issued under the licence authorizing harvest in that same timber supply area and associated road permits and that billing history record meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

   b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 6 of this section.

6. a. Where the cutting authority area is within the geographic boundaries of the Pacific timber supply area (44), the person determining the stumpage rate will proceed to subsection 7 of this section.

b. Where the cutting authority area is not within the geographic boundaries of the Pacific timber supply area (44), the person determining the stumpage rate will proceed to subsection 9 of this section.

7. a. Where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or licence to cut, and the species being considered has a billing history record for all cutting authority areas that have been authorized for harvest within the district in the Pacific timber supply area (44) that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 8 of this section.

8. a. Where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or a licence to cut, and the species being considered has a five-year billing history for cutting authority areas that have been authorized for harvest within the district in the Pacific timber supply area (44), and that record includes at least 100 m^3 of scale for that species then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will use the log grade percentages for that species from the cruise compilation.

9. a. Where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or licence to cut, or a First Nations woodland licence and the species being considered has a billing history record for all cutting authority areas that have been authorized for harvest in that timber supply block that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 10 of this section.

10. a. Except for the Pacific timber supply area (44), where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or licence to cut, or a First Nations woodland licence and the species being considered has a billing history record for all cutting authority areas that have been authorized for harvest in that timber supply area that meets the criteria of subsection 4.2.2.2(4), then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will proceed to subsection 11 of this section.

11. a. Except for the Pacific timber supply area (44), where the cutting authority area being appraised or reappraised is authorized for harvest under a licence to cut or under a cutting permit issued under either a forest licence, timber licence or a licence to cut, or a First Nations woodland licence and the species being considered has a five-year billing history for cutting authority areas in a timber supply area that contains the cutting authority area being appraised or reappraised, and that record includes at least 100 m^3 of scale for that species then that billing history record will be the source of the log grade percentages for that species.

b. Where there is no such billing history record, the person determining the stumpage rate will use the log grade percentages for that species from the cruise compilation.

4.2.2.4 Damaged Timber

Where the regional manager determines that timber in a cutting authority area is suddenly and severely damaged, then notwithstanding Section 4.2.2.1, 4.2.2.2, 4.2.2.3, 4.2.2.3.1 and 4.2.2.3.2 the log grade percentages for the cutting authority area being appraised or reappraised may be estimated from available site-specific information.

4.2.3 Stand Selling Price

1. The stand selling price shall be calculated in an appraisal or reappraisal by using the net cruise volumes and species selling prices of the following species of timber:

Balsam	Lodgepole Pine
Cedar	White Pine
Cypress	Sitka Spruce
Fir	Engelmann Spruce
Hemlock	

4.2.3.1 Stand Selling Price Calculation

1. Subject to subsection 2 of this section:

    a. a species grade value for a species of timber in a cutting authority area is the product of the percentage of that grade of that species as derived from Section 4.2.2 multiplied by the average log market value for that grade of that species of timber,

    b. a species selling price for a species of timber in a cutting authority area is the sum of all of the species grade values for that species of timber in the cutting authority area,

    c. the rounded species selling price is the species selling price for a species of timber in a cutting authority area rounded to the nearest cent,

    d. a species value is the product of the rounded species selling price multiplied by the species net cruise volume in the cutting authority area, and

    e. the stand selling price is the quotient of the sum of all of the species values in a cutting authority area divided by the total net cruise volume of all of the species in the cutting authority area.

2. For the purposes of determining a stand selling price for cutting authorities with an effective date:

    a. prior to October 1, 2017, in the Pemberton, Yale and Nahatlatch timber supply blocks only; or

    b. on or after October 1, 2017, in the Nahatlatch timber supply block only:

        i. all spruce is deemed to be Engelmann spruce, and

        ii. the hemlock and balsam species grade average log market values will be used to determine the species grade values for all spruce in the cutting authority area,

3. For the purposes of determining a stand selling price for cutting authorities with an effective date:

    a. prior to October 1, 2017, in the Pemberton, Yale and Nahatlatch timber supply blocks only; or

    b. on or after October 1, 2017, outside the Nahatlatch timber supply block only:

        i. Engelmann spruce is identified as the predominant spruce species in the cruise of the cutting authority area, or

        ii. the district manager determines that Engelmann spruce is the predominant spruce species in the cutting authority area,

    the hemlock and balsam species grade average log market values will be used to determine the species grade values of all spruce in the cutting authority area.

4. For the purposes of determining a stand selling price for a cutting authority area located on Cortes Island or on an Island between Vancouver Island and the British Columbia mainland west of a line drawn between Grief Point near Powell River and the Tsawwassen ferry terminal, and south of 50 degrees north latitude, the second growth Douglas-fir species grade average log market values will be used to calculate the species selling price for all Douglas-fir timber.

4.2.4 Haul Distance

1. Haul distance must be determined and reported on the appraisal data submission, and may contribute to the calculation of a stumpage rate as provided in Section 4.4.8.

2. The haul distance for a cutting authority area being appraised or reappraised shall be determined as follows:

    a. For each cutblock in the cutting authority area from which any timber may be removed by road from that cutblock:

        i. determine for that cutblock the point that is the closest point on a road to the geographical centre of the cutblock,

        ii. determine the shortest distance by road from the point on the road determined in subparagraph (i) of this paragraph to the appraisal log dumpfor that cutblock, measured in kilometres (km) and rounded to the nearest 0.1 km,

        iii. weight for that cutblock the distance determined in subparagraph (ii) of this paragraph by the net cruise volume of timber on the cutblock.

    b. Determine the average weighted distance of all the cutblocks for which a weighted distance was determined in subparagraph (iii) of paragraph (a), rounded to the nearest 0.1 km.

    c. Haul distance (HD) is the average weighted distance calculated in paragraph (b) of this subsection plus the re-haul distance in the case of inland water transportation as described in Section 4.4.2.

    d. Where a re-haul is required for inland water transportation, the appraisal log dump is the final log dump at the end of the re-haul.

4.2.5 Log Transportation

4.2.5.1 Point of Appraisal

1. The Point of Appraisal is Gambier Island.

4.2.5.2 Appraisal Log Dump

1. Except for those appraisal log dumps in Appendix VI that are listed in more than one district, for subsections 2, 3, 4 a) and 4 b) below, the appraisal log dump must be located in the same forest district as the cutting authority area.

2. Except as provided in subsection 3 of this section, where any timber may be removed from any part of a cutblock by road, the appraisal log dump for that cutblock that must be used in the appraisal or reappraisal of the cutting authority area is the closest location by road listed in Appendix VI to that cutblock.

3. Where any timber may be removed from any part of a cutblock by road, and a log dump exists or will exist during the removal of the timber from the cutblock at a location that is closer to the cutblock than any location listed in Appendix VI, then that log dump location is the appraisal log dump for that cutblock that must be used in the appraisal or reappraisal of the cutting authority area.

4. a. When no timber may be removed from any part of a cutblock by road, and except as provided in paragraph (b) of this subsection, the appraisal log dump for that cutblock that must be used in the appraisal or reappraisal of a cutting authority area is the closest location to that cutblock listed in Appendix VI to which logs may be yarded by helicopter or A-frame and placed in water.

   b. If a location to which timber will be yarded by helicopter or A-frame from the cutblock and placed in water is closer to the cutblock than any location listed in Appendix VI, then that location must be used as the appraisal log dump for that cutblock in the appraisal or reappraisal of the cutting authority area.

4.2.5.3 Points of Origin Areas

1. Table 4-5 lists the points of origin areas that are delineated in the Points of Origin Areas map approved by the Director and is available at the following website:

   https://www.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/coast-timber-pricing/points-of-origin

2. The point of origin area must be reported in the appraisal data submission.

Table 4-5 Points of Origin

Point of Origin Area	Code
Barkley-Clayoquot	BKCL
Bute Inlet	BUTE
Chilliwack-Silverhope	CHSH
Courtenay-Comox	COCO
Dewdney	DEWD
Drury-Seymour	DRSE
Esperanza	ESPE
Gilford-Knight	GKIN
Graham Island	GRIS
Harrison	HARR
Jervis-Sechelt	JEIS
Juan de Fuca	JUDF
Kelsey-Adam	KEAD
Kokish	KOKI
Lower Mainland	LOMD
Menzies-Sayward Forest	MESF
Mid-Coast	MIDC
Nahatlatch	NAHT
Nootka Sound	NOSO
North Coast	NTHC
Pitt Meadows	PIME
Port McNeill-Hardy	POMH
Quatsino Sound	QUSO
Sloquet	SLOQ
Southeast Vancouver Island	SEVI
Sproat Lake	SPLK
Squamish-Pemberton	SQPM
Sunshine Coast	SUCO
Thurlow	THUR

4.3 Estimated Winning Bid (EWB) Equation

1. In this section, the equation that must be used in the calculation of the estimated winning bid (EWB) is determined as follows:

    a. For cutting authorities entered into under Section 20 of the Act (BCTS), use the equation specified in Section 4.3.1;

    b. For non-BCTS cutting authorities, use the equation specified in:

        i. Section 4.3.1 where Loss Factor cruise information will be used; or

        ii. Section 4.3.2 where Call Grade Net Factor cruise information[2] will be used

    for appraisal purposes.

2. The EWB shall be rounded to 2 decimal places.

3. Where the calculated EWB is less than $0.25, the EWB shall be $0.25.

[2]Applies to cruise based cutting authorities outside of GBRN only.

4.3.1 EWB – Loss Factor Based

EWB ($/m^3) = CPIF * [-79.03

+ 0.9532 (ALP/CPIF)

+ 0.03526 ((CEDLBRAMV/CPIF)*CEDAR)

+ 0.01660 ((FIRLBRAMV/CPIF)*FIR)

+ 0.02055 ((HEMLBRAMV/CPIF)*HEMLOCK)

+ 40.98 (CYPRESS)

– 0.3111 (SLOPE(1-HELI))

– 54.17 (HELILAND*HELI)

– 36.80 (HELIWATER*HELI)

+ 21.13 (VPH/1000)

– 0.1006 (LOCATION)

+ 11.15 (DFIR2G)

– 7.626 (GAMBDIST400)

+ 9.747 (CRUISE)

– 9.909 (ISOLATED)

–5.937 (LUMPSUM)

+ 43.79 (EXPORTSHARE)*(1-CEDARCYPRESS)

+ 0.2834 (TOTALHARVEST)

+ 0.8790 (Ln(VOL/1000))

+ 2.389 (DISTAVGNBID)]

Note: Ln = natural logarithm

4.3.2 EWB – Call Grade Net Factor Based

EWB ($/m3) = CPIF * [-54.08

+ 0.6318 (ALP/CPIF)

+0.05167 ((CEDLBRAMV/CPIF)*CEDAR)

+0.04205 ((FIRLBRAMV/CPIF)*FIR)

+ 0.02800 ((HEMLBRAMV/CPIF)*HEMLOCK)

+ 20.74 (CYPRESS)

– 0.4195 (SLOPE(1-HELI))

–52.27 (HELILAND*HELI)

–43.66 (HELIWATER*HELI)

+31.20 (VPH/1000)

-0.08369 (LOCATION)

+11.63 (DFIR2G)

– 19.01 (GAMBDIST400)

+ 1.538 (CRUISE)

– 10.78 (ISOLATED)

-7.515 (LUMPSUM)

+45.60 (EXPORTSHARE)*(1-CEDARCYPRESS)

+0.6319 (Ln(VOL/1000))

+2.011 (DISTAVGNBID)]

Note: Ln = natural logarithm

4.4 Specified Operations

1. The specified operations in sections 4.4.1 to 4.4.7 may be considered in an appraisal or a reappraisal.

4.4.1 Skyline

1. A skyline adjustment expressed in $/m^3 may be calculated for those areas within a cutblock that:

   a. are 600 metres or greater measured in a straight line horizontal distance from the centre of the closest possible landing or place where a landing may be located, and

   b. are yarded by skyline.

2. The skyline adjustment may be calculated by adding the volume of timber to which the skyline may apply to the volume of timber to be helicopter yarded as prescribed in Section 4.2.

4.4.2 Inland Water Transportation

1. An inland water transportation adjustment will be determined for that part of the cutting authority area where timber must be towed on Great Central, Owikeno or Powell Lake or any other inland water authorized by the person that determines the stumpage rate in order for the timber to be transported to the point of appraisal.

2. The adjustment shall be $8.21 per cubic metre.

4.4.3 Clayoquot Sound Operating Costs

1. The Clayoquot Sound operation adjustment may be considered in the appraisal of a cutting authority that lies within that part of the Coast Area when the licensee has an approved forest stewardship plan which conforms with the land use objectives made applicable under the order by the Ministry of Agriculture and Lands pursuant to Section 93.4(1) of the *Land Act* entitled:

   a. Order Establishing Land Use Objectives for Clayoquot Sound, dated May 28, 2008.

2. A Clayoquot Sound Operation adjustment will be determined based on the following criteria. For an appraisal or a reappraisal of a cutting authority area that is:

   a. located entirely within the Clayoquot Sound area, the adjustment shall be $8.47/m^3; or
   b. not located entirely within the Clayoquot Sound area, the adjustment shall be the product of

i. $8.47/$m^3$ multiplied by

ii. the fraction that results from dividing the net cruise volume portion of the cutting authority located within the Clayoquot Sound area by the net cruise volume of the entire cutting authority.

3. In the case of paragraph (b) above, the licensee must provide the prorated Clayoquot operating cost calculation in the appraisal data submission.

4.4.4 Tree Crown Modification

1. Where the protection of trees is deemed necessary by a forest professional to achieve forest management objectives, a tree crown modification adjustment may be considered in the appraisal or reappraisal.

2. For the purposes of subsection (1), tree crown modification means the removal of 25% to 50% of the tree crown of standing trees by spiral pruning or tree topping.

3. The adjustment is the sum of the costs for all of the trees that are modified divided by the total net cruise volume of the cutting authority area.

4. The area requiring tree crown modification must be shown or described on the appraisal map and the calculations in support of the appraisal submission must be available for inspection upon request by the district manager.

5. The gross number of potential stems per hectare to treat will be based on the cruise stand table for the timber type that the treatment area is located within or is adjacent to. The potential stems exclude dead and deciduous trees.

6. The rate for tree crown modification:

   a. for each old growth coniferous tree that is modified is $38.22, and

   b. for each second growth coniferous tree that is modified is $17.26.

4.4.5 Ecosystem Based Management Operating Costs

1. Except as provided in subsection (2) of this section, the ecosystem based management adjustment may be considered in the appraisal of a cutting authority area that lies within that part of the Coast Area when the licensee has an approved forest stewardship plan which conforms with the objectives listed under the Land Use Order to which land use objectives have been made applicable by orders made by the Minister, pursuant to Section 93.4 of the *Land Act* entitled:

   a. Great Bear Rainforest Order, dated January 21, 2016; and

   b. Haida Gwaii Land Use Objectives Order, dated December 16, 2010, and as further

amended pursuant to the *Haida Gwaii Reconciliation Act* and the *Haida Stewardship Law*, on April 2, 2014 and September 21, 2017.

2. The ecosystem based management adjustment shall not be considered in the appraisal or reappraisal of a cutting authority area that is authorized for harvest under:

   a. a woodlot licence referred to in Section 1(2); or

   b. a community forest agreement or the non-replaceable forest licences that are referred to in Section 1(3)

   of the Great Bear Rainforest Order.

3. The Ecosystem Based Management Operating Cost will be determined based on the following criteria. For an appraisal or a reappraisal of a cutting authority area that is:

   a. located wholly within that part of the Coast Area described in subsection (1) of this section, the adjustment shall be $6.67/m^3; or

   b. not located wholly within the Coast Area described in subsection (1) of this section, the adjustment shall be the product of:

      i. $6.67/m^3 multiplied by

      ii. the fraction that results from dividing the net cruise volume portion of the cutting authority located within the Coast Area described in subsection (1) above by the net cruise volume of the entire cutting authority.

4. In the case of paragraph (b) above, the licensee must provide the prorated Ecosystem Based Management Operating Cost calculation in the appraisal data submission.

4.4.6 Long Haul Cost

Where the haul distance (HD) determined under Section 4.2.4 is greater than 100 km, the long haul cost specified operations estimate (LHC) is calculated as follows:

LHC ($/m^3) = (HD – 100) * 0.16

If HD $\underline{<}$100, LHC = 0

4.4.7 High Development Cost

For BCTS timber sale licences only, where the development cost estimate determined under Chapter 5, is greater than $14.99/m^3, the high development cost specified operations estimate (HDC) is calculated as follows:

HDC $/m^3 = DC – 9.00

If DC <=14.99, HDC = 0

4.5 Final Estimated Winning Bid

1. Subject to subsection 3 of this section the Final Estimated Winning Bid (FEWB) is the difference between the estimated winning bid and the total of the specified operations adjustments that are applicable to the appraisal or reappraisal of the cutting authority.

2. Expressed as an equation:

$$FEWB = EWB - SOA$$

Where:

EWB = The Estimated Winning Bid determined under Section 4.3.

SOA = The sum of specified operations adjustments in an appraisal or a reappraisal of a cutting authority area as may be calculated under sections 4.4.1 through 4.4.9 and expressed in $\$/m^3$.

3. Where the FEWB calculated is less than $\$0.25/m^3$, then the FEWB shall be $\$0.25/m^3$.

5 Tenure Obligation Adjustments

5.1 Tenure Obligation Adjustment

1. Except where a cutting authority area is the area authorized for harvest under a timber sale licence entered into under Section 20 of the *Act* and subject to subsection 2 of this section, the kinds of costs that may be used in the calculation of a tenure obligation adjustment in the appraisal or reappraisal of a cutting authority area are:

    a. the forest planning and administration costs,

    b. the road development costs,

    c. the road management costs,

    d. the road use charges,

    e. the basic silviculture costs, and

    f. the low volume cost.

2. All estimated and or incurred project costs, as applicable, for: development, harvesting, transportation or other tenure obligations costs funded by FESBC are excluded (or "backed out") from the appraisal or reappraisal of a cutting authority area.

3. A cost may only be used in the appraisal or reappraisal of a cutting authority area if:

    a. except for the low volume cost, the holder of the cutting authority authorizing harvesting on the cutting authority area will incur that kind of cost:

        i. when exercising an authority or carrying out an obligation under the cutting authority, or

        ii. subject to Section 5.3, when carrying out an activity on a road when acting under the authority of the Crown, a road permit holder, a road use permit holder, or a private road owner, or

    b. in the case of a low volume cost, where that cost may be calculated under Section 5.2.1 of this manual.

4. The tenure obligation adjustment is calculated under Section 5.10.

5.2 Forest Planning and Administration Cost

1. Forest planning and administration costs are those costs directly related to supervision and administration required to manage the public forest on behalf of the province. They are the costs that the long-term licensee bears, but that a market logger does not.

   The forest planning and administration costs do not include business related or discretionary costs such as certain legal fees, corporate aircraft, stumpage, directors fees and expenses, sales expenses, restructuring costs, etc., unless portions of these costs are directly attributable to the management of the forest.

2. The total forest planning and administration cost is $13.51/$m^3$.

5.2.1 Low Volume Cost

1. A low volume cost of $8.89/$m^3$ may be included in the tenure obligation adjustment where:

   a. the cutting authority area being appraised or reappraised is the subject of cutting authority issued under either a licence or its parent licence prior to subdivision that provides for an allowable annual cut of not more than 10,000 m^3 of Crown timber, and

   b. the total net cruise volume of the cutting authority area is not more than 10,000 m^3.

5.3 Road Development Cost

1. Except as provided in Section 5.3.2, where a road development provides access to Crown timber a road development cost may be estimated for new road construction, and road reconstruction.

2. a. except as provided in subsections (2)(b) and (2)(c) of this section the total net cruise volume is used to calculate the unit cost for new road construction and road reconstruction in an appraisal or reappraisal of a cutting authority area.

   b. where a road development project was not taken into consideration in a prior appraisal or reappraisal of the cutting authority area, the remaining volume shall be used to calculate the road development unit cost for that project in the reappraisal of the cutting authority area.

   c. where the reappraisal is because of sudden and severe damage the road development cost is calculated as follows:

      i. the road construction project costs prior to the sudden and severe damage reappraisal are totalled,

      ii. the sum of those project costs is the total project cost,

      iii. from the total project cost calculated in subsection 2(c)(i) of this section is subtracted the product of the total project cost multiplied by the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal, divided by the total net cruise volume of the cutting authority area,

      iv. the difference calculated in subsection (2)(c)(iii) of this section is then divided by the sum of the remaining volume plus the volume of timber that was suddenly and severely damaged,

      v. the calculation of the road development cost expressed as an algorithm is:

$$\text{Road Development Cost} = \frac{\text{total project cost} - (\text{total project costs x volume in the billing history record}) / \text{total net cruise volume}}{\text{remaining volume} + \textit{volume suddenly and severely damaged}}$$

3. Except as further provided for in this manual the road development cost for a road development may only be used in the appraisal or reappraisal of a tributary cutting authority area.

4. A road development cost may be distributed in accordance with Section 5.3.2.2.

5.3.1 Road Development Cost Proration

1. The provisions of this section apply to each of the road development categories described in sections 5.3.1.1 and 5.3.1.2.

2. Where a road development cost estimate must be prorated under this section, only the Crown share of the road development cost estimate may be used in the appraisal or reappraisal of the cutting authority area.

3. a. where road development on Crown land provides access to both Crown timber and timber that is not Crown timber held by the licensee, or a company legally associated with the licensee then the development cost is prorated between Crown timber and timber that is not Crown timber in accordance with subsection (6) of this section.

   b. where road development on private land provides access to both Crown timber and timber that is not Crown timber, then the development cost is prorated between Crown timber and timber that is not Crown timber in accordance with subsection (6) of this section.

4. Where a proration is required under subsections (3)(a) or (3)(b) of this section:

$$\text{Crown Share of total estimated cost} = \text{Total Estimated Cost x } \left[\frac{\text{Crown Timber Volume}}{\text{Total Timber Volume}}\right]$$

Where:

Crown share of total estimated cost	means the dollar amount to be used to determine a cost estimate for the appraisal or reappraisal of the cutting authority being appraised.
Total Estimated Cost	means the total road development cost estimate expressed in $.
Crown Timber Volume	means the volume of Crown timber that is under the control of the licensee or a company legally associated with the licensee that may be transported over that road.
Total Timber Volume	means the total volume of Crown and privately owned timber that is under the control of the licensee or a company legally associated with the licensee and that may be transported over that road.

5. In all cases, volumes are estimated from the latest approved operational or inventory cruise data and maps of the area within the drainage to the height of land.

6. Appendix III illustrates the proration process.

5.3.1.1 New Road Construction

1. New Road Construction includes only subgrade construction, placement of additional stabilizing material, bridges, the construction and installation of drainage structures, and other necessary types of structures pertaining to the road that the regional manager authorizes to be used in the appraisal or reappraisal of a cutting authority area.

2. New road construction costs:

    a. may only be used in the appraisal or reappraisal of a tributary cutting authority except cutting authorities where all of the timber on the cutting authority area has stumpage rates determined under Chapter 7.

    b. for the purposes of (a) above, road construction costs may only be used in an appraisal data submission for a tributary cutting authority with an effective date no later than five (5) years after completion of the new road construction.

3. Tabular road cost estimates:

    a. where the physical dimensions and conditions of the new road construction fall within the tabular limits set out in Section 5.3.3, a tabular cost estimate will be made using the applicable tables and formulas in this section of the manual.

    b. each road section cost estimate is determined using the appropriate tables in Section 5.3.3.

    c. the tabular road unit cost is the sum of the unit cost estimates of all of the road sections.

4. Non-tabular road cost estimates

    a. non-tabular cost estimates may be calculated in accordance with Section 5.3.4 for the following kinds of new road construction:

        i. construction and upgrading of main access roads,

        ii. road construction on uphill side slopes that are over 150 percent,

        iii. road construction on terrain with two or more gullies over 10 m deep at centreline in a 300 m section,

        iv. end haul construction requiring removal of excavated material to a spoil area,

        v. overland construction to provide a roadbed by trucking in material for extensive fill sections,

vi. switchbacks with over 10 000 m^3 excavation volume to complete the designed grade percent and horizontal alignment,

vii. bank height road sections with rock faces exceeding 7.50 metres in vertical height, and

viii. projects approved by the regional manager.

b. the non-tabular road unit cost is the sum of the non-tabular road unit cost estimates.

5. Bridge Cost Estimates

a. except where a bridge cost estimate cannot be calculated using Table 5-2 or 5-3 each bridge cost estimate must be determined using the appropriate table.

b. where the bridge cost estimate cannot be made using one of the appropriate tables, a non-tabular bridge cost estimate may be calculated under Section 5.3.4.

c. where bridge materials are reused by the original purchaser at a different site, the bridge cost estimate may include the cost of dismantling the materials at the site where they were previously used, and transportation to and installation at the different site, but may not include the initial materials cost and delivery costs.

d. where used bridge materials are purchased by the licensee from a legally non-associated party, only the lowest possible cost of purchasing and shipping those materials may be included in the bridge cost estimate.

e. the bridge unit cost is the sum of the bridge unit cost estimates for all of the bridges.

6. Culvert Cost Estimates

a. except where a culvert cost estimate cannot be calculated using Table 5-4, each culvert cost estimate must be determined using that table.

b. where the culvert cost estimate cannot be made using Table 5-4 the non-tabular culvert cost estimate may be calculated under Section 5.3.4.

c. the culvert unit cost is the sum of the culvert unit cost estimates for all of the culverts.

7. The total of the unit costs for tabular roads, non-tabular roads, bridges and culverts is the total new road construction unit cost.

5.3.1.2 Road Reconstruction

1. Road reconstruction is the:

    a. replacement of a bridge,

    b. major structural repair of a bridge,

    c. redecking of an entire bridge,

    d. reconstruction of a road,

    e. resurfacing of a road required because of extensive wear and tear, with a minimum loose depth of 0.1 m over a continuous length of 0.5 km or greater, or

    f. replacement of a pipe culvert on non-active roads,

    g. additional resurfacing, required because the road having been permanently deactivated, or a water or slope failure event.

2. A road reconstruction cost estimate may only be used in an appraisal or reappraisal of a cutting authority area when the district manager authorizes the use of that estimate in that appraisal or reappraisal.

3. A road reconstruction cost estimate must be made in accordance with Section 5.3.4.

4. Where road reconstruction projects are associated because of one natural event the reconstruction projects should be grouped into one project cost estimate using a non-tabular cost form.

5. That part of the cost to replace or repair a bridge on a forest service road that is paid for by the Crown, may not be considered in any appraisal or reappraisal.

6. The reconstruction cost estimate of a project may be used in the appraisal or reappraisal of one existing or proposed tributary cutting authority area. The licensee must identify that cutting authority area when the reconstruction cost estimate is submitted in the appraisal data submission.

7. Where bridge materials are reused by the original purchaser at a different site, the bridge reconstruction cost estimate may include the cost of dismantling the materials at the site where they were previously used, and transportation to and installation at the different site, but may not include the initial materials cost and delivery costs.

8. Where used bridge materials are purchased by the licensee from a legally non-associated party, only the lowest possible cost of purchasing and shipping those materials may be included in the bridge reconstruction cost estimate.

9. The total road reconstruction unit cost is the sum of all of the road reconstruction unit cost estimates for all of the reconstruction projects.

5.3.1.3 Total Road Development Cost

1. The total road development cost is the sum of the total new road construction unit cost plus the total road reconstruction unit cost.

5.3.2 Existing Roads

1. The following roads may not be considered in the appraisal or reappraisal of a cutting authority area:

   a. a constructed road that has been previously included in an appraisal or reappraisal of another cutting authority area,

   b. a road previously constructed to access private timber, or

   c. a road previously constructed in whole or in part for a purpose unrelated to the harvesting of timber on the cutting authority area being appraised or reappraised.

5.3.2.1 Extended Road Amortization

1. For extended road amortization agreements approved prior to April 1, 2018, use the manual in effect as of March 31, 2018.
2. All first and tributary cutting authorities identified in an extended road amortization agreement referred to in subsection (1) above will be appraised using the effective date of the cutting authority(s).

5.3.2.2 Development Distribution

1. For the purposes of this section:

   a. "authorized project" means a project that the person who determines the stumpage rate has accepted as consistent with this manual; and

   b. "same licensee" means the same licensee in all cases.

2. Where the development cost estimate in an appraisal of a cutting authority (the "first cutting authority")

   a. includes development costs for an authorized project that the licensee requires to be distributed to one or more cutting authority areas within the same point of origin area, and

   b. exceeds $4.00/m³ exclusive of development costs apportioned to the first cutting authority under any prior agreement under this section or under section 5.3.2.1, then

   c. the regional executive director may enter into a written agreement with the licensee authorizing distribution of a portion of the development cost estimate, exclusive of previously distributed costs as specified in paragraph (b) of this subsection, to one or more cutting authorities that may be issued under one or

more licences that are each held exclusively and entirely by the same licensee.

3. An agreement under subsection (2) is subject to the following conditions:

   a. The amount to be distributed in the agreement may not be revised to take into account new information submitted by the licensee about the development, unless pursuant to an amendment to the agreement necessitated by a changed circumstance reappraisal as authorized under paragraph (f) of this section.

   b. The amount to be distributed in the agreement may, at the discretion of the licensee, be used in an appraisal or reappraisal of a cutting authority(s) referred to in subsection (2)(c).

   c. At the time of appraisal or reappraisal referred to in subsection (3)(b), the licensee must report in a summary format within the appraisal data submission information that includes the:

      i. original amount identified in the agreement;

      ii. amount used in the appraisal or reappraisal; and

      iii. amount remaining in the agreement.

   d. The agreement is entered into only for the purposes of determining a stumpage rate and confers no obligation on the Crown to compensate the licensee for any undistributed costs.

   e. The agreement must be signed by the licensee and the regional executive director, and must not be for a term, including extensions, longer than ten years unless otherwise approved by the regional executive director.

   f. In the event of a changed circumstance reappraisal of the first cutting authority, the amount specified in the agreement must be amended to reflect the new total amount of the development cost estimate to be distributed as determined in the changed circumstance reappraisal, and is to be used only for those cutting authorities that have not yet been issued as of the submission date of the changed circumstance reappraisal.

   g. Development project costs used in the FESBC economic test (to assess FESBC funding eligibility) for a cutting authority or funded under FESBC are not eligible for development distribution agreements and cannot be used by the licensee in an appraisal for another cutting authority.

4. The regional executive director will not enter into any development distribution agreements for cutting permits issued under a woodlot licence with an effective date after November 30, 2008.

5.3.3 Tabular Cost Estimates

A tabular cost estimate must be calculated on the basis that the construction project will be completed using commonly used logging road construction practices and that the roads will have single lane width roads, turnouts and landings.

5.3.3.1 New Road Construction

1. New road construction cost estimate includes the cost of clearing and grubbing, stripping, stump removal, incidental log decking, ditch construction, landing and turnout construction.

2. The estimated cost per kilometre for new road construction is provided for:

    a. each combination of rock hardness and bank height category; and

    b. where and as applicable, is further adjusted by the estimated cost per kilometre add-on for each road located in the cutting authority area as follows, for:

        i. Isolation, as calculated in full or by fraction under the ISOLATED variable in Section 4.2; and or

        ii. Point of Origin Area of the cutting authority area,

        as detailed in Table 5-1.

3. New road section data is recorded using Appendix VII and the following criteria:

    a. road section lengths are measured along the road centreline and recorded to the nearest 0.001 km, and

    b. the bank height is measured at right angles to the road centreline from the road surface to the top of the rock face.

    c. road sections are measured over culverts (including wood culverts with a span length less than 4 m).

    d. total bridge deck length for permanent and portable bridges, and span length on log bridges, is excluded from a road section length.

    e. rock face height measurement on a through-cut section is taken from the highest side of the two road cuts.

4. If a tabular road section requires the trucking in of additional stabilizing material greater than 3.2 kilometres, use the non-tabular method to estimate the additional cost of trucking this distance.

5. Rock mass classification (RMC) is based on the physical characteristics of rock encountered in forest road development and is the subject of a report commissioned by the Forest Engineering Research Institute of Canada in 1978 and prepared by Piteau & Associates/Geotechnical Consultants. The text and tables in Appendix IV are based on this report and are used to determine the RMC-based factors required for road cost estimates.

6. Rock can be classified into five types referred to as rock mass classification (RMC) values and identified as RMC 1, 2, 3, 4 and 5. For the purpose of determining rock hardness, 'soft/medium' rock hardness category includes RMCs 1, 2, 3 and 4; 'hard' rock hardness category is equivalent to RMC 5.

7 The steps taken to determine RMC values and apply these to road development cost estimates are:

   a. examine and record surface hardness, weathering, and block diameter in the field,

   b. determine subsurface hardness from the table in Appendix IV with this title,

   c. determine RMC value from the table Appendix IV with this title, and apply selected RMC values to applicable tables and formulas for road cost estimates.

8. In all circumstances where a complete interpretation of the rock mass classification system is required, the Piteau & Associates report is to be consulted directly.

Table 5-1: Road Cost Estimates Expressed in Dollars per Kilometre of Road Length

Bank Height Category	Rock Face Height (m)	Cost Estimate per Kilometre ($/km)	
		Soft/Medium	**Hard**
OMLB	n/a	60,247	60,247
OMPR	n/a	76,801	76,801
OMRB	n/a	91,553	91,553
TOE	(up to 1.50)	91,553	91,553
MRK	(1.51 – 3.00)	117,477	117,477
HRK	(3.01 – 4.50)	153,456	153,456
XRK	(4.51 – 6.00)	168,887	168,887
XXRK	(6.01 – 7.50)	207,992	207,992
Add-on			
Isolated		+6,971	+6,971
DRSE, GKIN, GRIS, MIDC, or NTHC Point of Origin Areas		+5,915	+5,915

5.3.3.2 Bridges and Culverts

1. A cost estimate for a bridge or a culvert may only be made and used in the appraisal or reappraisal of a cutting authority area where its necessity is substantiated by field data.

2. Crib back-fills and all site preparation and bridge protection features are included, as well as material supply and erection. Except where noted below, no adjustment of table values is permitted.

3. Input data within table boundaries is rounded to fit; no interpolation of values is permitted.

5.3.3.2.1 Log Bridges

1. Cost estimates for log bridges are based on span lengths (distance between the centres of the top sill logs) and average crib height (distance from the bottom of the bottom sill log to the point where the stringer rests on the top sill log as measured along the centre line of the bridge) from Table 5-2. The average crib height is the numerical average of the crib heights on both banks of the water course.

2. Table 5-2 is used for estimating costs of all timber-decked and gravel surfaced log bridges with span lengths from 3.5 to 20.4 m and crib heights from single log to 5.4m.

Table 5-2: Log Bridge Cost Estimates Expressed in Thousands of Dollars

Span Length (m)	Single Log Sill	Multi-Log Crib Average Crib Height (m)			
	1	2	3	4	5
4	3.8	12.0	25.7	44.8	69.4
5	5.1	13.3	26.9	46.1	70.6
6	6.7	14.9	28.5	47.6	72.2
7	8.5	16.7	30.4	49.5	74.1
8	10.7	18.9	32.5	51.6	76.2
9	13.1	21.3	35.0	54.1	78.7
10	15.8	24.0	37.7	56.8	81.4
11	18.8	27.0	40.7	59.8	84.4
12	22.1	30.3	44.0	63.1	87.7
13	25.7	33.9	47.5	66.7	91.2
14	29.5	37.7	51.4	70.5	95.1
15	33.7	41.9	55.5	74.7	99.2
16	38.1	46.3	60.0	79.1	103.7
17	42.8	51.0	64.7	83.8	108.4
18	47.8	56.0	69.7	88.8	113.4
19	53.1	61.3	75.0	94.1	118.7
20	58.7	66.9	80.6	99.7	124.3

5.3.3.2.2 Permanent or Portable Bridges

1. Cost estimates for permanent or portable bridges, built of any material except logs and concrete (excluding abutments), are based on total span length and average abutment height (distance from the ground surface interface to the bottom contact point with the girders) from Table 5-3. Each bridge abutment must be measured at the mid-point, from the ground surface interface to the bottom contact point with the girders. Each measured abutment height is then added together and averaged to get a resultant abutment height.

2. Table 5-3 is used for estimating costs of permanent or portable bridges with span lengths from 2.0 to 25.4 m and abutment heights from 0 to 4.4 m.

3. Table 5-3 includes costs for supervision, design, site preparation, supply and installation, freight and haulage (excluding barging), and rip-rap to flood design. Barging costs are allowed as an add-on to the tabular cost estimate. If the barging of

bridge materials is done in conjunction with other equipment/materials, then the cost of barging the bridge material should be prorated by the licensee. This table covers any bridge with L60 to L165 load rating.

4. Table 5-3 does not apply to:

   a. multi-span bridges: A construction estimate form must be completed.

   b. pile driving: Where piles may be driven to depths of 13 m or more, a construction estimate form must be completed for the bridge construction.

   c. portable bridges that are reused (see Section 5.3.1).

   d. cost estimates for bridge sizes outside the table limits and pipe culverts greater than the aforementioned sizes require non-tabular cost estimates completed in accordance with Section 5.3.4.

   e. extra width bridges with one or more additional stringers and/or deck panels installed (i.e., exceeding 4.9 metres in total width between guardrails measured at mid-span).

Table 5-3: Permanent/Portable Bridge Cost Estimates Expressed in Thousands of Dollars

Span Length (meters)	Abutment Height (meters)				
	0	1	2	3	4
2	30.5	32.9	40.1	52.0	68.7
3	31.4	33.8	40.9	52.9	69.6
4	32.6	35.0	42.2	54.1	70.8
5	34.2	36.6	43.7	55.7	72.4
6	36.1	38.5	45.7	57.6	74.3
7	38.4	40.8	47.9	59.9	76.6
8	41.0	43.4	50.6	62.5	79.2
9	44.0	46.4	53.5	65.5	82.2
10	47.3	49.7	56.9	68.8	85.5
11	51.0	53.4	60.5	72.5	89.2
12	55.0	57.4	64.6	76.5	93.2
13	59.4	61.8	68.9	80.9	97.5
14	64.1	66.5	73.7	85.6	102.3
15	69.2	71.6	78.7	90.7	107.3
16	74.6	77.0	84.2	96.1	112.8
17	80.4	82.8	89.9	101.9	118.5
18	86.5	88.9	96.1	108.0	124.7
19	93.0	95.4	102.5	114.4	131.1
20	99.8	102.2	109.3	121.3	138.0
21	107.0	109.4	116.5	128.4	145.1
22	114.5	116.9	124.0	136.0	152.7
23	122.4	124.8	131.9	143.8	160.5
24	130.6	133.0	140.1	152.1	168.8
25	139.2	141.6	148.7	160.6	177.3

5.3.3.2.3 Culverts

1. All pipe culverts 0.3 m diameter to 1.8 m diameter are estimated using Table 5-4.
2. All wood culverts up to 3.4 m span length are estimated at $1,000.00 each.

Table 5-4 Culvert Cost Estimates

Diameter (m)	Cost per lineal metre	Diameter (m)	Cost per lineal metre
0.3	$61.00	0.9	$191.00
0.4	$86.00	1.0	$209.00
0.5	$114.00	1.2	$336.00
0.6	$129.00	1.4	$480.00
0.7	$141.00	1.6	$694.00
0.8	$163.00	1.8	$812.00

5.3.4 Non-tabular Cost Estimates

1. The cost for any of the non-tabular projects identified in Section 5.3.1.1(4)(a) will be estimated by preparing a non-tabular cost estimate. The regional manager may approve a standardized methodology to estimate the cost for the following projects:

   a. end hauling,

   b. road reconstruction and replacement,

   c. stabilizing material, including:

      i. capping,

      ii. surfacing,

      iii. material hauls (greater than 3.2 km),

      iv. bridge approaches,

      v. fords,

      vi. culverts,

      vii. keyed-in fills,

   d. overlanding, including:

      i. trucked in fills,

      ii. large fills,

iii. stored fills,

e. permanent bridge construction,

f. bridge structural repair.

g. regional manager approved tributary development projects.

2. The cost information contained in Appendix VIII is to be used in conjunction with the Detailed Engineering Estimates for Coast Stumpage Appraisal - February 1, 2001 and as amended to September 1, 2002.

3. The following non-tabular cost estimate projects require notification by the licensee to the district manager prior to commencement of construction:

   a. road reconstruction,

   b. re-surfacing, or

   c. permanent bridge construction.

   Notification must allow a minimum of fifteen (15) work days, or such other time as may be mutually agreed to between the district manager and the licensee. Such notification is needed to provide time for a field review of pre-construction site conditions.

4. Regional manager approved development projects require notification by the licensee to the regional manager. Sufficient lead time will be determined on a project by project basis.

5. The road development project cost estimate will be based on the data that is required by the regional manager and the equipment and labour rates as specified in Appendix I. Equipment rates are determined as follows for the actual or expected piece of equipment required to complete the project:

   a. from equipment rates found in Appendix I,

   b. where the actual or expected piece of equipment is not in Appendix I then the equipment rate may be obtained from the 2018-2019 Equipment Rental Rate Guide (the 'Blue Book'). All equipment rates are assumed to be for a three-year old machine, or

   c. where a required piece of equipment is in neither Appendix I nor the 'Blue Book', prior approval for any other rate must be obtained from the regional manager for use in the project cost estimate.

6. Where equipment is not, or will not be already on site for adjoining tabular road, bridge or culvert construction, then the costs of mob and demob may be included in the non-tabular cost estimate.

7. Where the cost of a project is the subject of a contract entered into after arms-length competitive bids have been made for the contract, the cost of completing that project may be used as the development project cost estimate where that is authorized by the regional manager.

5.3.4.1 Data Requirements

1. A project requiring a non-tabular cost estimate must be designed so as to require only the amount of materials and labour that are necessary to build a safe and functional structure.

2. The data that may be required by the district manager for non-tabular "excavation and fill" cost estimates are:

   a. plans, profiles, cross-sections showing the ground and design grade lines,

   b. volume summary sheets giving quantities by various soil types,

   c. time and materials, equipment and labour, repairs, drainage structures and surfacing where required, and

   d. a cost estimate for the project.

3. The data that may be required by the district manager for non-tabular reconstruction cost estimates are:

   a. a map showing details of the project including stations, drainages, and other information important to the project,

   b. time and materials, equipment and labour, estimate for excavation, repairs, drainage structures, reditching, and resurfacing where required, and

   c. a cost estimate for the project.

4. The data that may be required by the district manager for non-tabular bridge and culvert construction cost estimates are:

   a. for permanent structures of 25.5 m span or greater: plans, specifications and design for the proposed structure, detailed materials cost estimate, equipment and labour, amount of timber accessed by the structure, and usage in years for harvesting all the timber,

   b. for permanent structures of 20.4 m span or less: an economic comparison between a log structure and the permanent structure, and

   c. for pipe culverts greater than 1.8 m in diameter: the same information as required for permanent structures of 25.5 m span or greater.

5.4 Road Management Cost

1. A road management cost may be used in the calculation of a tenure obligation adjustment to take into account the licensee's performance of the following activities:

   a. grading,

   b. brush control,

   c. minor surfacing repairs,

   d. sanding,

   e. snowplowing,

   f. ditch maintenance and repair,

   g. replacement of culverts ≤ 0.9 m on active roads,

   h. slough removal (confined to ditchline),

   i. deactivation,

   j. minor repairs to roads due to slides, erosion and flood damage,

   k. road use charges except those described in Section 5.5.

2. A road management cost may only be included in the calculation of a tenure obligation adjustment for those parts of a cutting authority area where the logs will be transported over a road by truck.

3. The road management cost is $2.09/$m^3$.

5.5 Road Use Charges

1. A road use charge may be used in the calculation of a tenure obligation adjustment, if:

    a. the road to which the road use charge applies is required to transport logs from the cutting authority area to the appraisal log dump,

    b. the road use charge is not referred to in subsection 2(a), or 2(b) or 2(c) of this section,

    c. the licensee submits to the district manager with the appraisal data submission:

        i. a completed Request for Approval of a Road Use Charge Form,

        ii. a map showing the location of the road and a copy of the written road use agreement, and

        iii. written confirmation by the regional manager that the road use charge specified in the application, or an amount specified by the regional manager is approved, and

    d. the term of the road use agreement is completely within the period for which the appraisal or reappraisal shall apply, and

    e. the licensee promises in writing to submit a copy of every auditable monetary transaction evidencing payment by the licensee for road use when that is requested by the regional manager.

2. A road use charge may not be used in the calculation of a tenure obligation adjustment, if it is:

    a. a share of road maintenance charge,

    b. a charge with respect to a road that is declared, determined, built, maintained or modified by the provincial government,

    c. a charge with respect to a road on Crown land.

    d. a charge for a road on an Indian reserve or on private land owned by a third party at arm's length from the licensee and not subject to a lease held by the licensee, its affiliate or agent of either the licensee or the third party, unless

        i. there is no route capable of being used to build a road at a lower cost through Crown land, and

ii. the charge is:

aa. reasonable,

bb. does not exceed compensation that could be determined under the forestry legislation, and

cc. is established to the satisfaction of the district manager by the licensee by way of auditable documents.

5.5.1 Land Use Charge

A land use charge may not be considered in an appraisal or a reappraisal.

5.6 Basic Silviculture Cost

1. Except where basic silviculture performed or to be performed on a cutting authority area is or will be funded by the Crown or an agent of the Crown a basic silviculture cost may be used in the calculation of a tenure obligation adjustment where the licensee is required to perform basic silviculture on the cutting authority area being appraised or reappraised.

2. The basic silviculture cost depends on the geographic location of the cutting authority area being appraised or reappraised as described in Table 5-5.

Table 5-5: Basic Silviculture Cost

Where the cutting authority area is located in:	The basic silviculture cost expressed in $/m^3 is:
Campbell River Forest District	2.94
Chilliwack Forest District	4.54
Coast Mountain (North Coast) Forest District	10.95
Haida Gwaii Forest District	4.56
North Island - Central Coast Forest District	2.84
Sea to Sky (Squamish) Forest District	4.50
South Island Forest District	2.94
Sunshine Coast Forest District	3.19

5.7 Low Grade Number

1. The forest district low grade fractions by timber species as shown in Table 5-6 shall be used in the calculation of the tenure obligation adjustment to account for the low grade timber that is not subject to the appraised stumpage rate.

2. The low grade fraction for each timber species to be used in the appraisal or reappraisal of the cutting authority area shall be the fraction by timber species by the forest district in which the cutting authority area is located (refer to Table 5-6).

3. The low grade number to be used in the calculation of the tenure obligation adjustment for a cutting authority area being appraised or reappraised is the sum of the products of the net cruise volume of each timber species in the cutting authority area multiplied by the low grade fraction for that species, divided by the total net cruise volume in the cutting authority area.

Table 5-6: Forest District Low Grade Fractions by Timber Species

District	BA	CE	CY	FI	HE	LO	SP	WH	Deciduous
Campbell River	0.1973	0.0583	0.2049	0.0263	0.2162	0.0908	0.0620	0.0770	1.0000
Chilliwack	0.2121	0.0427	0.1572	0.0481	0.2632	0.1397	0.0601	0.3522	1.0000
Coast Mountain (North Coast)	0.1651	0.2220	0.2564	0.2522	0.3541	0.2522	0.0703	0.2522	1.0000
Haida Gwaii	0.1338	0.0580	0.1139	0.1338	0.2990	0.1011	0.0432	0.1338	1.0000
North Island - Central Coast	0.2030	0.1134	0.2174	0.0284	0.2176	0.1985	0.1543	0.0989	1.0000
Sea to Sky (Squamish)	0.3372	0.0856	0.1964	0.0528	0.3386	0.3074	0.2522	0.2137	1.0000
South Island	0.1991	0.0803	0.1994	0.0414	0.2188	0.1473	0.0308	0.1202	1.0000
Sunshine Coast	0.2397	0.0689	0.2356	0.0365	0.2244	0.0619	0.0300	0.1254	1.0000

5.8 Market Logger Cost

5.8.1 Market Logger Cost

1. The market logger cost (MLC) is used in the calculation of the tenure obligation adjustment in an appraisal or reappraisal of a cutting authority area. MLC is expressed in $/m^3$.

2. The MLC is calculated as follows:

$$MLC = \left[\frac{7.72\ (1 - HW) - BCTS}{1 - LG}\right] + CTSSO$$

Where:

HW = Is the fraction of the cutting authority area's volume harvested by helicopter to a water drop

LG = Low grade number calculated under Section 5.7

BCTS = BCTS cost from Section 5.8.2

CTSSO = Competitive timber sales specified operation cost from Section 5.8.3

5.8.2 BC Timber Sales Infrastructure and Services

The cost of infrastructure and services provided by BC Timber Sales for competitive timber sale licences (minus specified operations in the MPS data set) is $0.14/$m^3$.

5.8.3 Competitive Timber Sales Specified Operations Adjustment

The cost of the competitive timber sales specified operation (CTSSO) already included in the competitive timber sale licences that are in the MPS dataset is $0.28/$m^3$.

5.9 Return to Forest Management (RFM)

The return to forest management factor is 1.074.

5.10 Tenure Obligation Adjustment

1. The tenure obligation adjustment is used to calculate the stumpage rate for a cutting authority other than a timber sale licence entered into under Section 20 of the *Act*.

2. The tenure obligation adjustment (TOA) is calculated as follows:

$$TOA = \left[\frac{FPA + LVC + RD + RM + RU + BS}{1 - LG}\right] * RFM - MLC$$

Where:

FPA = forest planning and administration cost

LVC = low volume cost

RD = total road development cost

RM = road management cost

RU = road use charges cost

BS = basic silviculture cost

LG = low grade number

RFM = return to forest management

MLC = market logger cost

6 Stumpage Rate Determination

6.1 Stumpage Rate Calculation for a Cutting Authority Entered into Under Section 20 of the Act

Sections 6.1.1 through 6.1.3 are the policies and procedures for determining a stumpage rate for a cutting authority that is entered into under Section 20 of the *Act*.

6.1.1 Indicated Upset Stumpage Rate (IUSR)

1. Except as provided by subsections (2) and (4) of this section, the IUSR for a timber sale licence shall be:

   a. equal to the IUSR approved by the Executive Director, BC Timber Sales, or

   b. the greater of

      i. seventy percent of the final estimated winning bid (FEWB) for that timber sale licence calculated according to Section 4.5, or

      ii. the variable cost to prepare the timber sale (VCU).

2. Where applications for a timber sale licence with an IUSR determined under Section 6.1.1(1) have been invited but no applications have been received, the IUSR determined by the person authorized to determine the stumpage rate for the re-advertised timber sale licence shall not be less than the VCU when that IUSR is requested by the timber sales manager.

3. The IUSR may be advertised as:

   a. an upset rate ($/m3); or

   b. a calculated upset value ($).

4. a. The IUSR for decked timber that is administered by BCTS shall be the IUSR requested by the timber sales manager.

   b. If the timber sales manager intends to sell the decked timber competitively requiring a bonus offer, the indicated upset stumpage is the IUSR from (a) of this subsection multiplied by the volume determined by an authorized licenced scaler using a method approved by the minister.

5. Where the invitation to tender is for a stand as a whole pricing timber sale licence, the upset value ($) is the total net cruise volume of the timber sale licence multiplied by the IUSR derived under subsection of this section.

6. A timber sale licence authorized under Section 6.1.1(5) requires the approval of the Executive Director, BCTS, before it can be cruise based.

7. The variable cost to prepare the timber for sale (VCU) shall be calculated by the timber sales manager.

6.1.2 Upset Stumpage Rate

The upset stumpage rate for a timber sale licence is the greater of the:

1. indicated upset stumpage rate, or

2. prescribed minimum stumpage rate of $0.25 per cubic metre (BC Regulation 354/87).

6.1.3 Stumpage Rate

1. The stumpage rate is the total of the upset stumpage rate plus the bonus bid that must be paid by the licensee.

2. Where the cutting authority is stand as a whole pricing under section 6.1.1(5), the stumpage rate is the upset value plus the bonus amount offered, divided by the total net cruise Volume.

6.2 Stumpage Rate Calculation for a Cutting Authority Other than a Cutting Authority Entered into Under Section 20 of the *Act* or a Cutting Authority for which a Stumpage Rate is Determined Under Chapter 7

Sections 6.2.1 through 6.2.5 are the policies and procedures for determining a stumpage rate for a cutting authority other than timber sale licence entered into under Section 20 of the *Act* or a cutting authority for which a stumpage rate is determined under Chapter 7.

6.2.1 Indicated Rate (IR)

1. The IR is the difference between the final estimated winning bid (FEWB) determined for the cutting authority under Section 4.5 and the tenure obligation adjustment (TOA) determined under Section 5.10.

2. Expressed as an equation:

$$IR = FEWB - TOA$$

6.2.2 Prescribed Minimum Stumpage Rate

The minimum stumpage rate is prescribed by the Minimum Stumpage Rate Regulation (BC Regulation 354/87). The current minimum stumpage rate is $0.25 per cubic metre.

6.2.3 Reserve Stumpage Rate

The reserve stumpage rate for a cutting authority is determined by selecting the greater of:

1. the indicated rate, or

2. the prescribed minimum stumpage rate.

6.2.4 Upset Stumpage Rate

The upset stumpage rate is the total of the reserve stumpage rate plus any administration and silviculture levies which may be charged under Section 7.4.1.

6.2.5 Total Stumpage Rate

The total stumpage rate is the upset stumpage rate plus the bonus bid, if any, that must be paid by the licensee.

7 Miscellaneous Timber Pricing Policies

7.1 Average Stumpage Rates by District and Species

1. Subject to Section 7.10(4), Timber Pricing Branch shall publish a schedule of average sawlog stumpage rates for each species of timber in each forest district of the Coast Area. Those rates are effective on the date as approved by the director.

7.2 Community Forest Agreements and Woodlot Licences

1. a. Except as provided for under Section 7.2.1, the sawlog stumpage rate ($/m^3) for each species of coniferous timber and zone harvested under a cutting authority issued under a community forest agreement or woodlot licence and their associated road permits will be:

	Zone	
Species	**Northern Coast**	**Southern Coast**
Balsam	$2.44	$1.28
Hemlock	$2.64	$1.53
Cedar	$3.98	$3.71
Cypress	$1.44	$1.72
Fir	$2.98	$2.99
Spruce	$1.59	$1.89
Other	$2.98	$2.23

   b. The Northern Coast Zone is the Haida Gwaii Forest District, Coast Mountain (North Coast) Forest District and that part of the North Island-Central Coast Forest District within TFL 25 and all Crown land within the external boundaries of Timber Supply Blocks 46A, 46B, 46C, 46D, 46E and or 46F of the GBRN Timber Supply Area.

   c. The Southern Coast Zone is the Coast Area except the Northern Coast Zone as defined in 1(b).

   d. The stumpage rate determined under paragraph (a) of this subsection shall be redetermined on March 1st of each year in accordance with this subsection.

2. The sawlog stumpage rate for each species of coniferous timber harvested under a salvage permit issued under a woodlot licence is the rate prescribed in the table in Section 7.2(1)(a) for the zone in which the salvage permit applies.

3. Section 7.3, 7.4, 7.4.1, 7.5 and 7.6 do not apply to community forest agreements, woodlot licences and associated road permits.

4. Notwithstanding subsections (1) and (3), when a cutting authority is issued under a community forest agreement for the specific purpose to include projects funded by the Forest Enhancement Society of BC, the stumpage rate must be determined through a full appraisal in accordance with Section 7.11.

7.2.1 Woodlot Licences with Cutting Authorities under MPS

1. Where a cutting authority has been issued under a woodlot licence with an effective date after November 30, 2008, with an extended road amortization agreement that has been entered into under Section 5.3.2.1, the stumpage rate will be calculated using the market pricing system.

2. The sawlog stumpage rate for a road permit is calculated using the procedures in Section 7.3 until a cutting permit has been issued with tabular rates as specified under Section 7.2(1)(a). Stumpage rates for road permits will also change to tabular rates on that date.

3. Notwithstanding subsection (1), when a cutting authority is issued under a woodlot licence for the specific purpose to include projects funded by the Forest Enhancement Society of BC, the stumpage rate must be determined through a full appraisal in accordance with Section 7.11.

7.3 Road Permits

1. Except as provided in subsection (2) of this section, and subject to section 7.10 the stumpage rate for a road permit will be determined using Ministry stumpage billing history records.

2. The stumpage rate for a road permit issued in conjunction with a timber sale licence entered into under Section 20 of the *Act* will be the stumpage rate applicable to the cutting authority that authorizes harvesting in the cutting authority area to which the road permit provides access.

3. For the purposes of this section a stumpage billing history record of timber harvested under a timber licence where the timber licence area is within a tree farm licence area, will be included with and be considered the stumpage billing history record of timber harvested under the tree farm licence.

4. a. Where the Ministry has a stumpage billing history record of 500 cubic metres or greater of timber harvested under:

    i. a licence within the same district as the area to which the road permit applies, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of cutting authorities other than a road permit, for cutting authority areas that are located in the same forest district as the area to which the road permit applies, and that are issued under the licence that entitles the licensee to apply for the road permit, or

    ii. multiple licences within the same district as the area to which the single road permit used by the licensee applies, the stumpage rate for the road permit is the weighted average sawlog stumpage rate of all cutting authorities other than the road permit(s) and licences entered into under Section 20 of the *Forest Act*, for all cutting authority areas that are located in the same forest district as the area to which the road permit applies, and that are issued under the licence(s) that entitle the licensee to harvest, including the licence that entitles the licensee to apply for the road permit.

    b. The weighted average stumpage rate is the sum of the stumpage billed for all coniferous sawlogs during the billing period referred to in paragraph (c) of this subsection, divided by the sum of the volume of those species and grades.

    c. The billing period referred to in paragraph (b) of this subsection for a road permit appraisal or reappraisal, will be updated annually effective February 1st and will be the twelve month period ending November 30th.

5. Where there is less than 500 cubic metres in the stumpage billing history records from which the stumpage rate may be determined under subsection (4), and the licence that the cutting authority is issued under does not provide for an allowable annual cut or has an allowable annual cut of Crown timber equal to or greater than 7 000 m^3, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of:

a. all cutting authorities other than road permits, that are issued under the licence to which the road permit applies that entitles the licensee to apply for the road permit.

b. where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (a) of this subsection, the person determining the stumpage rate will proceed to subsection (c) of this section.

c. all the cutting authorities that do not provide for an allowable annual cut or have an allowable annual cut of Crown timber equal to or greater than 7 000 m^3, other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for areas located in the same forest district as the area to which the road permit applies.

6. Where there is less than 500 cubic metres in the stumpage billing history records from which the stumpage rate may be determined under subsection (4), and the licence that the cutting authority is issued under has an allowable annual cut of Crown timber less than 7 000 m^3 per year, the stumpage rate for a road permit is the weighted average sawlog stumpage rate of:

   a. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for licences that have an allowable annual cut of less than 7 000 m^3 in the same forest district as the area to which the road permit applies.

   b. Where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (a) of this subsection, the person determining the stumpage rate will proceed to subsection (c) of this section.

   c. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, that are for licences that have an allowable annual cut of less than 7 000 m^3 in the same timber supply area as the area to which the road permit applies.

   d. Where there is less than 500 cubic metres in the stumpage billing history record from which the stumpage rate may be determined under paragraph (c) of this subsection, the person determining the stumpage rate will proceed to subsection (e) of this section.

   e. All cutting authorities other than road permits and timber sale licences entered into under Section 20 of the *Act*, in the same forest district as the area to which the road permit applies.

7. The cost of a road constructed under a road permit may be eligible for inclusion as a tenure obligation adjustment under Chapter 5 in the appraisal of a tributary cutting authority.

8. All road permits will be reappraised in accordance with Section 3.3.2.

7.4 Salvage Logging Stumpage Rates

1. The source of salvaged timber is:

    a. Post-Harvest Material:

        i. wooden culverts and bridges, and

        ii. post-logging residue, and

    b. Damaged Timber:

        i. blowdown green and aged timber, and

        ii. fire, disease, insect or physically damaged timber.

2. The qualifying criteria and methodology for calculating salvage logging stumpage rates for round logs is specified below:

    a. post-harvest material must not be combined in the same cutting authority area with timber damaged through natural events.

    b. except where damage to adjacent or contiguous timber occurs after harvesting is completed on the adjacent primary logging cutting permit area and the harvesting equipment has been demobilized from the area, damaged timber salvage cutting authority areas must be scattered, and not adjacent or contiguous to an existing cutting authority area.

    c. the total cutting authority area for damaged salvage harvesting may vary in size but individual clearcut openings within the cutting authority area shall not exceed three hectares.

    d. only damaged trees and hazard trees as approved by the Ministry may be removed on a damaged timber salvage cutting permit.

    e. post-harvest salvage may only occur after primary logging has been satisfactorily completed and residue and waste assessments have been submitted to and accepted by the Ministry.

    f. salvage cannot occur on a road right-of-way which has an active timber mark associated with it.

3. Where the source of the salvaged timber is damaged timber, the stumpage rate for each species of the salvaged timber in a forest district will be determined using the schedule of average sawlog stumpage rates for damaged timber approved by the director.

4. Where the source of the salvaged timber is post-harvest material, the stumpage rate for each species of timber in a forest district will be determined using the schedule of average sawlog stumpage rates for post-harvest material approved by the director.

7.4.1 Levies for Salvage Forestry Licences to Cut Cutting Authorities

1. An administration levy may be added to the reserve stumpage rate. The administration levy is equal to the district manager's cost estimate of administration provided by the Crown for preparing a forestry licence to cut for salvage timber. An administration cost estimate is made for every cutting authority where the district office has to prepare all details of a forestry licence to cut for salvage. No levy is applicable to professional applications.

2. A basic silviculture levy may be added to the reserve stumpage rate. The levy is equal to the district manager's cost estimate of silviculture liability to be incurred by the Crown.

7.5 Cutting Authority Area With Less than 2 500 m^3 of Timber Volume

1. Where a cutting authority area has less than 2 500 m^3 of timber the stumpage rate may, at the discretion of the regional appraisal coordinator, be determined by using the stumpage rates approved by the director under Section 7.1 for each of those species in the forest district in which the cutting authority area is located.

2. The stumpage rate determined under this section shall be redetermined in accordance with Section 3.3.6.

7.6 Decked Timber

1. The stumpage rates for decked timber not sold by BC Timber Sales shall be obtained from the schedule of average sawlog stumpage rates approved by the director under Section 7.1 for the forest district in which the decked timber is located.

2. Where the stumpage rate(s) have been calculated under 1 of this section, the total stumpage rate(s) shall be fixed for a period not exceeding twelve months. If stumpage rates are required beyond twelve months, new rates are to be re-calculated using the applicable average sawlog stumpage rate table approved by the director.

7.7 Linear Tenures

1. For this section:

   "Linear tenure" means a licence to cut issued for a:

   a. right-of-way issued under an authority other than the *Forest Act*, or

   b. a pipeline right-of-way, or

   c. a highway right-of-way for a road administered by the Ministry of Transportation and Infrastructure, or

   d. transmission line, penstock, or powerhouse, or

   e. a forestry licence to cut issued under Section 47.6(3) of the *Act* in conjunction with a BC Timber Sales road development contract.

   "Licensee" means the licensee who has been issued a linear tenure.

2. The stumpage rate for a linear tenure shall be obtained from the schedule of average sawlog stumpage rates approved by the director under Section 7.1, for the forest district in which the cutting authority area for the linear tenure is located plus a basic silviculture cost adjustment.

3. The basic silviculture cost adjustment for linear tenures is $3.87 per cubic metre.

4. A stumpage rate determined under this section shall be redetermined in accordance with Section 3.3.4.

5. Notwithstanding any other paragraph in this section, if the total volume exceeds 2500 m^3 the stumpage rate for a linear tenure may be determined through a full appraisal. Where a stumpage rate has been determined under this subsection, the procedures in Chapter 3 shall apply.

7.8 Controlled Recreation Areas

1. The stumpage rate for a cutting authority area located within a Controlled Recreation Area (CRA) shall be the stumpage rate approved by the director under Section 7.8.1, for the forest region in which the cutting authority area in the CRA is located.

2. A stumpage rate determined under this section shall be redetermined in accordance with Section 3.3.5.

3. Notwithstanding any other paragraph in this section, the stumpage rate for a cutting authority area in a CRA may be determined through a full appraisal. Where a stumpage rate has been determined under this subsection, the procedures in Chapter 3 shall apply.

7.8.1 CRA Stumpage Rate

1. Timber Pricing Branch shall produce the average appraised sawlog stumpage rate for the Coast Area. This rate is approved by the director for each quarter (January 1, April 1, July 1 and October 1).

7.9 Miscellaneous Stumpage Rates

Miscellaneous Stumpage Rates

1. Unless otherwise specified in a cutting authority, Table 7-1 in effect on the date of scale shall be used to determine the stumpage rates for deciduous species, low grade logs and timber in specified areas.

Special Forest Products

2. Unless otherwise specified in a cutting authority, Table 7-2 in effect on the date of scale shall be used to determine the stumpage rates for the specified products from all sources of Crown timber.

7.9.1 Marine Log Salvage

7.9.1.1 Beachcomb

A beachcomb rate may apply to logs salvaged in the Vancouver log salvage district under Part 9 of the *Act*, and stray logs salvaged elsewhere in coastal waters.

The stumpage rate for beachcomb is listed in Table 7-1.

7.9.1.2 Root Buck

A root buck rate may apply to any species where the roots are attached at the time stray logs are salvaged in coastal waters. Excludes logs salvaged from coastal waters within the boundaries of the Coast Mountain (North Coast) Forest District.

The rate for root buck is listed in Table 7-1.

7.9.1.3 Wahleach Island Catchment Basin

The stumpage rate for logs salvaged at Wahleach Island catchment basin operated by B.C. Debris Control Board is listed in Table 7-1.

7.9.1.4 Deadhead Logs

A deadhead rate may apply to deadhead logs as defined in the log salvage regulation, salvaged in coastal waters and subject to scaling requirements under part 6 of the *Act*.

The stumpage rate for deadhead logs is listed in Table 7-1.

Table 7-1: Miscellaneous Stumpage Rates

Species	Product Code	Logs	Stumpage Rate ($/m^3)
Deciduous	N/A	All (except grades 'Y', 'Z')	$1.00
Yew, Arbutus, Aspen, Willow	N/A	All	$0.25
Hemlock & Balsam	N/A	Grade 'U'	$0.25
Coniferous	N/A	Grade 'X'	$0.25
All Species	N/A	Grade 'Y'	$0.25
All Species	**RB**	Root buck	$7.80
All Species	N/A	Beachcomb (BC)	$0.70
All Species	N/A	Wahleach Island catchment basin (DH)	$0.25
All Species	N/A	Deadhead logs (DH)	$0.25

Table 7-2: Special Forest Products Stumpage Rates

Species	Product Code	Logs	Stumpage Rate
All Species	**CA**	Cants (produced from dead and down post-logging residue)	$9.60/m^3
All Species	**FW**	Firewood (round or split) - maximum length 1.2 m	$1.00/m^3
All Species	**MT**	Mining Timbers - maximum length 2.4 m	$3.00/m^3
All Species (except Cedar)	**PR**	Posts and Rails (split and round)	$1.20/m^3
Cedar	**PR**	Posts and Rails (split and round)	$3.00/m^3
All Species	**SB**	Shake and Shingle Bolts, Blocks and Blanks	$5.30/m^3
All Species	**SK**	Shakes	$6.00/m^3
All Species	**SS**	Stakes and Sticks (Car Stakes, Grape Stakes, Hop Poles, Lagging (split, Orchard Props, Pickets and Palings, Stakes and Stocks (sticks))	$1.20/m^3
All Species	**CH**	Woodchips	$0.50/m^3
All Species	**HF**	Hogged tree material	$0.25/m^3
All Species	**XM**	Christmas Trees — Height class 1, greater than 5 m Height class 2, 3 m to 5 m Height class 3, Less than 3 m	$1.50 each $1.00 each $0.20 each

Cants are produced from dead and down post-logging material that would not make a sawlog as determined by the regional manager.

7.10 Great Bear Rainforest North (GBRN)

1. For the purposes of subsection (2) below:

   a. the definition of cutting authority includes a cruise based road permit and an approved amendment to a cruise based road permit; and

   b. any cruise based road permit or approved amendment to a cruise based road permit must be cruised to the rights of way cruise standards required by the Cruising Manual.

2. Cutting authorities that meet the requirements of Section 2.2.3 and that are not located within that part of Tree Farm Licence No. 25 within the Coast Mountain and North Island - Central Coast Forest Districts, or are not within Forest Licence A91438 or Forest Licence A94535:

   a. For all cutting authorities, except road permits, with an effective date:

      i. prior to June 15, 2016, existing stumpage rates and applicable quarterly adjustments will continue until expiry of the cutting authority.

      ii. on or after June 15, 2016, and before January 1, 2017, that do not meet the GBRN cruise based standards of the Cruising Manual, the stumpage rate shall be determined through a full appraisal.

      iii. on or after June 15, 2016 and prior to January 1, 2017, that meet the GBRN cruise based standards of the Cruising Manual, the stumpage may, at the option of the licensee, be the rate determined through a full appraisal or be the rates by species as approved by the director under subsection 7.10(4).

      iv. on or after January 1, 2017, must meet the GBRN cruise based standards of the Cruising Manual, and the stumpage rates by species shall be as approved by the director under subsection 7.10(4).

   b. For all timber to be harvested under the authority of a road permit:

      i. on or after June 15, 2016, and before January 1, 2017, that was not all cruised under the rights of way cruise standards of the Cruising Manual, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a scale of the timber.

      ii. on or after June 15, 2016, and before January 1, 2017, that was all cruised under the rights of way cruise standards of the Cruising Manual, the stumpage rates by species shall be as approved by the

director under subsection 7.10(4), and shall be based on the information provided by a cruise of the timber.

iii. on or after January 1, 2017, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a cruise of the timber.

3. Cutting authorities that meet the requirements of Section 2.2.3 and that are located within that part of Tree Farm Licence No. 25 within the Coast Mountain and North Island - Central Coast Forest Districts, or within Forest Licence A91438 or Forest Licence A94535:

    a. For all cutting authorities, except road permits, with an effective date:

        i. prior to June 15, 2016, existing stumpage rates and applicable quarterly adjustments will continue until expiry of the cutting authority.

        ii. on or after June 15, 2016, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a scale of the timber.

    b. For timber harvested under the authority of a road permit on or after June 15, 2016, the stumpage rates by species shall be as approved by the director under subsection 7.10(4), and shall be based on the information provided by a scale of the timber.

4. Notwithstanding subsections 2(a)(i) and 3(a)(i), where the source of the timber is the GBRN, the stumpage rate for each species of the GBRN timber will be determined using the published schedule of average sawlog stumpage rates for GBRN timber, effective on the date approved by the director.

5. For the purposes of determining the amount of stumpage payable in respect of timber removed from the harvest area under a road permit, a cruise based road permit or an approved amendment to a cruise based road permit, the volume of timber removed will be determined using information provided by a:

    a. scale of the timber under Sections 7.10(2)(b)(i) and 7.10(3)(b); or

    b. cruise of the timber under Sections 7.10(2)(b)(ii) and (iii).

7.11 Forest Enhancement Society of BC (FESBC) Projects

1. Notwithstanding any other section of this chapter, a cutting authority issued with projects funded by the FESBC for the purpose of stand restoration and/or rehabilitation must have the stumpage rate determined by a full appraisal. Stand restoration and/or rehabilitation means the harvesting and/or reforestation of uneconomic stands of timber.

2. The licensee must submit within the appraisal data submission a detailed list of the projects and cost estimates approved for funding.

Appendices

Appendix I Equipment and Labour Rates

a. "All Found" Equipment Rates. (Source: 2018-2019 B.C. Road Builders & Heavy Construction Association, Equipment Rental Rate Guide ("The Blue Book")

[1,2]EQUIPMENT DESCRIPTION	[3]BLUE BOOK SECTION NUMBER	[3]BLUE BOOK CATEGORY	BLUE BOOK MODELS (for 3-year old machine unless "out of date" model)	$/HOUR
Drilling Equipment - Rock Drill	1.4		750 cfm compressor or Equivalent Tank Drill Outfit and 2 operators	259.61
[1]Excavator – Heavy Hydraulic	7.3	45,000 – 50,999 lbs	**Case** CX210 D; **Cat** 320, 320F/FL, 323F/FL; **Deere** 210G-LC;; **Kobelco** SK210LC-10; **Komatsu** HB215LC-1, PC210LC-8, PC210LC-10, PC210LCi-10; **Link-Belt** 210-X4; **LiuGong** 922D LC; **Volvo** EC220D/DL, EC220EL	161.54
[1]Excavator – Heavy Hydraulic	7.3	51,000 – 58,999 lbs	**Case** CX235C, CX250D; **Cat** 320E L, 320E L RR, 320E N, 320 E RR, 320 F, 325F L; **Deere** 245G, 250G-LC; **Hitachi** ZX245USLC-5/6, ZX250LC-6; **Kobelco** SK230SRLC-5, SK260LC-10; **Komatsu** PC210LC-11, PC210LCi-11, PC228USLC-10, PC240LC-10, PC240LC-11; **Link-Belt** 250-X4; **LiuGong** 925D LC; **Volvo** EC250 E/EL, ECR235 D/DL/EL	167.09
[1]Excavator – Heavy Hydraulic	7.3	59,000 – 67,999 lbs	**Case** CX300D; **Cat** 324 E/E L, 326 F/F L, 329D2/D2 L/DL, 330D2 L; **Deere** 290G-LC; **Hitachi** ZX300LC-6; **Kobelco** SK270SRLC-5; **Komatsu** PC290LC-10; **Link-Belt** 300-X4; **Volvo** EC250ELC	187.06
[1]Excavator – Heavy Hydraulic	7.3	68,000 – 87,999 lbs	**Case** CX350D; **Cat** 328D, 329 E/E L/F, 330F L, 335F CR/F L, 336 E/E H/E L/E L H, 336 F L/F L XE; **Deere** 300GLC, 350GLC, 380GLC; **Hitachi**, ZX380LC-6; **Kobelco** SK300LC-10, SK350LC-10; **Komatsu** PC290LC-11, PC360LC-10/11, PC390LC-10; **Link-Belt** 350X4; **LiuGong** 936D LC; **Volvo** EC300EL, EC340DL, EC350EL, EC380DL/E, ECR355C	225.78
[1]Excavator – Heavy Hydraulic	7.3	88,000 – 95,999 lbs	**Cat** 336F, 336F XE; **Komatsu** PC390LC-11	239.86
Excavator – Heavy Hydraulic	7.3	96,000 – 102,999 lbs	**Komatsu** PC450LC-8 (all out-of-date models)	275.22
Excavator – Wheel	7.2	70,000+ lbs	**Cat** M316F, M322F, M325DL MH, M325D MH, MH3037, MH3049, MH3059	193.20
[2]Forestry – Excavator	17.4	35,000 – 45,000 lbs	**Case** CX210D; **Deere** 180G; **Link-Belt** 160-X4, 210-X4	149.05
[2]Forestry – Excavator	17.4	48,500 – 58,000 lbs	**Case** CX235C, CX250D; **Deere** 210G-LC; **Link-Belt** 250-X4	163.80
[2]Forestry – Excavator	17.4	55,000 – 72,000 lbs	**Case** CX300D; **Komatsu** PC210LL-10; **Link-Belt** 300-X4; **Volvo** EC240-DL/DF	184.00
[2]Forestry – Excavator	17.4	76,000 lbs	**Deere** 2454-D, 290-G, 2954-D; **Hitachi**, ZX 250F-3, ZX 250LC-5, , ZX 290F-3, ZX 290LC-5; **Hyundai** 290LC-9, 2925LC-9; **Volvo** EC290CL (all out of date models)	191.50
[2]Forestry – Excavator	17.4	60,000 – 86,000 lbs	**Case** CX350D; **Komatsu** PC290LL-11; **Link-Belt** 350-X4; 490-X4, 3740 TLN; **Tigercat** 875, LS855D	224.65
[2]Forestry – Excavator – Road Builders	17.5	56,900 lbs	**Volvo** EC220-DL/DF, EC220E FC	170.65
[2]Forestry – Excavator – Road Builders	17.5	58,000 – 73,000 lbs	**Hitachi** ZX 210F-3, ZX 210LC-5; **Komatsu** PC210LL-10; **Link-Belt** 210X2RBN, 3240RBN; **Volvo** EC240-DLRB, EC250E FC	191.25

[2]Forestry – Excavator – Road Builders	17.5	72,000 – 80,000 lbs	**Hitachi** ZX270F-3; **Link-Belt** 240X2RBN; **Volvo** EC300E FC	207.85
[2]Forestry – Excavator – Road Builders	17.5	81,500 – 94,000 lbs	**Komatsu** PC240LL-10, PC290LL-10; **Link-Belt** 3740RBN, 4040RBN	234.25
Grader	8.1	200-249 FWHP	**Cat** 12M2/M2 AWD/M3, 140K/M/M2/M2VHP, 160K/M/M AWD; **Deere** 770G, 772G; **Komatsu** GD655-5, GD655-6; **Volvo** G930C, G940C	164.10
Lifting Equipment - Crane	9.2	18 tonnes		123.25
Loader - Front End 4X4 (Gravel)	10.2	5 cu yd (3.82m^3)	**Deere** 744K; **Hitachi** ZW310-5B; **Volvo** L120H	187.60
Loader – Front End (Logs)	10.2	6 cu yd (4.59m^3)	**Case** 1121F; **Cat** 972M,972M II; **Deere** 824K; **Hitachi** ZW-330-5B; **Komatsu** WA480-6; **LuiGong** 888II; **Volvo** L180H	195.95
Skidder - Grapple Rubber Tired	17.1	21,000 – 28,000 lbs 104-152 hp	**Cat** 515, 518C; **Clark/Ranger** 666-C, 666-D, F-66, F-66-D, H-66-G; **Deere** 540, 548-D/E/G/GII/GIII; **TimberJack** 360-D, 380 A/B/C (out-of-date models)	104.60
Skidder + Roller – Towed: Pneumatic Tired or Vibratory Steel Wheel	17.1 & 13.6	2.7-3.6 tonne roller	**Cat** 515, 518C; **Clark/Ranger** 666-C, 666-D, F-66, F-66-D, H-66-G; **Deere** 540, 548-D/E/G/GII/GIII; **TimberJack** 360-D, 380 A/B/C (out-of-date models)	119.50
Skidder + Roller – Towed: Sheepsfoot and grid	17.1 & 13.5	32 in. diameter (813mm) 2 drums rollers	**Cat** 515, 518C; **Clark/Ranger** 666-C, 666-D, F-66, F-66-D, H-66-G; **Deere** 540, 548-D/E/G/GII/GIII; **TimberJack** 360-D, 380 A/B/C (out-of-date models)	120.35
Tractor – Crawler	15.2	85-129.9 FWHP	**Case** 1150M, 750M, 850M; **Cat** D4K2 XL, D5K2 XL, D6K2-T4; **Deere** 550K, 650K; **Dressta/Dresser** TD10R, TD8S	146.45
Tractor - Crawler	15.2	130-189.9 FWHP	**Case** 1600M; **Cat** D6N-T4; **Deere** 700K, 750K; **Dressta/Dresser** TD14M-Extra	188.95
Tractor - Crawler	15.2	190-259.9 FWHP	**Case** 2050M; **Cat** D6T, D6T-T4, D7E-T4;**Deere** 850K; **Dressta** TD-15M Extra	223.25
Tractor - Crawler	15.2	260-359.9 FWHP	**Cat** D8T-T4; **Deere** 950K, 1050K; **Dressta** TD25R	267.00
Tractor - Crawler	15.2	360-519.9 FWHP	**Cat** D9T-T4	320.30
Truck – Concrete Transit Mix	4.5	8 cu yd (6.1 m^3)		111.50
Truck – Dump Gravel – Standard S/A or Tandem	16.1	14 cu yd (10.7m^3)	Standard haul	100.15
Truck – Dump Gravel – Standard S/A or Tandem	16.1	14 cu yd (10.7 m^3)	Includes 10% for rip-rap haul	110.17
Truck – Dump Gravel Articulated	16.8	20-24 tonnes	**Bell** B25E; **Cat** 725C; **Deere** 260E; **Komatsu** HM300-5; **Volvo** A25G	167.00
Truck – Dump Gravel Articulated	16.8	25-29 tonnes	**Bell** B30E; **Cat** 730C, 735B/C, 740B EJ; **Deere** 310E, **Terex** TA250, TA300; **Volvo** A30G	184.45
Truck – Logging (Highway)	16.2-C	6 axle 45,000 kg	Tandem tractor & lowbed with booster	125.15
Truck – Log Self Loading	16.2-C & 16.3		Truck – Logging (Highway) and 5 ton deck crane	138.50
Truck - Lowbed	16.2-C	5 axle unit	Tandem tractor and lowbed	114.05
Truck – Lowbed	16.2-C	7 axle unit	A or B train (or triple axle with booster)	143.00
Truck – Miscellaneous – Pilot Vehicle	16.2-A			56.90

[1] includes 10% additional cost; 5% for brush guard package and 5% for hydraulic thumb.
[2] Excavators equipped with: Heavy Duty Undercarriage (Forestry – Excavator only) or Hi-Walker Undercarriage (Forestry – Excavator – Road Builders only), and includes Guarding Package, 2 Buckets, Hydraulic Thumb & Quick Attachment.

"All Found" includes all costs, expenses and profits necessary for the project work being undertaken, with an allowance for operator's wages plus benefits (except for some small equipment). Operators are expected to report to the project site at their own expense unless there is an agreement to the contrary due to project location. Rates include insurance and WorkSafeBC costs.

- "[3]BLUE BOOK SECTION NUMBER/CATEGORY" columns are used to locate equipment that is not listed in the "BLUE BOOK MODELS" column for the specified hourly rate, but which may be found instead in the Blue Book. Categories as applicable provide "Capacity" in cubic feet per minute, diameter or tonnes (Drills, Rollers and Cranes)
- Capacity in yards/cubic metres (Concrete Trucks, Gravel Dump Trucks and Loaders)
- Number of axles and/or gross vehicle weight in kilograms (Logging Trucks and Lowbeds)
- Operating weight in pounds or tonnes (Excavators, Skidders and Articulated Trucks)
- Power in flywheel horsepower (Crawler Tractors and Graders)

b) Miscellaneous Equipment Rates (Source: 2018-2019 Blue Book)

EQUIPMENT DESCRIPTION	BLUE BOOK SECTION NUMBER	BLUE BOOK CATEGORY	*$/HOUR (Labour not included)
Concrete Mixer	4.4	6 cu ft (0.17 m^3)	7.85
Concrete Vibrator	4.3	12' to 21' (3.65m – 6.10m)	5.18
Powersaw	11.1	Over 20+ inch blade; over 57cm^3	3.75

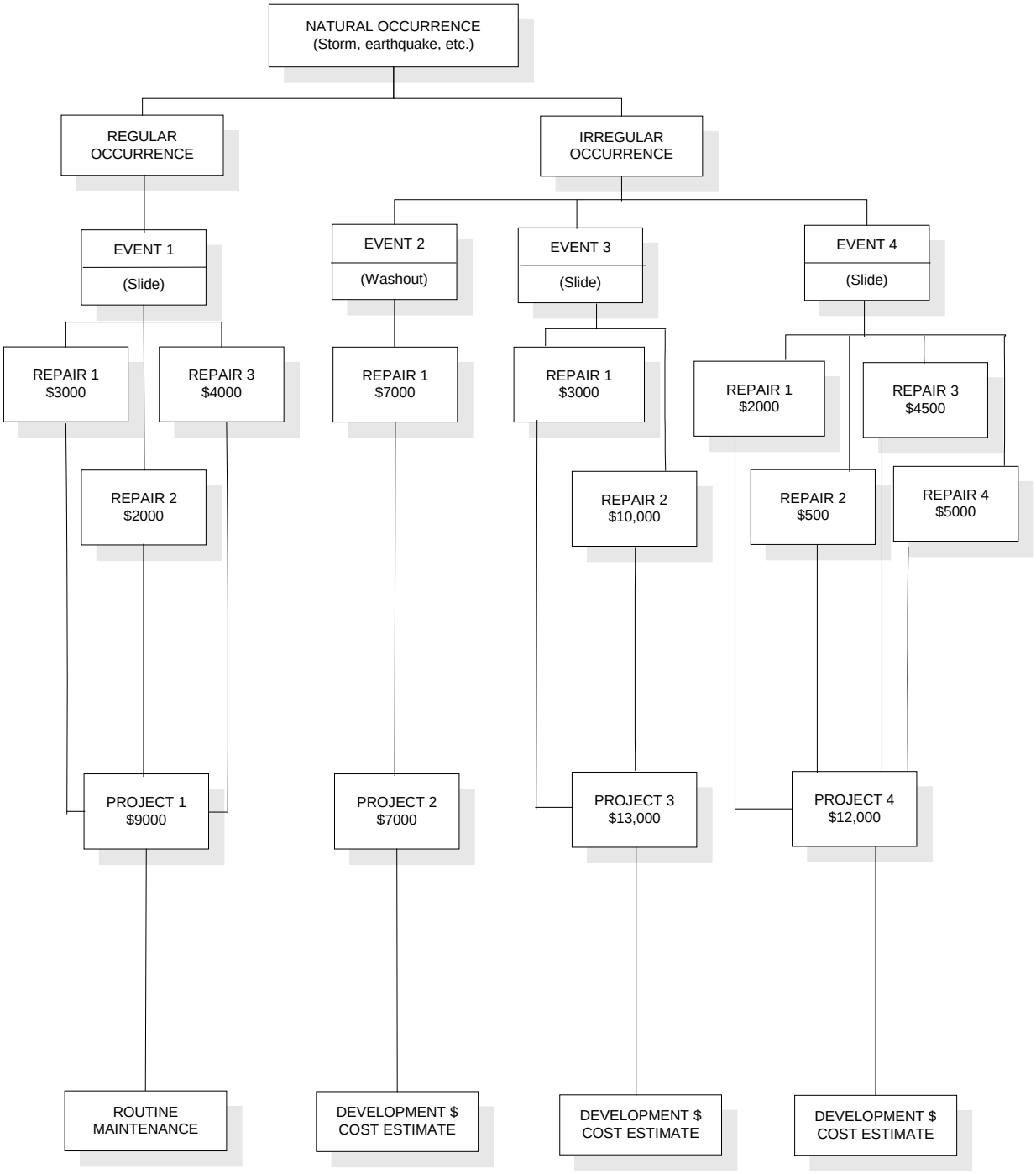
c) Other All Found Equipment Rates

EQUIPMENT DESCRIPTION	$/HOUR
Off Highway Lowbed	175.00
Truck - Logging (Off-Highway)	175.00
Log Loader	Use rate for excavator in (a) for equivalent Blue Book category

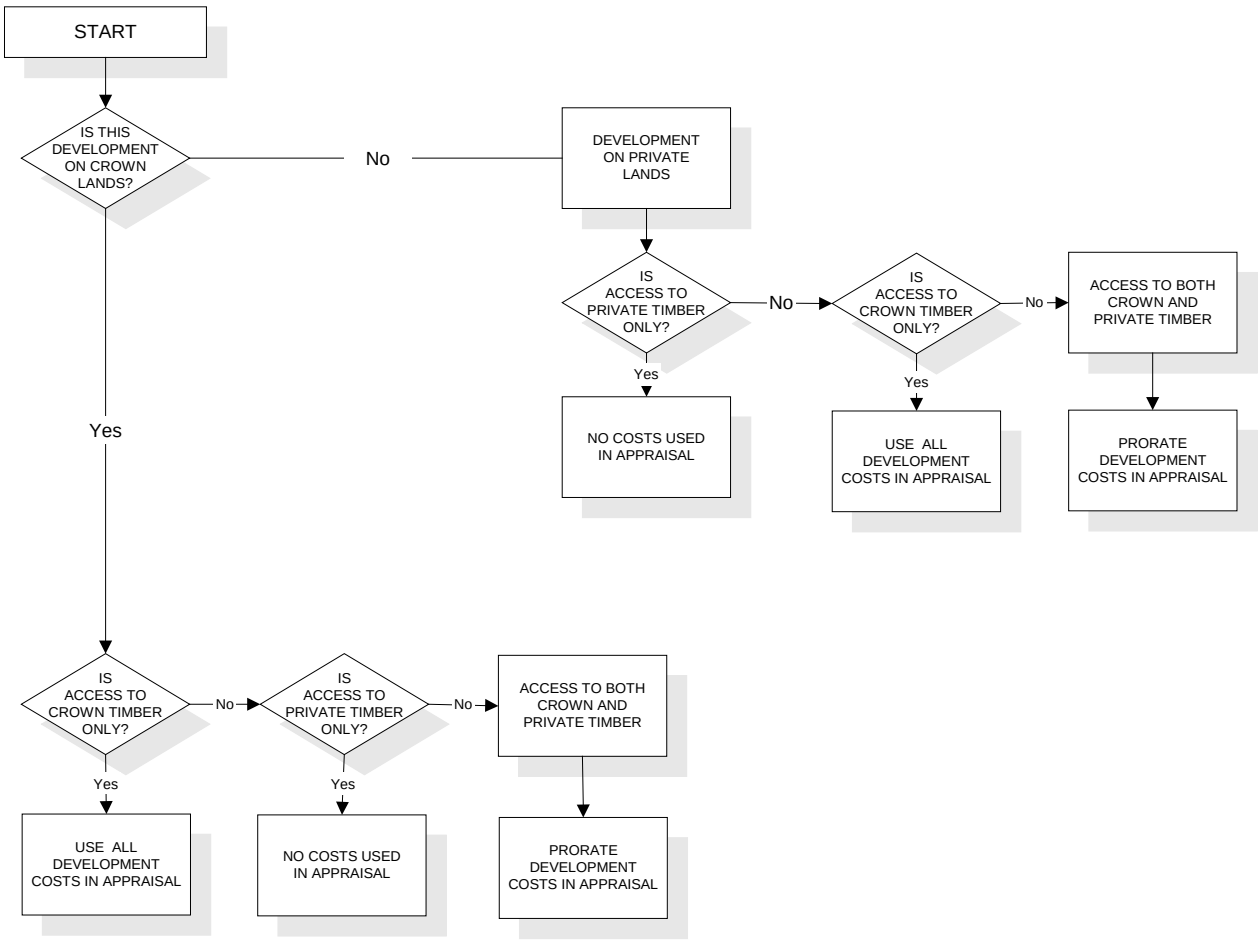
d) Wage Rates Effective June 15, 2018. Includes 40% for payroll loading (Source: 2014-19 United Steelworkers Agreement Rates)

LABOUR DESCRIPTION	GROUP	*$/HOUR
Labourer	Group I	41.79
Roadman	Group II	42.14
Crib/Culvert Maker, Powderman	Group VII	44.24
Landingman	Group VIII	44.81
Rockdriller & Powderman (for load & blast only)	Group VII & XI	98.07
Bridgeman	Tradesman	54.80
Faller, including powersaw cost		78.41

Appendix II Reconstruction and Replacement



Appendix III Development Cost Proration



Appendix IV Rock Mass Classification

Surface Hardness	**Weathering on Surface**				
	W1	W2	W3	W4	W5
H2	R2	R2	R2, R3	R3, R4	R4, R5
H3	R3	R3	R3, R4	R4, R5	
H4	R4	R4	R4, R5		
H5	R5	R5			

Hardness Factors:

H2 Can be scraped and peeled by a pocket knife with difficulty. Shallow indentations (i.e., 1/16 inch to 1/8 inch) made by firm blow of geological pick.

H3 Cannot be scraped or peeled with a pocket knife. Hand-held specimen can be fractured with single firm blow of hammer end of geological pick.

H4 Hand-held specimen requires more than one blow with hammer end of geological pick to fracture it.

H5 Hand-held specimen is very hard and requires many blows of hammer end of geological pick to fracture it.

Weathering Factors:

W1 The rock shows no loss of strength or any other effect of weathering other than slight staining on a few discontinuities*.

W2 The intact rock is slightly discoloured but not noticeably lower in strength than the fresh rock. The discontinuities are discoloured and some discolouration extends into the rock.

W3 The intact rock is discoloured and noticeably weakened. Discontinuities are stained and/or contain filling comprising altered material.

W4 Discolouration and weakening extends throughout rock mass and rock mass tends to crumble somewhat. Rock can be excavated with geological pick.

W5 The rock is totally discoloured and decomposed and is entirely changed to a soil but the original structure of the rock is mostly preserved.

* The term discontinuities refers to natural breaks, shears or faults in the bedrock.

Surface Hardness	**Average Block Diameter**				
	0 to 3"	3" to 6"	6" to 1'	1' to 4'	4'+
R2	RMC1	RMC2	RMC2	RMC2	RMC2
R3	RMC2	RMC2	RMC3	RMC3	RMC3
R4	RMC2	RMC3	RMC4	RMC4	RMC4
R5	RMC3	RMC4	RMC5	RMC5	RMC5

Description of RMC Values:

RMC1 Rock crumbles under firm blows with the point of a geological pick and can be peeled by a pocket knife (R1). The average block diameter is not important. The rock may be harder (R2) but must have an average block diameter of less than 3 inches. This rock can be excavated by free digging or ripping.

RMC2 Rock can be scraped and peeled by a pocket knife with difficulty and shallow indentations (i.e., 1/16 inch to 1/8 inch) can be made by a firm blow of a geological pick (R2) and has an average block diameter greater than 3 inches. The rock may be somewhat harder (R3) but must have an average block diameter less than 6 inches or hard (R4) and have an average block diameter less than 3 inches. The rock is usually rippable.

RMC3 Rock cannot be scraped or peeled with a pocket knife. Hand-held specimen can be fractured with a single firm blow of the hammer end of a geological pick (R3) and has an average block diameter greater than 6 inches. Rock may be harder (R4) but must have an average block diameter of 3 to 6 inches or very hard (R5) and have an average block diameter of less than 3 inches. The rock is usually not rippable.

RMC4 Hand-held specimen requires more than one blow with hammer end of geological pick to fracture (R4) and has an average block diameter greater than 6 inches. Rock may be very hard (R5) but must have an average block diameter of 3 to 6 inches. The rock must be blasted.

RMC5 Hand-held specimen is very hard and requires many blows of the hammer end of a geological pick to fracture it (R5) and has an average block diameter greater than 6 inches. The rock must be blasted.

Appendix V Appraisal Map Content

1. The appraisal map(s) submitted with the appraisal data submission must be at a scale of 1:5000 or 1:10000. Additional maps at other scales may also be included as required.

2. At a minimum, the maps shall provide the following information:

    a. Cutting authority area boundary and block boundaries.

    b. Delineation of timber to be harvested and timber to be retained within the cutting authority area.

    c. Delineation of areas by harvest method.

    d. Delineation of areas where tree crown modification is planned.

    e. The geographic centre of each cutblock and common junction of the cutting authority area for truck haul distance calculations.

    f. Existing roads.

    g. Roads to be constructed.

    h. Location of roads/structures that are the subject of non-tabular estimates.

    i. Location, size and types of culverts and bridges.

3. For appraisal data submission where an extension is requested reference may be made to the original map submitted.

4. The appraisal map may be attached to the initial appraisal data submission in electronic format prior to the cutting permit being approved.

Appendix VI Appraisal Log Dump

Chilliwack Forest District

District: Chilliwack							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Coquitlam, Pacific Custom Log Sort	COPA	49	13	22	122	50	35
Delta, Northwest Hardwoods	DENH	49	08	26	123	02	18
Whonnock, Pioneer	WHON	49	10	17	122	29	2
Haney, Northview Sort	HANO	49	12	33	122	35	53
Harrison Bay DLS	HABA	49	14	45	121	57	25
Harrison Lake - 20 Mile Bay	HLTM	49	31	29	121	53	01
Harrison Lake - Bear Creek	HLBC	49	31	38	121	45	41
Harrison Lake – Head	HLHE	49	44	14	122	08	49
Harrison Lake - Silver River DLS	HLSR	49	34	33	121	49	16
Harrison Lake - Trio Creek (Westwood Bay)	HLTC	49	37	56	121	58	07
Hatzic, Dyke Road	HADR	49	08	46	122	14	42
Indian Arm	INDA	49	27	50	122	52	39
Pitt Lake – Head	PLHE	49	32	32	122	35	48
Port Coquitlam, Valiant Sort	POCO	49	14	47	122	44	09
Sardis, Cattermole DLS	SACA	49	08	32	122	03	35
Sardis, Probyn DLS	SAPR	49	08	35	122	04	26

Sunshine Coast Forest District

District: Sunshine Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Agamemnon Channel - Ruby Lake	AGRU	49	45	123	59
Agamemnon Channel - Sakinaw Lake DLS	AGSA	49	39	124	04
Agamemnon Channel - Kokomo Lake	AGKO	49	41	124	03
Agamemnon Channel - Acadia Creek	AGAC	49	42	124	02
Agamemnon Channel - West Lake	AGWE	49	44	124	03
Bute Inlet - Amour Point	BUAM	50	32	125	00
Bute Inlet - Bear Bay	BUBE	50	50	124	57
Bute Inlet - Clipper Point	BUCL	50	32	124	56
Bute Inlet - Hare Creek	BUHA	50	30	124	58
Bute Inlet - Homathko	BUHO	50	54	124	51
Bute Inlet - Mellersh	BUME	50	46	124	57
Bute Inlet - Mellersh 2	BUMF	50	45	124	57
Bute Inlet - Mellersh 3	BUMG	50	45	124	56
Bute Inlet - Moh Creek	BUMO	50	31	125	02
Bute Inlet - Orford Bay	BUOR	50	36	124	52
Bute Inlet - Paradise River	BUPA	50	35	124	57
Bute Inlet - Purcell Point	BUPU	50	46	124	52
Bute Inlet - Scott Paper (Homathko River)	BUSC	50	56	124	51
Bute Inlet - Stuart Island	BUST	50	22	125	06
Calm Channel - Churchhouse	CACH	50	20	125	04
Calm Channel - Raza Island	CARA	50	18	125	01
Cortes Island - Gorge Harbour	COGO	50	06	125	00
Desolation Sound - Theodosia Inlet	DETH	50	04	124	41
Homfray Channel - Attwood Bay	HOAB	50	19	124	40
Homfray Channel - Homfray Creek	HOHO	50	17	124	38
Jervis Inlet - Dacres Point	JEDP	49	49	123	55
Jervis Inlet - Deserted Bay	JEDB	50	05	123	45
Jervis Inlet - Glacial Creek	JEGC	50	00	123	54
Jervis Inlet - Glacial Creek North	JEGN	50	01	123	52

District: Sunshine Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Jervis Inlet - Granville Bay DLS	JEGR	49	50	123	59
Jervis Inlet - Hardy Island	JEHA	49	44	124	11
Jervis Inlet - Hunaechin River DLS	JEHU	50	12	123	58
Jervis Inlet - Killam Bay	JEKI	49	46	123	55
Jervis Inlet - Nelson Island, Annis Bay North	JENN	49	46	124	00
Jervis Inlet - Nelson Island, Vanguard Bay	JEVA	49	45	124	06
Jervis Inlet - Perketts Creek	JEPE	49	52	123	52
Jervis Inlet - Potato Creek	JEPO	50	08	123	48
Jervis Inlet - Queens Reach, Smanit Creek	JEQU	50	10	123	56
Jervis Inlet - Saltery Bay	JESA	49	46	124	10
Jervis Inlet - Seshal Creek	JESE	50	01	123	55
Jervis Inlet - St. Vincent Bay DLS	JESV	49	48	124	05
Jervis Inlet - Stakawus Creek DLS	JEST	50	04	123	46
Jervis Inlet - Treat Creek	JETC	49	50	123	52
Jervis Inlet - Vancouver Bay	JEVB	49	55	123	51
Malaspina Peninsula - Lund	MPLU	49	58	124	45
Malaspina Peninsula - Steamboat Bay	MPSB	50	00	124	47
Malaspina Peninsula East - Malaspina Inlet	MPMI	50	02	124	47
Malaspina Peninsula East - Okeover Inlet	MPOI	49	59	124	41
Malaspina Strait - Stillwater Bay - Stillwater DLS	MSSB	49	46	124	18
Malaspina Strait - Lang Bay	MSLB	49	46	124	21
Maurelle Island - East-West Bay	MIEW	50	18	125	06
Maurelle Island - Florence Cove (Hole in the Wall)	MIFC	50	18	125	09
Maurelle Island – West Side	MIWS	50	15	125	10
Nelson Island - Fearney Point	NIFP	49	39	124	06
Nelson Island - Cockburn Bay	NICB	49	41	124	11

District: Sunshine Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Powell River - Powell River Mill	PLPR	49	52	124	33
Princess Royal Reach - Brittain River North	PRBR	49	59	123	59
Pryce Channel	PRYC	50	19	124	53
Ramsay Arm - Quatum Bay	RAQU	50	23	124	56
Ramsay Arm - Ramsay Head	RARH	50	26	124	59
Ramsay Arm - Head	RAHE	50	27	125	00
Raza Passage - Francis Bay	RAZA	50	21	125	02
Read Island - Evans Bay	RIEB	50	13	125	04
Salmon Inlet - Camp "L" DLS	SICL	49	40	123	32
Salmon Inlet - Clowhom Falls DLS	SICF	49	42	123	31
Salmon Inlet - Misery Creek	SIMC	49	40	123	34
Sechelt - Narrows Inlet - Tzoonie Narrows	SNTN	49	42	123	46
Sechelt Inlet - Clipper Point (Piper Point) DLS	SICP	49	33	123	47
Sechelt Inlet - Doriston	SIDO	49	42	123	53
Sechelt Inlet - Kunechin Point	SIKP	49	39	123	49
Sechelt Inlet - Nine Mile Point	SINM	49	36	123	46
Sechelt Inlet - Oyster Bay	SIOB	49	34	123	48
Sechelt Inlet - Powerlines	SIPO	49	39	123	52
Sechelt Inlet - Skaiakos Point	SESP	49	36	123	49
Sechelt Inlet - Snake Bay (Carlson Point)	SISN	49	32	123	47
Sechelt Pen. - Skookumchuck Narrows, Earle Creek	SPSN	49	44	123	53
Texada Island - Anderson Bay	TIAB	49	31	124	08
Texada Island - Cook Bay	TICB	49	32	124	15
Texada Island - Mount Bay	TIMB	49	38	124	26
Thornbrough Channel - Avalon DLS	TCAV	49	30	123	29
Thornbrough Channel - McNab Creek	TCMC	49	33	123	23
Thornbrough Channel - Terminal DLS	TCTE	49	27	123	28
Thornbrough Channel - Twin Creeks DLS	TCTC	49	28	123	29

District: Sunshine Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Toba Inlet - Higgins Bay	TOHB	50	22	124	40
West Redonda Island - Desolation	WRDE	50	08	124	46
West Redonda Island - Doctor Bay	WRDB	50	15	124	49
West Redonda Island - Lewis Channel	WRLC	50	12	124	56
West Redonda Island - Redonda Bay	WRRB	50	15	124	57
West Redonda Island - Talbot Cove	WRTC	50	10	124	52
West Redonda Island - Teakerne Arm	WRTA	50	11	124	49

Sea to Sky (Squamish) Forest District

District: Sea to Sky (Squamish)							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Squamish Mills DLS	SQUA	49	41	07	123	09	25
West Barr DLS	WBAR	49	42	02	123	10	08
Watts Point DLS	WATT	49	39	20	123	12	57
[1]Harrison Lake – Head	HLHE	49	44	14	122	08	49
[1]Indian Arm	INDA	49	27	50	122	52	39

Haida Gwaii Forest District

District: Haida Gwaii							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Cumshewa Inlet - Beatty Anchorage, Louise Island DLS	CUBE	53	01	29	131	53	49
Masset Inlet - Collison Point Dump	MICP	53	47	08	132	13	23
Masset Inlet - Dinan Bay DLS	MIDB	53	41	42	132	36	13
Masset Inlet - Ferguson Bay DLS	MIFB	53	40	13	132	17	25
Masset Inlet – McClinton Bay DLS	MIMB	53	38	53	132	35	27
Masset Inlet – Port Clements, Abfam Mill	MIAM	53	42	00	132	10	20
Masset Inlet – Port Clements, O'Brien DLS	MIOB	53	42	07	132	10	13
Naden Harbour – Colnett Point DLS	NHCP	53	58	34	132	40	22
Naden Harbour - Davidson DLS	NHDA	53	59	33	132	34	13
Rennell Sound - Clonard Bay Dump	RSCB	53	20	58	132	30	41
Rennell Sound - Rennell Sound DLS	RSRS	53	21	28	132	27	44
Sewell Inlet - Sewell Inlet DLS	SISI	52	52	42	131	58	28
Skidegate inlet - Alliford Bay DLS	SIAB	53	12	23	131	59	01
Skidegate Inlet - Long Inlet, Lagins Creek DLS	SILI	53	13	27	132	18	47
Skidegate Inlet - Queen Charlotte City, Skidegate DLS	SIQC	53	15	05	132	06	24
Skidegate Inlet - South Bay DLS (South of Sandilands Island)	SISB	53	09	37	132	04	02
Van Inlet - (South of Rennell Sound)	VIRS	53	17	07	132	30	22

[1] Located in Chilliwack F.D., but can be used for Sea to Sky (Squamish) Forest District appraisals.

Coast Mountain (North Coast) Forest District

District: Coast Mountain (North Coast)					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Alan Reach - Collins Bay DLS	ARCO	53	33	128	44
Alan Reach - Ochwe Bay, Paril Creek Log Dump	ALOC	53	29	128	46
Alan Reach - Proposed BCTS	ALTS	53	25	128	34
Alice Arm - Kitsault	ALKI	55	28	129	27
Alice Arm - Proposed BCTS	AATS	55	28	129	29
Banks Island - Banks Island DLS, Donaldson Lake	BADO	53	28	130	02
Banks Island - Patterson Inlet	BAPA	53	26	129	46
Devastation Channel - Heysham Creek – BCTS	DVHE	53	35	128	48
Devastation Channel - Verney Pass Log Dump	DVVE	53	32	128	51
Devastation Channel - Weewanie Creek	DVWE	53	41	128	47
Douglas Channel - Kitkiata - BCTS	DOKI	53	38	129	15
Douglas Channel - Little Tillhorn DLS	DOTI	53	33	129	10
Ecxstall River - Cuthbert Creek DLS	ETCC	54	05	129	51
Grenville Channel - Farrant Island Log Dump	GRFA	53	19	129	23
Grenville Channel - Baker Inlet	GRBA	53	48	129	53
Kaien Island - Kaien Island DLS	KAIS	54	18	130	15
Kennedy Island - Kennedy Island DLS	KEIS	54	03	130	09
Kumealon Inlet - Kumealon DLS	KUIN	53	52	129	59
Nass Bay - Mill Bay	NBMB	55	00	129	52
Nass Bay - Welda Creek	NBWC	54	56	129	52
Pearse Island - Dogfish Bite	PIDB	55	01	130	11
Pitt Island - Captain's Cove	PICC	53	48	130	11
Pitt Island (South) - Payne Channel Log Dump	PIPC	53	19	129	28
Porcher Island - Hunts Island - BCTS	POHI	54	03	130	33
Porcher Island - Oona River	POOR	53	56	130	15
Porcher Island - Porcher Inlet (North) – BCTS	POPN	53	59	130	25
Porcher Island - Porcher Inlet (South) – BCTS	POPS	53	58	130	24

District: Coast Mountain (North Coast)					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Port Edward - Bawey Wood Products	PEBW	54	14	130	17
Port Edward - Galloway Rapids	PEGR	54	14	130	16
Port Simpson - Stumaun Bay DLS	PSSB	54	33	130	23
Portland Canal - Donahue Creek (BCTS)	PCDC	55	28	130	02
Portland Canal - Swamp Point	PCSP	55	23	130	01
Portland Inlet - BCTS - Sommerville Island	PISI	54	46	130	13
Portland Inlet - Nasoga Gulf, Chambers Creek	PING	54	53	130	03
Prince Rupert - Sabre Marine	PRSM	54	19	130	16
Princess Royal Channel - Fraser Reach #2	PRCF	53	15	128	51
Princess Royal Channel -Fraser Reach #1	PRFR	53	16	128	53
Princess Royal Island - Chapple Inlet DLS	PRCI	52	57	129	08
Princess Royal Island - Head of Surf Inlet Log Dump	PRHS	53	01	128	54
Princess Royal Island - Surf Inlet	PRSI	53	01	128	54
Princess Royal Island - Surf Inlet Log Dump	PRSD	53	01	128	54
Princess Royal Island - Surf Inlet, Cedar Creek Log Dump	PRCC	53	01	128	56
Princess Royal Island - Triven Point – BCTS	PRTP	53	18	129	01
Quatoon Inlet	QUIN	54	27	130	05
Ridley Island	RIIS	54	13	130	19
Ridley Island - Ridley Island DLS	RIRI	54	14	130	18
Scotia River - Scotia River DLS	SRSR	54	10	129	38
Skeena River - Alder Creek DLS	SRAC	54	14	129	25
Sommerville Island - BCTS - Steamer Passage (east)	SISP	54	42	130	15
Sommerville Island - BCTS - Steamer Passage (west)	SISQ	54	42	130	18
Steamer Passage - Crow Lagoon	SPCL	54	42	130	13
Triumph Bay - Trip Creek Log Dump	TBTC	53	28	128	42
Triumph Bay - Triumph Bay DLS	TBTB	53	26	128	41

District: Coast Mountain (North Coast)					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Ursula Channel - Bishop Bay Log Dump	UCBB	53	26	128	53
Ursula Channel - East Gribble Island Log Dump	UCGI	53	21	128	55
Ursula Channel - Goat Harbour	UCGH	53	21	128	50
Ursula Channel - Proposed BCTS	UCTS	53	29	128	57
Ursula Channel - Riordan Creek Log Dump	UCRC	53	26	128	57
Verney Passage - Cheenis Creek	VPCC	53	33	129	01
Whale Channel - Cornwall Inlet, Drake Inlet Log Dump	WCDI	53	08	128	58
Work Channel - Bill Lake	WCBL	54	23	130	05
Work Channel - Marion Creek	WCMC	54	21	130	03
Work Channel - Union Inlet	WCUI	54	33	130	24

Campbell River Forest District

District: Campbell River							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Bligh Island	BLIS	49	40	34	126	31	51
Brooks Bay - Cordero Channel	BRCO	50	27	20	125	25	45
Brougham - Nodales Channel	BRNO	50	22	23	125	22	59
Bute Inlet – East of Estero Basin (Egerton)	BUES	50	30	12	125	06	30
Call Inlet - Head of Call Inlet (south side)	CAHS	50	37	37	125	56	56
Call Inlet - Head of Call Inlet (north side)	CAHN	50	38	22	125	58	54
Call Inlet (North) - Call Inlet	CACN	50	36	33	126	06	03
Call Inlet (South) - Call Inlet	CACS	50	35	35	126	06	23
Chancellor Channel - Darcy Point South	CHDA	50	25	25	125	42	01
Comox	COMO	49	39	-	124	55	-
Cordero Channel - Picton Point	COPI	50	28	04	125	23	55
Cordero Channel - Cordero 1	COCO	50	26	35	125	33	21
Cordero Channel - Tallac Bay	COTA	50	26	40	125	28	06
Discovery Passage - Elk Bay	DIEB	50	16	38	125	26	16
Discovery Passage - Menzies Bay	DIMB	50	07	28	125	23	15
Discovery Passage - West Sonora Island	DIWS	50	19	00	125	24	09
East Thurlow Island - Bickley Bay	ETBB	50	26	52	125	24	06
East Thurlow Island - Crawford Anchorage, Erasmus Island	ETCA	50	25	50	125	27	56
East Thurlow Island - Hemming Bay	ETHB	50	24	01	125	22	47
East Thurlow Island - Mayne Passage	ETMP	50	23	15	125	31	22
East Thurlow Island - Turn Harbour	ETTH	50	21	11	125	28	18
Esperanza Inlet - Port Eliza	ESPE	49	52	13	127	00	32
Esperanza Inlet - Port Eliza, Weasel Creek	ESWC	49	56	12	127	02	25
Espinosa Inlet - Mid Espinosa Inlet	ESME	49	55	42	126	56	32
Espinosa Inlet - South Espinoza	ESSE	49	53	26	126	54	56
Frederick Arm	FRED	50	30	18	125	15	29
Frederick Arm - Egerton Creek South	FAEC	50	29	04	125	15	00

District: Campbell River							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Hardwicke Island – South East at Chancellor Channel	HACC	50	25	12	125	45	50
Johnstone Strait - Bear Bay	JSBB	50	21	38	125	39	09
Johnstone Strait - Eve River	JSER	50	28	06	126	17	21
Johnstone Strait - Hardwicke Island South West	JSHI	50	24	56	125	55	20
Johnstone Strait - Havannah Channel, South of East Cracroft Island	JSHA	50	31	55	126	13	33
Johnstone Strait - Kelsey Bay	JSKB	50	23	49	125	57	40
Johnstone Strait - Naka Creek	JSNC	50	28	38	126	25	16
Johnstone Strait - Port Neville Head	JSPH	50	33	04	125	57	47
Johnstone Strait - Port Neville West	JSPW	50	31	05	126	04	14
Johnstone Strait - South East Bay	JSSE	50	27	41	126	11	58
Johnstone Strait - Tuna Point, Sunderland Channel	JSTP	50	28	16	125	59	00
Kyuquot Channel – Cachalot Inlet	KYCA	50	00	03	127	10	15
Kyuquot Sound - Amai Inlet	KYAM	50	01	27	127	10	23
Kyuquot Sound - Chamiss Bay	KYCH	50	04	01	127	17	11
Kyuquot Sound - Eelstow Passage	KYEE	50	06	04	127	10	35
Kyuquot Sound - Hohoae Island	KYHO	50	02	00	127	14	00
Kyuquot Sound - Kashutl River	KYKA	50	11	06	127	18	02
Kyuquot Sound - Kauwinch River, Kashutl Inlet	KYKR	50	08	12	127	15	56
Kyuquot Sound - Tahsish Inlet	KYTA	50	06	11	127	05	47
Kyuquot Sound - Union Island East	KYUE	50	01	33	127	14	31
Kyuquot Sound - Union Island West	KYUW	50	00	58	127	18	51
Loughborough Inlet - Cooper Reach East	LICR	50	41	44	125	26	48
Loughborough Inlet - Beaver	LIBE	50	30	02	125	37	32
Loughborough Inlet - Heydon Bay	LIHB	50	34	53	125	34	14
Loughborough Inlet - Poison Creek	LIPC	50	38	07	125	31	40
Loughborough Inlet - Poison (North)	LIPN	50	39	15	125	30	51

District: Campbell River							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Loughborough Inlet - Poison (South)	LIPS	50	36	32	125	31	59
Loughborough Inlet (Head) - Stafford Lake	LISL	50	42	52	125	28	24
Loughborough Inlet - Styles	LIST	50	26	58	125	37	12
Muchalat Inlet - Gold River DLS	MUGR	49	40	51	126	07	11
Muchalat Inlet - Houston River	MUHR	49	38	17	126	16	51
Muchalat Inlet - Jacklah River	MUJR	49	39	05	126	09	30
Muchalat Inlet - Kleeptee Creek, North of Gore Island	MUKC	49	39	29	126	22	47
Muchalat Inlet - McCurdy Creek	MUMC	49	40	22	126	10	56
Muchalat Inlet - Silverado Creek	MUSC	49	37	55	126	21	45
Muchalat Inlet (Head) - Matchlee Bay east	MUME	49	39	07	126	05	15
Muchalat Inlet (Head) - Matchlee Bay west	MUMW	49	36	52	126	03	26
Muchalat Inlet (Head) - Matchlee Bay, Burman River	MUMB	49	37	19	126	02	55
Nodales Channel - Extension	NOEX	50	25	02	125	18	15
Nodales Channel - Wyssen	NOWY	50	24	56	125	18	29
Nootka Island - Blowhole Bay	NIBB	49	49	40	126	40	34
Nootka Island - Brodick Creek, Esperanza Inlet	NIBC	49	51	02	126	52	25
Nootka Island - Kendrick Inlet DLS	NIKI	49	43	29	126	38	59
Nootka Island - Kendrick Inlet, Plumper Harbour	NIPH	49	41	21	126	37	46
Nootka Sound - Bligh Island, South of Conception Point	NSBI	49	39	30	126	29	44
North Kanish	NOKA	50	15	28	125	19	03
Phillips Arm - Fanny Bay	PAFB	50	31	53	125	23	53
Phillips Arm - Phillips Arm South	PAPA	50	30	07	125	21	15
Portland - Nodales Channel	PONC	50	26	17	125	17	48
Quadra Island - Chonat Bay	QICB	50	18	10	125	16	59
Quadra Island - Gowland Harbour	QIGH	50	05	56	125	15	15
Quadra Island - Kanish Bay	QIKB	50	14	38	125	21	13

District: Campbell River							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Quadra Island - Plumper Bay	QIPB	50	10	00	125	20	11
Royston	ROYS	49	39	09	124	57	11
Sonora Island - Horn Bay, North of Sonora Island	SIHB	50	25	20	125	12	24
Sonora Island – Woods Bay	SOWO	50	18	56	125	17	39
Sunderland Channel – Hill Point, Topaze Harbour	SCJB	50	31	01	125	45	24
Sunderland Channel - Topaze Harbour, Jackson Bay	SCTH	50	31	18	125	49	35
Tahsis Inlet - Tsowwin River	TITR	49	46	26	126	38	06
Tahsis Inlet - West Tahsis	TIWT	49	52	26	126	40	25
Thurston - Sonora Island	THUR	50	22	07	125	18	56
Tlupana Inlet - Head Bay	TLHB	49	47	30	126	29	31
Tlupana Inlet - Deserted Lake	TLDL	49	46	21	126	28	39
Tlupana Inlet - Nesook Bay	TLNB	49	45	21	126	25	13
Union Bay - Union Bay DLS	UBUB	49	35	02	124	53	31
Wellbore Channel - Darcy Point, East of Hardwicke Island	WCDP	50	25	53	125	43	07
West Thurlow Island - Butterfly Bay	WTBB	50	24	00	125	33	00
West Thurlow Island - Knox Bay DLS	WTKB	50	23	25	125	37	19
Zeballos Inlet - Little Zeballos	ZILZ	49	56	20	126	47	59
Zeballos Inlet - South (Ciriaco)	ZISC	49	55	16	126	48	38
Zeballos Inlet – Zeballos	ZIZE	49	58	41	126	51	27

South Island Forest District

District: South Island							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Alberni Inlet - China Creek	ALCH	49	9	20	124	47	32
Alberni Inlet – Coleman Creek	ALCO	48	59	50	124	52	22
Alberni Inlet - Shoemaker Bay	ALSB	49	13	33	124	50	08
Alberni Inlet - Spencer Creek DLS	ALSP	48	58	24	124	54	38
Barkley Sound - Cataract Lake DLS	BACA	48	57	28	125	15	40
Barkley Sound - Sarita DLS	BASA	48	52	59	125	02	11
Barkley Sound - Skull Lake DLS	BASK	49	02	37	125	09	48
Barkley Sound - Toquart Bay DLS	BATO	49	01	23	125	21	40
Barkley Sound - Tzartus Island	BATZ	48	56	59	125	04	07
Chemainus	CHEM	48	54	59	123	42	24
Coastland	COAS	49	08	47	123	55	41
Cypre River DLS, Hecate Bay	CYPR	49	14	48	125	56	38
Duke Point	DUKE	49	08	45	123	52	38
Effingham Inlet	EFIN	49	05	36	125	11	23
Flores Island - Steamer Cove	FLSC	49	22	40	126	11	31
Galiano Island	GALI	48	53	-	123	20	-
Great Central Lake - Dorothy	GCDO	49	21	38	125	23	02
Great Central Lake - Lakeside	GCLA	49	21	29	125	11	36
Great Central Lake - McBride	GCMC	49	23	35	125	25	44
Great Central Lake - Mercs	GCME	49	21	48	125	15	57
Great Central Lake - View	GCVI	49	23	20	125	22	45
Herbert Inlet - Beddingfield Bay DLS	HEBE	49	21	04	125	59	27
Jordan River	JORD	48	25	26	124	03	25
Ladysmith DLS	LADY	48	54	59	123	42	20
Ladysmith Head	LADH	49	01	39	123	51	19
Mayne Island - Horton Bay	MIHB	48	49	44	123	15	01
Mud Bay, Fanny Bay DLS	MUDB	49	27	48	124	47	44
Mooyah	MOOY	49	37	51	126	27	23
Nootka Sound - Zuciarte Channel, Mooyah Bay	NSZC	49	39	30	126	29	41
Northwest Bay, Parksville	NBPA	49	17	49	124	12	45

District: South Island							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Otter Point Log Sort	OPLS	48	22	10	123	46	16
Saltspring Island, Burgoyne Bay	SIBU	48	47	37	123	31	21
Port Alberni, Ship Creek	PASC	49	13	17	124	48	42
Shoal Island DLS	SHOA	48	52	54	123	38	07
Stewardson Inlet	STEW	49	25	26	126	18	37
Sydney Inlet	SYIN	49	26	07	126	13	43
Stewardson Inlet (Mouth)	STEM	49	26	39	126	17	49
Strait of Georgia - Valdes Island	SGVI	49	03	54	123	39	19
Tofino Inlet - Rankin Cove	TIRC	49	10	30	125	42	21
Uchuklesit Inlet - Silverside DLS	UISI	49	00	22	125	02	11
Uchuklesit Inlet - Snug Cove	UISC	49	00	58	125	01	58
Ucluelet (East)	UCLU	48	58	25	125	34	21
Vargas Island	VARG	49	12	-	125	58	-

North Island - Central Coast Forest District

District: North Island - Central Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Actaeon Sound	ACSD	50	58	127	02
Beaver Cove	BEAV	50	32	126	52
Bella Coola	BECO	52	22	126	49
Bonwick Island, Grebe Cove	BOGR	50	43	126	37
Boswell Inlet DLS	BOIN	51	22	127	28
Boughey	BOUG	50	32	126	11
Burke Channel, Doc Creek	BUDO	51	58	127	40
Burke Channel, Twin Creeks DLS	BUTW	52	15	127	16
Chief Nollis Bay	CHNO	51	11	127	06
Clayton Falls DLS	CLFA	52	22	126	49
Cleagh Creek DLS	CLCR	50	29	127	45
Cousins Inlet	COUS	52	18	127	45
Creasy Bay	CREA	50	57	127	05
Cutter Cove	CUTT	50	37	126	16
Dawsons Landing	DALA	51	35	127	35
Dean Channel, Parker Creek	DEPA	52	15	127	43
Denny Island, Kliktsoatli Harbour	DEKL	52	09	128	05
Disco Bluff - South Bentinck Arm	DISB	52	07	126	45
Don Peninsula - Tom Bay	DOTB	52	24	128	16
Draney Inlet	DRIN	51	27	127	27
Drury Inlet	DRUR	50	55	127	09
Drury Inlet - Caviar Cove DLS	DRCA	50	53	127	03
Fish Egg Inlet DLS	FISH	51	33	127	46
Forward	FORW	50	29	125	44
Frederick Bay DLS	FRBA	51	02	127	14
Frederick Sound - Snowdrift Mt. DLS	FSSM	51	04	126	44
Frenchman Creek - Dean Channel	FRDC	52	19	127	33
Gilford Island - Duck Cove	GIDU	50	40	126	30
Gilford Island - Shoal Harbour	GISH	50	46	126	28
Gilford Island - Scott Cove DLS	GISC	50	44	126	29
Harbledown Island, DLS	HARB	50	35	126	33

District: North Island - Central Coast							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Hardy Inlet	HARD	51	41		127	33	
Hardy Inlet - MacNair DLS	HAMA	51	42		127	34	
Holberg	HOLB	50	39		128	00	
Holberg Inlet - Hushamu Creek	HOHU	50	36		127	46	
Holberg Inlet - Michelsen Point	HOMI	50	35		127	42	
Hopetown Passage	HOPE	50	55		126	50	
Jennis Bay DLS	JENB	50	55		127	01	
Jenny Inlet DLS - King Island	JNKI	52	14		127	36	
Johnson Channel	JOHN	52	12	18	127	54	30
Kimsquit DLS	KIMS	52	52		127	05	
Kingcome Inlet DLS	KIDL	50	56		126	13	
Kingcome Inlet - Anchorage Cove	KIAC	50	54		126	12	
Knight Inlet – Head	KIHD	50	05		125	35	
Knight Inlet, Blind Creek	KIBC	50	41		125	42	
Knight Inlet, Escape Point	KIEP	50	52		125	41	
Knight Inlet, Glendale Cove	KIGC	50	40		125	44	
Knight Inlet, Hoeya Sound	KIHS	50	42		125	58	
Knight Inlet, Lull Bay	KILB	50	42		126	01	
Knight Inlet, Matsui Creek	KIMC	50	42		125	49	
Knight Inlet, Prominent Point	KIPP	50	40		126	01	
Knight Inlet, Protection Point	KIPR	50	39		126	10	
Knight Inlet, Sallie Creek	KISC	50	43		125	43	
Knight Inlet, Tsakonu Cove	KITC	50	38		126	10	
Kokish	KOKI	50	32		126	51	
Koprino Harbour	KOPR	50	30		127	52	
Kwatna Bay DLS	KWAT	52	06		127	24	
Kwatna Inlet, Quatlena	KWQU	52	03		127	35	
[1]Loughborough Inlet (Head) – Stafford Lake	LISL	50	43		125	28	
MacKenzie Sound DLS	MKSD	50	56		126	39	
Mahatta River	MAHA	50	28		127	48	
Malcolm Island, Mitchell Bay	MALC	50	38		126	51	
Mathieson Channel, Tom Bay	MATB	52	24		128	16	
Mereworth Sound DLS	MESD	51	13		127	24	
Moses Inlet	MOIN	51	49		127	22	

[1]Located in Campbell River F.D., but can be used for North Island – Central Coast appraisals.

District: North Island - Central Coast							
Location	**ALD Code**	**Co-ordinates (Approximately)**					
		Latitude			**Longitude**		
		Degrees	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
Neroutsos Inlet - Thurburn Bay	NETB	50	23		127	29	
North Broughton Island, Tracey Harbour	NBTH	50	51		126	51	
Nimpkish DLS	NIMP	50	33		126	52	
Ocean Falls, Link Lake DLS	OFLL	52	21		127	41	
Owikeno Lake, Macmell, Neechanz DLS	OLMN	51	40		126	41	
Owikeno Lake, Sheemahant DLS	OLSH	51	44		126	38	
Pack Lake	PACK	51	10		127	28	
Pooley Island - James Bay	PIJB	52	42		128	13	
Quatsino DLS	QUAT	50	28		127	31	
Quatsino Sound – Ingersoll	QUSI	50	29		127	41	
Port Hardy - Shushartie DLS	PHSH	50	43		127	29	
Port McNeill	PTMN	50	36		127	06	
Port McNeill - WFP DLS	PMWF	50	36		127	07	
Rivers Inlet - Kilbella Bay	RIKB	51	42		127	20	
Rivers Inlet - Owikeno First Nations DLS	RIOW	51	41		127	16	
Rivers Inlet - Ripon Island	RIRP	51	29		127	37	
Roderick Island - Griffen Passage, DLS	ROGP	52	44		128	21	
Sargeaunt Pass	SARG	50	42		126	12	
Seaforth Channel	SEAF	52	14		128	19	
Seymour Inlet - East Head	SEEH	51	12		126	39	
Seymour Inlet, Warner Bay	SEWB	51	02		127	06	
Seymour Inlet, Wigwam Bay	SEWI	51	08		126	43	
Seymour Inlet - Woods Lagoon	SEWO	51	01		127	18	
Shearwater DLS	SHEA	52	09		128	05	
Simoon Sound	SISO	50	51		126	32	
Smith Inlet, Walkum Bay	SIWB	51	21		127	07	
South Bentinck Arm, Bentinck Narrows	SBBN	52	00		126	41	
South Bentinck Arm, Larso Bay	SBLB	52	11		126	52	
South Bentinck Arm, Noeick River	SBNR	52	03		126	41	
South Bentinck Arm, Taleomy	SBTA	52	00		126	40	
South Bentinck Arm - West Side	SBWS	52	06		126	47	
Spiller Inlet – Snass Lake	SISL	52	30	49	128	05	48
Spiller Inlet – Ingram Lake	SIIL	52	37	34	128	02	07
Strachan Bay	STRA	51	10		127	28	

District: North Island - Central Coast					
Location	**ALD Code**	**Co-ordinates (Approximately)**			
		Latitude		**Longitude**	
		Degrees	**Minutes**	**Degrees**	**Minutes**
Thompson Sound DLS	THSD	50	48	126	01
Tribune Channel, London Point	TCLP	50	47	126	07
Wakeman Sound	WAKE	51	02	126	31
Walbran Island, Taylor Bay	WITB	51	30	127	36
Wallace Bay - Cousins Inlet	WBCI	52	17	127	45
Watson Island - Turnbull Cove	WITC	50	57	126	49
West Cracroft Island - Port Harvey	WCPH	50	34	126	17
West Cracroft Island - Potts North	WCPN	50	34	126	28
Yeo Cove, Yeo Island	YCYI	52	18	128	11

Appendix VII Definition of 'Bankheight' Tabular Road Categories

OMLB	Other Material – Local Ballast Other material and rock/hardpan that does not require drilling and blasting - ballast/surface with local material (i.e., no truck haul) - includes patch ballasting and surfacing with endhaul material.
OMPR	Other Material – Pit Run Ballast Other material that does not require drilling and blasting and surfacing is pit run material (i.e., not drilled and blasted) or stored end haul material, requiring truck haul.
OMRB	Other Material – Rock Ballast Other material that does not require drilling and blasting and surfacing is quarried (i.e., drilled and blasted) rock.
TOE	Low rock face height. Rock (including hardpan) that must be drilled and blasted and results in up to 1.50 metre inside rock face. Includes ditchlines or boulders less than 1.50 metres in height that require drilling and blasting.
MRK	Medium rock face height. Rock (including hardpan) that must be drilled and blasted and results in a 1.51 to 3.00 metre inside rock face. Includes boulders between 1.51 and 3.00 metres in height that require drilling and blasting.
HRK	High rock face height. Rock (including hardpan) that must be drilled and blasted and results in a 3.01 to 4.50 metre inside rock face. Includes boulders between 3.01 and 4.50 metres in height that require drilling and blasting.
XRK	Rock (including hardpan) that must be drilled and blasted and results in a 4.51 to 6.00 metre inside rock face. Includes boulders between 4.51 and 6.00 metres in height that require drilling and blasting.
XXRK	Rock (including hardpan) that must be drilled and blasted and results in a 6.01 to 7.50 metre inside rock face. Includes boulders between 6.01 and 7.50 metres in height that require drilling and blasting.

Appendix VIII Non-Tabular Cost Estimates

VIII.1 Non-Tabular Cost Estimates

1. The cost information contained in this appendix are to be used in conjunction with the Detailed Engineering Estimates for Coast Stumpage Appraisal – February 1, 2001 and as amended to September 1, 2002.

2. A non-tabular cost estimate must be calculated on the basis that the construction project will be completed using commonly used logging road construction practices and that the roads will have single lane width roads, turnouts and landings.

3. Weighted averages for each variable (e.g., uphill side slope, rock, etc.) are applied to each road section. Averages are obtained by weighting the cross-section measurements taken at representative points along the road by the applicable road section length.

VIII.2 Subgrade Construction

1. The estimated cost per kilometre for subgrade construction is provided for each combination of construction category and uphill side-slope for two rock mass classification categories, 'RMC 5 Only' and 'Other RMCs'.

2. Construction category (CC) is determined on the basis of the percent rock in relation to the total volume of all materials.

3. The percent rock is determined as follows:

$$\%\text{rock} = \frac{h^2}{H^2} * 100\%$$

Where:

h = the vertical cut height of all rock measured from the bottom of the ditch

H = the total vertical cut height of all materials including organic layers, glacial till and hardpan measured from the bottom of the ditch

4. Construction category may show a range of variation (+ one CC) within any section length, and is recorded to the nearest integer. Hardpan is CC1, whether drilled and blasted or not. Rippable rock and boulders may occur in CC2 to CC6.

5. The following table defines the construction categories.

Table Appendix VIII-1: Construction Categories

Construction Category (CC)	1	2	3	4	5	6
% rock	0	1-12	13-37	38-62	63-87	88+

6. Rock mass classification (RMC) is based on the physical characteristics of rock encountered in forest road development and is the subject of a report commissioned by the Forest Engineering Research Institute of Canada in 1978 and prepared by Piteau & Associates/Geotechnical Consultants.

7. Rock can be classified into five types referred to as rock mass classification (RMC) values and identified as RMC 1, 2, 3, 4, and 5.

8. The steps taken to determine RMC values and apply these to road development cost estimates are:

    a. examine and record surface hardness, weathering, and block diameter in the field,

    b. determine subsurface hardness from the table in Appendix IV with this title,

    c. determine RMC value from the table Appendix IV with this title, and

    d. apply selected RMC values to applicable tables and formulas for road cost estimates.

9. The text and tables in Appendix IV have been derived from the report prepared by Piteau & Associates. These tables are used to determine the RMC-based factors required for road cost estimates.

10. In all circumstances where a complete interpretation of the rock mass classification system is required, the Piteau & Associates report is to be consulted directly.

11. Subgrade cost estimates are determined as follows:

    a. all section lengths must be 0.3 km or longer, with the exception of short spurs and those sections which do not qualify under Subsection 3.b. Lengths are recorded to the nearest 0.001 km,

    b. In general each section should consist of a length of road wherein:

        i. variations in slope percentage measurement are within $\pm$ 15 percent of the average slope measured in the section. The uphill slope percent is measured at right angles to the road centreline, parallel to the ground of the uphill slope and recorded to the nearest percent (no rounding permitted). Where the road is located on a bench, the slope of the bench is used,

ii. construction categories vary by no more than + 1 construction category about the average construction category in the section,

iii. one rock mass class predominates,

iv. all stabilizing material is trucked or no stabilizing material is trucked,

v. stabilizing material is either all gravel or all rock.

c. All sections with 60 percent or more (by length) of RMC 5 are designated as ‘hard’.

d. If the total length of all ‘hard’ sections is greater than 90 percent of the total length of sections containing rock (i.e., CC 2-6), then the cost table for RMC 5 Only is applied to all roads in the appraisal.

e. If the roads do not qualify under 'c.' and 'd.' above, then the subgrade construction cost estimate table for other RMCs is applied to all roads in the appraisal.

12. The subgrade construction cost estimate includes the cost of clearing and grubbing, stripping, stump removal, incidental log decking, ditch construction, landing and turnout construction, and single log abutment culverts with spans less than 3.5 m. All pipe culverts 0.3 m diameter to 1.8 m diameter are estimated using Table 5-4.

Table Appendix VIII-2: Subgrade Construction Cost Estimates Expressed in Thousands of Dollars per Kilometre

a) RMC 5 ONLY

Uphill Side Slope %	Construction Category					
	CC1	CC2	CC3	CC4	CC5	CC6
0-4	27.3	36.2	59.9	85.8	108.1	123.4
5-14	28.3	37.9	63.1	90.3	113.6	129.5
15-24	29.6	40.0	67.0	95.7	120.1	136.8
25-34	30.7	42.0	70.7	100.8	126.3	143.7
35-44	31.7	43.8	74.2	105.7	132.2	150.3
45-54	32.6	45.5	77.5	110.3	137.9	156.3
55-64	33.4	47.2	80.8	114.8	143.3	162.6
65-74	34.2	48.8	83.9	119.1	148.5	168.4
75-84	35.0	50.3	86.8	123.3	153.6	174.1
85-94	35.6	51.8	89.7	127.3	158.4	179.5
95-104	36.3	53.2	92.5	131.1	163.2	184.9
105-114	36.8	54.6	95.2	134.9	167.8	190.0
115-124	37.4	55.9	97.8	138.5	172.2	195.1
125-134	37.9	57.2	100.4	142.1	176.6	200.0
135-144	38.4	58.4	102.8	145.5	180.8	204.8
145-150	38.8	59.6	105.3	148.9	185.0	209.5

b) OTHER RMC's

Uphill Side Slope %	Construction Category					
	CC1	CC2	CC3	CC4	CC5	CC6
0-4	27.3	34.0	51.9	72.0	89.6	101.9
5-14	28.3	35.5	54.5	75.5	93.9	106.6
15-24	29.6	37.3	57.6	79.7	98.9	112.2
25-34	30.7	39.0	60.6	83.7	103.7	117.5
35-44	31.7	40.6	63.4	87.5	108.3	122.6
45-54	32.6	42.1	66.0	91.1	112.7	127.5
55-64	33.4	43.5	68.6	94.6	116.9	132.1
65-74	34.2	44.9	71.0	97.9	120.9	136.7
75-84	35.0	46.2	73.3	101.2	124.8	141.0
85-94	35.6	47.4	75.6	104.2	128.5	145.2
95-104	36.3	48.6	77.8	107.2	132.2	149.3
105-114	36.8	49.7	79.9	110.1	135.7	153.3
115-124	37.4	50.8	81.9	112.9	139.2	157.2
125-134	37.9	51.9	83.9	115.7	142.5	161.0
135-144	38.4	52.9	85.8	118.3	145.8	164.7
145-150	38.8	53.9	87.7	120.9	149.0	168.3

VIII.3 Additional Stabilizing Material

1. Stabilizing material is gravel or broken rock which is placed on the road subgrade to provide stable support and a running surface for logging related equipment. Some stabilizing material may be created on site during subgrade construction. If additional stabilizing material is required it may be obtained from the adjacent cut-bank or trucked in.

VIII.4 Additional Stabilizing Material Cost Estimate

1. The total cost estimate per kilometre for the stabilizing material is:

   Cost Estimate ($/km) = V multiplied by U

   Where:

   a. V is the loose volume of additional stabilizing material expressed in cubic metres of material per kilometre of road, and

   b. U is the cost estimate of the additional stabilizing material expressed in dollars per loose cubic metre of material.

2. The volume of rock or gravel expressed in cubic metres required to stabilize one kilometre of road which includes the length of turnouts and landings is calculated as follows:

   a. Where rock is used, VR = 1000D (W + 1.0D),

   b. Where gravel is used, VG = 1000D (W + 1.5D),

Where:

   i. W is the stabilized road width and has the value of 6.2 metres,

   ii. D is the loose depth of stabilizing material measured in metres determined from the Table VIII-3,

   iii. VR is the volume of rock, and

   iv. VG is the volume of gravel.

Table Appendix VIII-3: Additional Loose Stabilizing Material Depths Expressed in Metres

Side Slope	Construction Category					
	1	2	3	4	5	6
0-4	0.8	0.8	0.7	0.6	0.6	0.5
5-14	0.7	0.7	0.7	0.6	0.5	0.4
15-24	0.7	0.6	0.6	0.5	0.4	0.4
25-34	0.6	0.6	0.5	0.4	0.3	0.3
35-44	0.5	0.5	0.4	0.3	0.3	0.2
45-54	0.4	0.4	0.3	0.3	0.2	0.1
55-64	0.3	0.3	0.3	0.2	0.1	0.0
65-74	0.2	0.2	0.2	0.1	0.0	0.0
75-84	0.2	0.1	0.1	0.0	0.0	0.0
85-94	0.1	0.1	0.0	0.0	0.0	0.0
95-104	0.0	0.0	0.0	0.0	0.0	0.0
105-114	0.0	0.0	0.0	0.0	0.0	0.0
115+	0.0	0.0	0.0	0.0	0.0	0.0

3. The factors of 1.0 and 1.5 relate to the slope of the fill material. More gravel than rock is required to stabilize a given kilometre of road (i.e., 1.5:1 fill slopes for gravel and 1:1 fill slopes for rock).

4. The quantities per kilometre and the depths by construction categories are only used in conjunction with tabular cost estimates.

5. a. A cost estimate may be calculated for the cost of additional stabilizing material and associated labour including:

    i. borrow pit preparation,

    ii. rock drilling, explosives, loading of explosives and blasting (e.g., compacted or cemented gravel, oversize material, etc.),

    iii. loading gravel trucks when truck haul required, or placement of materials when trucking is not required,

    iv. truck hauling, when required, and

    v. spreading and compacting material.

b. The cost estimates assume borrow pits are located adjacent to a road right-of-way. If an access road must be constructed to a borrow pit to build a road to a cutting authority area (the cutting authority area road), then a road cost estimate may be calculated for that access road and included as part of the road development adjustment in the appraisal of the first cutting authority area accessed by the cutting authority area road.

c. Where the material to be used to stabilize the subgrade will be moved less than 0.1 km, the cost estimate for each material is:

i.	Gravel	$\$5.65/m^3$
ii.	Soft and Medium Rock	$\$9.03/m^3$
iii.	Hard Rock	$\$11.86/m^3$

Where: m^3 = cubic metre of stabilizing material

d. Where the material to be used to stabilize the subgrade must be moved a distance of 0.1 km or further, the cost estimate for each material is:

i.	Gravel	$\$(7.74 + 0.616\ d)/m^3$
ii.	Soft and Medium Rock	$\$(11.11 + 0.616\ d)/m^3$
iii.	Hard Rock	$\$(13.94 + 0.616\ d)/m^3$

Where:

'd' is the distance that the material must be moved from the source of the material to the mid-point of the road section to be stabilized.

e. In this section:

i. 'Soft-medium-Rock' is rock where less than 60 percent of the rock from the excavation is RMC 5.

ii. 'Hard Rock' is rock where 60 percent or more of the rock from the excavation is RMC 5.

VIII.5 Capping

1. Where the available material consists of large round or broken rock or 'dirty' or fine gravel which is unsuitable for normal traffic conditions, the appraisal may include a cost estimate for 'capping' of 0.2 m (loose depth) of suitable rock or gravel surfacing on road sections where required and providing the application is substantiated. This material is trucked in from a different borrow pit than the source of the stabilizing material unless the material has been sorted in the pit.

2. For further information, refer to the surfacing section in the regional manager's standardized methodology (i.e., Detailed Engineering Estimates for Coast Stumpage Appraisal February 1, 2001, and as amended to September 1, 2002).

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