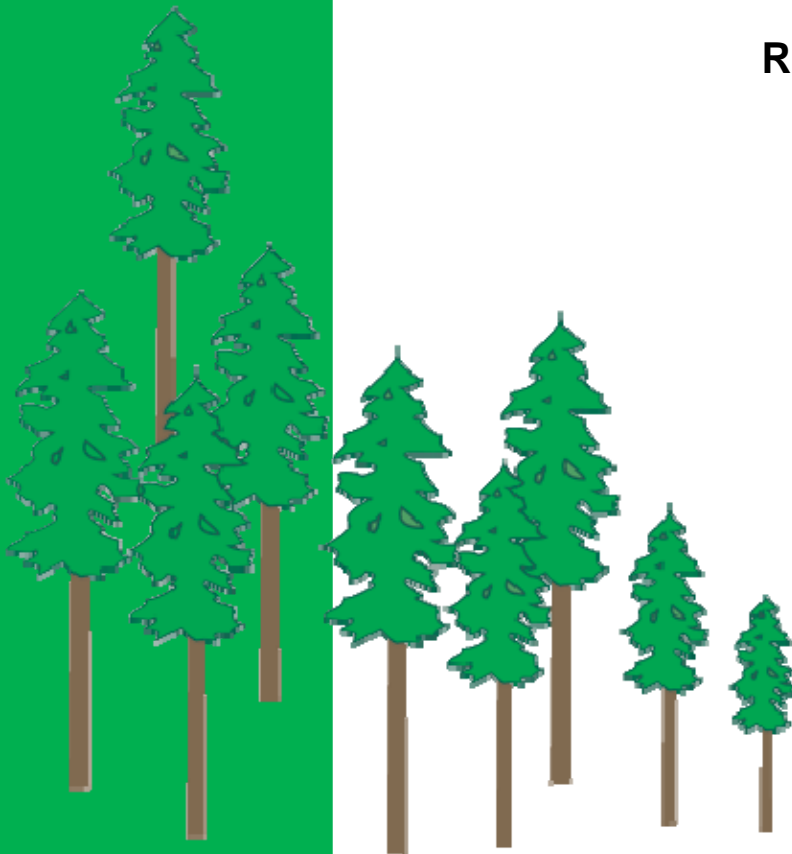




2011

Interior Logging Cost Report Instructions

Revised April 25, 2012



Timber
Pricing
Branch

2011 Interior Logging Cost Report

Housekeeping/Updates to the 2011 Interior Log Cost Report Instructions

April 25, 2012 Revisions

Reference /Schedule	Page	Comment
General Instructions	2	Timeline Chart updated, additional important dates added. Deadline for licensees to finalize - May 31, 2011.
Schedule 3	10	Expanded the definition of Cruising Expense to clarify layout costs should be included in this category
Schedule 4	12	Update the instruction for Truck Barge/Ferry, and deleted instruction for Service Barge. The two are combined.
Schedule 9	31	Instruction to record load rating for cattle guards and size of pipeline in the comments was added (see point 8.)
Schedule 10	34	Instructions for determining and entering the soil moisture code have been updated. Please carefully review changes to sections 3 and 4 on page 34

Reminder: Fencing, cattle guards, and pipeline crossings costs, should be reported on Schedule 9.

2011 Interior Logging Cost Report Instructions

Time Table

<u>Task</u>	<u>Deadline (on or before)</u>
1. <u>Regional Revenue Accountant</u> : requests list of completed blocks and road sections for operating year to be reviewed. Revenue Accountant specifies time period.	January 09, 2012
2. <u>Licensees</u> : completes list of blocks and road samples and returns to Revenue Accountant.	February 10, 2012
3. <u>Regional Revenue Accountant</u> : selects samples to be included in ILCR and notifies licensee.	March 16, 2012
4. <u>Timber Pricing Branch</u> : changes the year of the web based Interior Logging Cost Report (ILCR) application on the MFLNRO web site to 2011, and posts updated instructions to website....	March 23, 2012
5. <u>Region Revenue Accountant</u> : advises the licensees when the report application is available and ensures licensees have access to the report instructions.	March 23, 2012
6. <u>Licensees</u> : complete and finalize the ILCR schedules as per ILCR instructions and notify Revenue Accountant report is ready for audit.	May 31, 2012
7. <u>Region Revenue Accountant or Timber Pricing Branch</u> : notify licensees who are not finalized that they are delinquent.	June 01, 2012
8. <u>Timber Pricing Branch</u> : prepares a report in licensee status, and distributes to licensees and regions, using the OCS email distribution list	June 15, 2012
9. <u>Timber Pricing Branch</u> : legislation enacted, for licensees who were notified on June 01, and remain not finalized. C&E action initiated	June 30, 2012
10. <u>Regional Revenue Accountant</u> : verify reports and advise Timber Pricing Branch by...	October 31, 2012
11. <u>Timber Pricing Branch</u> : submit the data set to the consultants for statistical analysis by...	December 1, 2012

General Instructions

Please be clear, precise and fully complete required schedules and sections. Schedules and sections not required for the current year report are indicated in these instructions.

Wherever the contents of a numeric data field appear shaded, these values have been transferred automatically from another schedule or a drop down window within the current schedule; or they have been calculated automatically by the survey tool program. These entries cannot be changed unless the entry in the original transfer field is changed or one, or more, of the constituent fields in the calculation are changed.

All schedules have a Comments box. Wherever there is an unusual situation or costs that are outside the normal range, and which are not adequately measured or described by the existing survey data fields, use the Comments box to explain the situation.

When entering data in any of the schedules it is a good idea to **frequently save** and **check status**. This will often provide an early warning of potential issues with the entered data for the schedule or sample and prevent data from being lost.

Getting Started

Access - You access the Annual Interior Logging Cost Report from the Ministry Web Site, enter your User Name and Password, Start Survey, Select and enter Licensee Information. Then continue with any Schedule.

Navigate - You navigate the screen by using the Tab key or the mouse.

Functions - All Schedules will display various function boxes (printed in Green) on the screen, and you will be required to click on the appropriate function (i.e., Select, Add, Delete, Edit, Save, Close, Print, Copy or Back).

Help – There is a help link for each schedule that may be accessed while working on the ILCR. Or you may access the complete instructions on the ILCR website.

The Certificate and Authorization Form for Release of Information must be signed by a company official who is authorized to sign on behalf of the company, and sent to the Regional Audit Accountant together with a copy of the cruise compilation summary for each logging sample.

2011 Interior Logging Cost Report Instructions

Certification and Authorization Form
For Report Year: 2011

REPORTING COMPANY: _____
REPORTING DIVISION: _____

CERTIFICATE OF AUTHORIZATION AND RELEASE OF INFORMATION

The undersigned person having the appropriate authority on behalf of the reporting company and division certifies the information contained in the attached report has been accurately extracted from the operating cost statements and other official records of the company and may be verified by ministry audit.

The cost information and operational data contained in this report has been provided by the company to the Ministry of Forests, Lands and Natural Resource Operations with the express understanding that the ministry will keep the data confidential at all times and the data is protected from unauthorized disclosure by section 136 of the *Forest Act*, and the *Freedom of Information and Protection of Privacy Act*. The source of any information extracted from this survey will be kept unidentifiable:

Signature of Authorized Company Official:

Printed Name: _____
Title: _____
Telephone: _____
Date: _____

2011 Interior Logging Cost Report Instructions

Biogeoclimatic Zones

The delineation of biotic regions or zones on the basis of vegetation, soils topography, and climate. These zones are based on the system developed by Dr. M. J. Krajina. BC has been divided into fourteen zones. For this report, the Alpine-Tundra zone has not been included. The biogeoclimatic zones for use in the survey are as follows:

List of Biogeoclimatic Zones and Abbreviations

Abbreviation	Biogeoclimatic Zone Name
BG	Bunchgrass
BWBS	Boreal White and Black Spruce
CDF	Coastal Douglas fir
CWH	Coastal Western Hemlock
ESSF	Englemann Spruce-Subalpine Fir
ICH	Interior Cedar-Hemlock
IDF	Interior Douglas fir
MH	Mountain Hemlock
MS	Montane Spruce
PP	Ponderosa Pine
SBPS	Sub-Boreal Pine-Spruce
SBS	Sub-Boreal Spruce
SWB	Spruce-Willow-Birch

Schedule 1 - Average Cost of Logging

Description

This schedule is used to derive an average cost of logs delivered to the consuming mill log yard on a fiscal year basis and is compiled from the annual company financial statements.

Cost categories are provided for *general reference only*. Total Company Logging Costs should be segregated and entered into schedule 1 in equivalent detail. The total cost of logging and the total harvested volume (all volumes, all grades, including firmwood reject, all species coniferous and deciduous must be reported throughout the report) must agree with or be reconciled to the annual company financial statements (including manufacturing cost report when applicable).

Instructions

1. **Standing Tree to Loaded Truck:** all costs of felling standing trees, skidding or yarding to bush landing, processing into logs and loading onto trucks for further delivery. Costs may be for contracted harvesting or work done by company crews.
2. **Log Transportation:** all costs for the movement of logs from initial loaded truck at the bush landing to the final mill site delivery point.
3. **Road Management:** all costs of road maintenance, road deactivation, road rehabilitation, and access management.
4. **Development Costs:** all development costs incurred; includes roads, bridges, and all pertinent structures required for new road access construction, upgrade, major resurfacing and major flood damage.
5. **Post Logging Treatment (Contractuals):** only those costs incurred for tree marking, landing burning and fireguards, landing rehabilitation, slashing, falling leaners, lop and scatter, 3 meter knockdown and pheromone treatment.
6. **Supervision and Administration Overhead:** transferred automatically from Schedule 3.
7. **Silviculture – Actual \$ Spent:** all silviculture projects in this fiscal year.
8. **Silviculture – Less Administration (Schedule 11):** adjustment of administration automatically transferred from Schedule 11 to Schedules 1 and 3 (for 2008 this will be zero, as schedule 11 is not required).

2011 Interior Logging Cost Report Instructions

Schedule 1

- 9. **Silviculture – Accrued Less Actual \$ Spent:** total accruals for future silviculture obligations as required by cutting authority documents (less any costs transferred to Silviculture Actual \$ Spent).
- 10. **Silviculture – As per Financial Statements:** calculated automatically by the survey tool.

7 + 8 + 9 = 10. Silviculture – As per Financial Statements

- 11. **Stumpage and Royalty:** all stumpage and royalties paid by the licensee for all timber delivered to mill log yard.
- 12. **Depletion and Amortization:** all resource depletion estimates and those development amortization costs not included in Development Costs or other cost category, and depreciation expense not included in any other category.

The volume(s) associated with items #1-12 above is for information only. Generally the volumes entered will be the total harvested crown timber from Schedule 3.

- 13. **Subtotal Other Costs (Click & Open):** for all other costs not included above. Enter a brief description for each cost item, applicable timber volume (if any), and costs in the appropriate columns.
- 14. **Transferred From Milling Costs (Schedule 3):** transferred automatically from Schedule 3. – See Schedule 3.

Schedule 2 – Purchased/Private Log Costs and Log Sales

Description

This schedule records purchased and/or private log costs. These include the net delivered cost of logs purchased from all sources (e.g., BC Timber Sales, woodlots, agricultural leases, farmers, landowners, etc.) and the licensee's privately owned timber. Also recorded are all log sales to independent third parties.

Instructions

1. **Purchased/Private Log Costs:** enter the costs in the appropriate column. The volume is transferred automatically from Schedule 3.
2. **Purchased/Private Wood Overhead (Schedule 3, Woodlands Subtotal):** volume and costs are transferred automatically from Schedule 3.
3. **(less) Log Sales:** enter volume and credits received for all log sales. Log sales include all log sales to independent third parties.
4. **Net Purchased Private Log Costs** calculated automatically.
5. **Total Company Logging Costs (Schedule 1)** calculated automatically.
6. **Total Average Logging Costs:** calculated automatically.

Schedule 3 – Forest Management Administration Costs

Forest Management Administration Costs of the Interior Market Pricing System Tenure Obligation Adjustments

Description

This schedule includes only forest management administration costs directly related to supervision and administration of the tenure obligation adjustment activities; forest management administration, road development, road management and basic silviculture (see Appendix 1 of the Interior Market Pricing System, Tenure Obligation Adjustments, dated June 5, 2006 for allowable costs and unacceptable costs, which is attached).

Total costs must be recorded in the total column. The total column includes the privately owned and purchased (PO & P) timber. The portion of total cost which are for privately owned and purchased timber are to be recorded in the PO & P column. **If not recorded separately in company records, estimate the administration costs attributable to the PO & P volume.** Scaling cost for PO & P are calculated automatically based on the percent of PO & P volume.

Instructions

1. **Volume (m³) Harvested:** enter the volume of Crown Timber harvested separately from Privately Owned Timber and Purchased Timber volume.
2. **Licenses, Fees, Insurance:** licenses normally required for carrying on the business, fees paid for special use permits, water license permits and permit fees of a similar nature. Also includes any association or organization fees, and cost of insurance coverage on operational assets (buildings, equipment, inventories – logs in the woods, in the water or in transit). Does *not* include insurance for “on highway vehicles” which is included in Vehicle Expense (see #5 below).
3. **Taxes, Leases, Rentals:** any taxes paid to municipal or provincial governments for general and school purposes for:
 - a. Land and improvements relative to camp site(s) and camp buildings, roads and bridges used in logging operations, and immediately adjacent land, if it forms an integral part of the operation.
 - b. Unimproved land used in active logging operations (e.g. sorting grounds, dumping areas, reload areas, etc.). Include annual costs for any land leases, upland consents, right-of-way, or access fees, railway crossing fees and Indian Reservation road permits covering properties or access privileges required for logging. *Do not include* amounts paid to or received from other licensees for road use fees, which are reported on Schedule 6 – Road Management costs
4. **Annual Rents:** includes all rents paid under Section 111 of the *Forest Act*. The amount entered here will automatically transfer to the Unacceptable Cost section.

Schedule 4 – Special Log Transportation Systems

Description

This schedule includes all log water transportation related costs, including bubble systems and additional dewatering, and any related truck rehals. It also includes unique situations such as lake tows and river drives as determined by Region staff. This phase also includes all costs of transferring logs from off-highway to on-highway logging trucks, of the subsequent rehals, and of transferring logs from logging trucks to railcars, including the subsequent rail haul. Allocate any depreciation to the appropriate item.

Instructions

1. **Lakeside Dry Dump:** all costs of dumping, sorting and storing of logs when a lake or watercourse is frozen or otherwise inaccessible. Logs are dumped on land and stored until the ice thaws or the water level rises to adequate levels to float the logs. Also include all costs to move these logs to the water.
2. **Water Dump:** all costs of dumping logs into the water and moving the logs to an area for further sorting or storage. Logs are dumped from trucks, adjacent dry land sort(s) or log yard(s) directly into the water. The logs may be loose or bundled.
3. **Water Boom:** all costs of making up bag or raft booms, and of moving these booms to local tie-up grounds.
4. **Towing (Click & Open):** cost of towing booms from local tie-up ground(s) to dewater site(s) or mill storage pond(s). Enter a brief location/destination description; and its related one-way towing distance (to the nearest 0.1 km), volume (m^3) towed, and costs. The rate ($\$/m^3$) for each tow is calculated automatically by the survey tool program. The program also calculates the total one-way towing distance, volume, and cost for all tows at this "location" and transfers these totals to main screen.
5. **Williston Lake Dewater Only:** cost of moving logs from water to land. Only includes boom boat costs for loading dewatering device(s). Costs of transporting logs to storage yard or mill infeed are included in the related Interior Mill Manufacturing Cost Survey.
6. **Dewater and Reload:** costs of moving logs from water to land and loading on to trucks. Includes boom boat costs for loading dewatering device.
7. **Truck Re-haul-Dewater/Transfer (Click & Open):** for costs of moving loaded dewatered logs to the next unloading point, starts at point of reload from initial haul to next unloading. For each re-haul operation, enter a brief location/destination description; and its related loaded one-way haul distance (to the nearest 0.1 km), volume of logs transported (m^3), costs, and cycle time (to the nearest 0.1 hr.). See Schedule 8 hauling instructions for the definition of cycle time. The rate ($\$/m^3$) for each rehaul is calculated automatically by the survey tool program. The program also calculates the total one-way Rehaul distance, total volume, total costs, and volume weighted average cycle time for all tows at this "location". These are transferred automatically to the main screen.

2011 Interior Logging Cost Report Instructions

Schedule 4

8. **Truck Barge/Ferry:** cost of operating a barge/ferry (which is capable of transporting logging trucks) and pertinent structures, when a truck haul road is interrupted by a body of water and the operation of a barge system is the only efficient means to provide a transportation link to harvesting areas. Enter one-way distance (to the nearest 0.1 km) and volume of timber accessed and costs.
9. **Crew Barge/Ferry:** **cost of operating** barge or ferry which is not capable of carrying loaded logging trucks, and carries crew and light trucks only on operating days. Enter one-way distance (to the nearest 0.1 km), volume of logs harvested by the crew(s) transported (m^3), and costs.
10. **Hydro Dam Log Transfer:** breakup of bag or raft booms for transporting through locks, and subsequent rebooming.
11. **Truck to Truck Transfer:** includes unloading, storage and reloading of trucks.
12. **Truck to Rail Transfer:** includes unloading of trucks, intermediate sorting, storage and loading onto railcar.
13. **Rail Haul:** cost of transporting logs on the railway. Enter loaded one-way haul distance (to the nearest 0.1 km), volume of logs transported (m^3), and costs.
14. **Low Water Bridge:** cost of annual dismantling and reconstruction, and of replacing damaged pilings.
15. **Other Transportation (Click & Open):** for all costs not recorded or allocated above. Enter a brief description of each item; and its related one-way distance (to the nearest 0.1 km – if applicable), volume of logs (m^3), and costs. The rate ($\$/m^3$) for each item is calculated automatically by the survey tool program. The program also calculates the total one-way distance, volume, and costs. These are transferred automatically to the main screen.
16. **Other Non-operating Costs for Special Transportation System:** for this schedule in cases where capital costs, major repairs or fixed non-operating costs are included in the cost categories, a break down between normal operating costs and other non-operating costs must be provided in the comments box.

Normal operating costs include: fuel, supplies, wages, regular repairs and maintenance, yearly permits and operating licenses and all those costs which would normally be incurred during the normal operation of the system on a year over year basis.

Other non-operating costs include: purchase of major assets which would benefit more than one year's activities, a major repair or maintenance project which would not be expected to be incurred on a yearly basis, the fixed portion of contractual obligations which are incurred regardless of actual operations (stay open contracts). Generally these are costs that do not recur year over year, or are costs for contractual obligations that would be incurred regardless of whether the transportation system was in operation or not.

Schedule 5 – Camp Costs

Description

This schedule is used to record the costs of establishing and operating a camp as defined in Chapter 4 of the Interior Appraisal Manual (IAM). Camp costs are included on this schedule if the workers who work on a cutting authority area, reside in the camp and travel on each day of work during timber harvesting operations between the camp and the cutting authority area. A camp is the establishment of a permanent structure with cookhouse(s) and bunkhouse(s), which are permanently operated by full-time camp crew during harvesting. Fees paid to a third party to stay in a camp are *not* to be included.

A camp is not a road-side trailer, camper or other type of recreational accommodation. Costs associated with these types of recreational accommodation are deemed allowances in lieu of travel, and are reported in Schedule 8 tree-to-truck additions. Fees paid to third parties for camp charges are also included as additions to Schedule 8.

The cost categories shown on Schedule 5 are for the licensee's convenience and to ensure that all relevant costs are reported. If any of these cost categories are rolled together in the licensee's financial statements, it is *not* necessary to split out or allocate these costs unless they contain costs not related to isolated cutting authorities. If costs categories are rolled together, make a note in the comments box.

Instructions

Camp:

1. **Volume Harvested:** indicate the volume (m³) of logs harvested from the cutting authority for the fiscal period surveyed. The volume (m³) must be directly related to the net costs (total costs less recoveries) reported on this schedule.
2. **Catering and Food:** record costs of catering or the cost of food as appropriate.
3. **Wages and Benefits:** only for the crew operating the camp (e.g., caretakers, cooks, etc.). The actual costs (or best estimate) of wages and benefits must be reported, otherwise the camp may be excluded.
4. **Depreciation and Lease:** record the actual expenses recorded in the financial statements of the licensee.
5. **General Camp Expenses (Click & Open):** for general camp expenses.

2011 Interior Logging Cost Report Instructions

Schedule 5

6. **Other Camp Expenses (Click & Open):** for all costs not recorded or allocated in the other camp categories. Enter a brief description of each item and its related costs. The rate ($\$/\text{m}^3$) for each item is calculated automatically by the program. Amounts deducted from the original TtT rate should be included in this section. The program also calculates the total costs for all items and transfers the total to main screen.
7. **Recoveries:** record and credit any amounts recovered from persons using the camp. This may be as per IWA agreement at $\$/\text{man-day}$ times number of days for logging crews; and at average cost per man-day times days for casuals, visitors and other crews. All recoveries from detailed engineering cost estimates must also be included in this section.
8. **Road Distance to Operating Area:** record the road distance, to the nearest 1 km, from the camp to the centre of the cutting authority area.

Access:

1. **Crew Transportation:** record all the costs of transporting crews periodically into or out of operations.
2. **Equipment and Supplies Transportation:** record all the costs of moving equipment and supplies by land, rail link, air, and/or water from a local community to the camp or unloading point. The costs of moving equipment and supplies from the camp or unloading point to the operating area shall be recorded in the Additions to Original TtT Rate window for the applicable tree-to-truck sample(s) on Schedule 8.
3. **Other Access Expenses (Click & Open):** for all costs not recorded or allocated in the other access categories. Enter a brief description of each item and the related log volume (m^3) and costs. The rate ($\$/\text{m}^3$) for each item is calculated automatically. The program also calculates the total volume and costs for all items and transfers these totals to the main screen.
4. **Add Comment if Accessed Only by Rail.**

Schedule 6 – Road Management Costs

Description

This schedule includes all road management costs identified in Chapter 4 of the current IAM including activities related to road maintenance, road deactivation, road rehabilitation, access management and re-freezing. Only licensee experienced costs on road maintained/managed by their own crews, under contract or collective maintenance agreements should be reported. Identify other licensees involved in any agreements for which costs are included.

Road maintenance: costs include grading, snowplowing, sanding, spot gravelling (less than 300 m continuous distance). Spot gravelling is considered a road maintenance expense only if the road has been used for at least one summer season since construction. Other activities included are as per chapter 4 of the IAM.

Road deactivation: All deactivation costs are *to be* included in road management. Road deactivation is the costs of rendering a road impassable to vehicular traffic. Deactivation includes the following activities:

- bridge removal,
- culvert removal,
- pull back unstable sidecast or road fills,
- cut/fill slope stabilization,
- recontouring and,
- deep fill removal.

Enter *credits recoveries* received for road maintenance/management from other road users (e.g., Hydro, Highways, etc.). Exclude all maintenance costs and user fees related to privately owned roads. Costs paid to private landholders or First Nation Bands where the Crown cannot acquire title to the land will be dealt with on an individual appraisal basis.

Road rehabilitation: include the costs of those activities to restore the soil and site to a stable condition that will no longer require human intervention to maintain a sustaining production of a crop of trees. Road rehabilitation is not basic silviculture: Costs for basic silviculture, if required, are recorded on 'Schedule 11 – Basic Silviculture' and should not be included in Schedule 6.

2011 Interior Logging Cost Report Instructions

Schedule 6

Access management: is defined as the temporary removal of a major drainage structure or the construction of a barrier, including a gate, excavation, or the placement of boulders with the purpose of temporarily eliminating access to all vehicles. This *does not* include unique costs such as Cattle-Guards, Remedial or Wing Fencing and Pipeline Crossings which are to be reported on Schedule 9.

Re-Freezing: include the total costs of those activities for re-freezing previously used and appraised winter roads. The total harvested volumes and the total costs must be reported on a separate line and identified as re-freezing.

Instructions

1. Select TSA, Tree Farm License, and/or Supply Block from the drop down list. Enter: TFL number, if unit is a TFL; volume (m³) harvested from that unit; and costs of road management performed in that unit. All costs (100%) and all harvest volumes must be reported in the survey. If costs are incurred in a specific supply block, for which there is no harvest volume, you must: Enter the actual costs incurred, enter a harvest volume of 1, and give an explanation in the comment box. Do *not* report more than one Supply Block per sample. If Supply Block specific costs and or volume cannot be identified allocate the costs between constituent blocks based on volumes harvested; supply blocks, within a TSA, can be grouped similar to the *Interior Appraisal Manual* grouping.
2. For Tree Farm Licenses (TFLs) which have more than one operating area, use the comments column to describe the location where the costs were incurred.
3. For Timber Sales Licenses (TSLs) enter the volume (m³) harvested, the costs of road management and use the comments column to identify the TSL.

Any road management costs netted down from the Tree-to-Truck samples or included in any logging contractors tree-to-truck/stump-to-dump rate(s), including payments made to logging contractors as part of their contract for grading or plowing roads which access their operations, must be included on this schedule.

Schedule 7 – Single Span Bridge and Culvert Costs

Description

This schedule includes the costs for materials and installation of *all* single span bridges and *all* culverts. The costs for culverts less than 950 mm in diameter do not need to be removed from the sub-grade costs in Schedule 10. The costs for culverts less than 950 mm are collected for use in an expanded table for the *Interior Appraisal Manual*.

On this schedule it is better to navigate using the mouse rather than the Tab key.

Instructions

Bridges:

1. Name/Location of Bridge: enter licensee contract identity, name, or brief location description, and the Design Vehicle Configuration.

Design Vehicle Configuration: The specific vehicle design configuration (specific axle spacing and axle loads) used to define design loads for engineering analysis, design and sizing of the structure. One of: BCL625, L100, L150, L165, Other (describe).

2. New Construction: select the applicable construction category from the drop down list as follows:

NN - New installation with a **New** structure

NU - New installation with a **Used** structure

RN - Replacement installation with a **New** structure

RU - Replacement installation with a **Used** structure

If the bridge sample involves the installation of a used span, note the details in the Comments box. Was this span moved from a previous licensee installation (i.e., the span material costs were capitalized to the licensee's original installation and not reported here) or was a used span purchased for this installation, with the cost included in the reported Total Cost? Did this installation replace a previous structure at this location? What, if any, costs for the removal of the pre-existing structure are included in the reported Total Cost? Was any part of the pre-existing structure retained for use in the current installation (e.g., abutments/footings, approach works, etc. re-used)?

2011 Interior Logging Cost Report Instructions

Schedule 7

3. Primary Materials

Deck: select the primary material type(s) for the deck, from the drop down list as follows:

- C - **C**oncrete
- CS - **C**oncrete/**S**teel
- L - **L**ogs
- RC - **R**ail **C**ar
- S - **S**teel
- W - **W**ood (includes Glulam and Glulam Girders)
- WS - **W**ood/**S**teel (use if mixed Wood and Steel; note % s in comments)

Span: select the primary material type(s) for the span, from the drop down list as for Deck above.

Footings: select the primary structure type for the abutments/footings, from the drop down list as follows:

- BW - **B**in **W**all
- LB - **L**ock **B**lock
- LC - **L**og **C**rib
- P - **P**iles (*note details such as total number, material type, and average driven depth of piles in the Comments box*)
- PP - **P**ipe/**P**ost
- T - **T**-**A**butment (includes Concrete Precast and concrete Cast-in-Place)
- O - **O**ther (specify in the Comments box)

The primary material types for abutments/footings have been revised for the survey to more adequately reflect the structure, rather than the composition. For more detailed descriptions see *Abutments* in the [Forest Service Bridge Design and Construction Manual](#). The manual can be downloaded from the Ministry of Forests public website at the above link.

4. **Bridge Length (m):** This is the length of the bridge deck measured between two end points along the bridge centerline to the nearest 0.1 m.
5. **Deck Width (m):** enter width of deck (outside to outside) to the nearest 0.1 m.
6. **No. of Footings:** enter the number of abutments/footings supporting the span.

2011 Interior Logging Cost Report Instructions

Schedule 7

7. **Abutments/Footings Height (m):** enter the average abutment/footing height, to the nearest 0.1 m, measured from the base of the abutment/footing to the point where the stringer (or superstructure) rests on the abutment/footing at the centre line of the bridge.
8. **Engineering Overhead Costs:** are engineering overhead costs included in Total Costs? Select Yes or No as applicable.
9. **Total Cost (\$):** total cost includes abutment/footing back-fills and all site preparation and protection features such as rip rap; as well as material and equipment supply, delivery, and installation. Rip rap costs only to protect the bridge; do **not** include costs for channel protection.

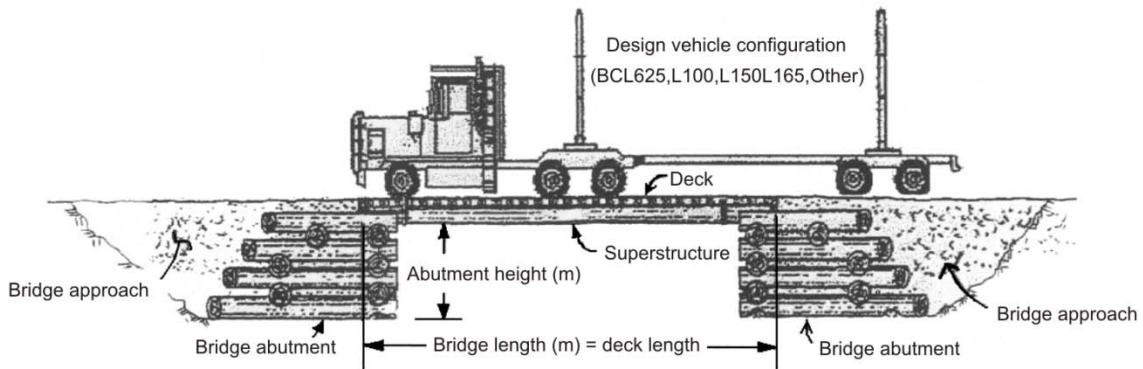
Examples of cost that should be included are:

- Site survey, site plans, and bridge general arrangement drawings
- Professional assessments (e.g., geotechnical, hydraulic, environmental assessments) and reports
- Detailed bridge engineering design, and cost of preparing all bridge engineering drawings and specifications.
- Substructure materials cost.
- Superstructure materials cost (superstructure, deck, guardrail, etc.).
- Other materials such as erosion protection for the foundation elements such as rip rap (do not include costs for channel protection).
- Transportation delivery costs.
- Quality Control (e.g., Engineering in-plant inspections during superstructure fabrication).
- Site mobilization and demobilization.
- Equipment, labour and site supervision to install the substructure (bridge abutments) and superstructure and erosion protection as per the approved construction drawings
- Bridge approaches (*The bridge approach is the part of the bridge that carries traffic from the land to the start of the superstructure part of the bridge. Typically, the bridge approaches for forestry bridges are comprised of compacted backfill zones located immediately behind and adjacent to each bridge abutment extending from the base level of the abutments to road level*).
- Professional field reviews and sign-off of completed bridge structure, including any environmental monitoring costs required during the period of installation.

Schedule 7

10. **Comments:** please note any conditions/situations that could have a significant impact on costs. These include, but are not limited to, the following:

- a. re-use of a previously installed bridge where the material cost for the span was already accounted for (i.e., costs are primarily for transport and installation);
- b. costs include the **removal** and replacement of an existing structure;
- c. temporary installation (i.e. expected 2 years or less);
- d. extensive drilling and blasting;
- e. extensive pilings or stabilization work under the abutments;
- f. extensive back-filling on the approach works;
- g. upgrade and/or major repair of an existing structure.



Culverts:

1. **Culvert Type:** select type (e.g., Arched, Arched Bottomless, Vertical Ellipse, Pipe-Arch, Horizontal Ellipse, Round, Wooden Bottomless, or Other) from the drop-down list. If culvert type is "Other" enter a brief description in the highlighted area. If the culvert contains baffles explain the extent and purpose in the Comments box.
2. **Size:** enter Span and Rise in millimetres, in the appropriate columns. If the culvert is round, the diameter need only be entered under Span. If two or more culverts are installed side by side instead of one larger diameter culvert; detail the number, type(s), and size(s) of the constituent culverts in the Comments box. Also, for culverts of 950 mm or greater in diameter, indicate which road sample they are related to.
3. **Length:** enter the total length of the culvert to the nearest 0.1 m. If two or more are installed side by side, enter the average length of the constituent culverts.
4. **Material Cost:** enter the purchase cost of the culvert(s) to the nearest dollar.

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Schedule 7

5. **Comments:** please note any conditions / situations that could have a significant impact on costs. These include, but are not limited to, the following:
- a. re-use of a previously installed culvert where the material cost was already accounted for (i.e., costs are primarily for transport and installation);
 - b. costs include the **removal** and replacement of an existing structure;
 - c. baffled culverts for fish passage;
 - d. screened rock in culvert for fish passage;
 - e. extensive use of rip-rap;
 - f. extensive screening for debris collection;
 - g. multiple culvert installation (i.e., side by side);
 - h. retaining walls or other related structures.

Schedule 8 – Tree-to-Truck and Log Hauling Phase

Description

This schedule includes all actual costs incurred in felling, bucking, skidding, yarding, and loading timber; skid trail construction and rehabilitation; landing construction and all costs of bucking and sorting logs on the landing or at intermediary dry land sorts or water sorts not located adjacent to or considered part of the mill site; and all costs of hauling the loaded timber to the first unloading point.

Include costs related to Crew Transportation or Travel (including allowance in lieu of travel) in the tree-to-truck rate. Costs for operating a ferry or barge should be reported in Schedule 4.

In order to reflect actual experienced logging costs for all licensees, cutting authorities which are harvested by company crews are included in the population from which the sample matrix is selected, and the same logging cost survey Schedule 8 is used to record phase costs. Extra care is required to derive unit costs using total dollars expended and total volume harvested.

Where more than one tree-to-truck sample originates from a cutting authority, (e.g., ground skidding, horse, helicopter or cable logging), please provide data from separate cruise summaries for each logging system or contract. *Cruise data should be for the smallest available harvesting unit applicable to the sample (using block or harvest method summaries, which must be consistently applied to each sample).*

Instructions

1. **Licensee:** automatically transferred from the Licensee Name field on the Licensee Information screen and can not be changed or overwritten.
2. **Division:** enter the logging division if the licensee has more than one. Else, enter the name of the general location where the licensee operates.
3. **Contact:** enter the name of the person responsible (e.g., area or zone forester) for completing this Schedule 8 page.
4. **Phone:** enter the telephone number of the contact person (*item #3 above*).
5. **Region:** select, from the drop down list, the forest region in which this page's sample(s) are located.
6. **TSA:** select, from the drop down list, the TSA in which this page's sample(s) are located; or "Tree Farm License" if in a TFL.

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7. **Supply Block:** select applicable Supply Block from the TSA specific drop down list. This item will be automatically be skipped if "Tree Farm License" selected in item 6 above.
8. **TFL:** enter the TFL number if "Tree Farm License" selected in item 6 above, else skipped.
9. **Licence, Cutting Permit, and Cut Block(s):** enter the harvesting unit information relevant to the Schedule 8 page. Under Cut Block(s) enter each completed Block Number.

If there are two or more tree-to-truck samples from the same cut block, they should be separate samples on the same Schedule 8 page, especially if they share any hauling contracts. Samples from the same C.P. should also be grouped on the same page or on contiguous pages.

10. **Support Centre:** select nearest community from the drop down list (see *Tree-to-Truck item #7, Distance to Support Centre, below*).
11. **Biogeoclimatic Zone:** select Biogeoclimatic Zone from the drop down list. See General Instructions for further information.

Special Instructions for the Tree-to-Truck (Samples) Section:

1. **Contact Identity:** enter the reference code used by the licensee for identification of the contractor or own crew operation (e.g., timber mark, contractor code, cutting permit number etc.) Do not use the mill # or the licensee name.
2. **Skidding/Yarding Systems:** enter the (%) percentage of net merchantable volume harvested by the applicable skidding and yarding systems. The options are: Rubber Tired Skidder, Crawler Tractor, Soft Track, Grapple, Highlead, Skyline, Helicopter and Other (see item 5 below). If any of the systems has anything unusual or out of the ordinary associated with it note this in the comments box.
3. **Skyline Slope Distance:** if Skyline is selected, enter the yarding distance in meters (measured in slope distance) and if intermediate supports were required indicate this in the comments box. **Do not** enter a slope distance in this box, if the sample is **not** Skyline.

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Schedule 8

A system does not have to skid/yard wood all the way from the bush to the landing to be included (e.g., some wood may be moved part way by longline or hoe chuck then skidded/yarded by other system(s) to the landing). Where this occurs prorate that portion of the net volume harvested by the distance moved by each system.

Note:

- a. If possible, please report cable yarding (i.e., grapple yarding, highlead, or skyline refer to *Interior Appraisal Manual* for definitions) as a separate sample.
- b. All cable yarding is required to have separately compiled variables.

If possible, the sample should be 100% of one of the above and should not include prorates of another system. If the system is not defined in the above list (e.g., longline, skidder swing, out-of-block-skidding etc.) choose "Other" and enter a brief description in the highlighted area. For out-of-block-skidding, comment on the average round trip cycle time, and if possible, the distance from the edge of the block to the loading site.

4. **Helicopter Yarding Distance:** enter the average total loaded helicopter yarding distance to the nearest 0.1 km. Describe the equipment used, and indicate, using the comment box, whether the yarding was uphill and if land drop or water drop.
5. **Helicopter Cycle Time:** enter the average round trip cycle time that the sample cost was based on. Record to the nearest 0.1 minute.
6. **Other Skidding/Yarding Systems:** if any of the net merchantable volume harvested is defined as "Other" in item #2 above, select one of the following from the drop down list: Horse, Small Cat, Other.
7. **Distance to Support Centre:** enter the one-way distance from the geographic centre of the area logged to the main post office, or location designated by the Regional Revenue Officer, in the nearest community on the list. Record to the nearest kilometer. Do *not* use C.P. averages. For remote operations serviced by an *isolated* Cutting Authority (camp), enter the one-way road distance from the isolated camp to the centre of the area harvested.

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Schedule 8

8. **Frozen Ground:** enter "Y" (yes) if the majority of the sample was logged on frozen ground.
9. **Slope Percent:** enter the arithmetic average of the cruise plot slope percent measurements applicable to the tree-to-truck sample area logged. Do not use cutting permit averages. Where cruise slope measurements are not available, cruise slopes should be developed using theoretical cruise plot locations and contour map of the area logged. The average side slope is derived as an unweighted average of the maximum side slopes on all cruise plots situated within the area logged.
10. **Percent Blowdown:** enter the percentage of the net merchantable volume classified as blowdown damage on the cruise. If not noted on the cruise or there has been a significant change since the area was cruised, an estimate may be used. Note use of estimates in the comments.
11. **Other Condition:** if any of the following conditions apply: (a) 50% or more of the net volume (b) 5% or more of the net volume for the Red/Grey/Green Beetle Salvage (c) any and all net volumes for Blanket Salvage Permits; Select from the following Conditions:
 - None.
 - Red/Green/Grey Beetle Salvage. Indicate the volume percentage of beetle attack in the comment box.
 - Blanket Salvage Permit. If this condition is selected you must also Enter the Description and the Code.
 - a. Description describes the type of Blanket Salvage Permit (Beetle, Blowdown, Fire, Ice Damage, Other).
 - b. Code describes the patch size (A=< 500 m³, B= 500 to 2000 m³, C= 2001 to 5000 m³).
 - Fire Salvage.
 - Right of Way.
 - Rock Belt.
 - Trap Trees.
12. **Species Percents:** enter the percent (%) of total net merchantable volume for each species from the cruise data.

Schedule 8

13. Partial/Selective Cutting - Percent Removed: unless there are different harvest systems within the sample block, the partial cut percentage should be determined from the Block Summary. If there are different harvest systems used on the sample block, then the partial cut percentage should be determined from the Harvest Summary. Partial cut is as described in the 'Silviculture Systems Guide Book' and in the 'Interior Appraisal Manual'. Partial cutting is the removal of predetermined stems or volumes utilizing falling and skidding patterns which protect the residual stand from damage during harvesting. Include deciduous volumes in the calculation, and enter the percentage (enter to the nearest 1% - between 1% and 99%) of total original stand cruise net volume removed. All areas partially cut should be reported as separate samples.

When the percent of partial cutting has been entered, save the sample, then **Click & Open** the Percent Removed link to add the following information:

a. **Main Silviculture System:** select one of the following:

Seedtree: small number of selected trees standing scattered throughout the area to provide seed sources for natural regeneration.

Shelterwood: gradual removal of partial cuttings. The vacancies created in the stand allow a new crop to become established. The shelterwood system harvesting may be in strips, patches or irregular (to produce an uneven aged stand).

Selection: uneven-aged management system where trees are removed periodically, maintaining continuous forest cover.

Other: includes all other forms of partial cutting not specifically defined above. Enter a brief description in the highlighted area. Clear cut is a system, and should be included in other.

Do not select Understory Protection (as it is not a system). If Understory was protected, comment.

Commercial Thins should be reported separately, comment.

b. **Main Harvesting System:** do not use this section, select "Other" in the drop down list to move to the next section.

Other:

c. Preharvest Stand Statistics

Since partial-cutting systems cannot be adequately described by system names alone, information describing the stand before and after treatment is required.

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16. **Defect:** enter the decay, waste and breakage (DWB) percent of gross stand volume from the cruise summary for the species/volume harvested. Record to the nearest 1 %.
17. **Merchantable Stems Per Hectare:** enter the stand density of the merchantable stems from the cruise summary for the species/volume harvested, record to the nearest 0.1 stems/ha.
18. **Dead Useless Snags per Hectare:** enter the stand density of the dead useless snags from the cruise summary for the *harvested* species/volume only, record to the nearest 0.1 stems/ha.
19. **Dead Useless Snags Percent:** is automatically calculated.
20. **Net Merchantable Volume per Tree:** enter the average net merchantable volume per tree from the cruise summary for the species/volume harvested, record to the nearest 0.01 m³.

If the net merchantable volume per hectare, stand defect (DWB) percent, merchantable stems per hectare, dead useless snags per hectare, and net merchantable volume per tree are not available for the area harvested, then use cutting authority individual block information (if compiled) or the cutting authority average. If the sample is of damaged timber, then use the best available information.

21. **Harvested Volumes:** for the area logged, enter the volume of coniferous and deciduous timber harvested for which the contractor was paid. If some timber is undelivered and unscaled by the survey submission date include an estimate of this volume. Record to the nearest m³; make conversions from a tonne rate if necessary. The harvested timber volume is as per accounting records that may be higher/lower than billed S&R volumes.
22. **Original TtT (Tree-To-Truck) Rate:** enter the actual rate paid to the logging contractor(s) or the experienced phase cost if a licensee crew. Record to the nearest 0.01 \$/m³.

If the costs associated with Camp or any allowances for accommodation are included in the original tree-to-truck rate, comment.

23. **Additions to and Deductions from Original TtT (Tree-to-Truck) Rate:** the Original Tree-to-Truck Rate is adjusted by the inclusion and/or exclusion of specific items, to calculate the Final (Adjusted) Tree-to-Truck Rate.

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Schedule 8

1. **Destination:** the Mill Operation Number is automatically transferred from the Licensee Information screen. This can be changed for any hauling sample by overwriting the current entry in the Destination field.
2. **Haul Type:** select the correct type from the drop down list as follows;
3. **Highway:** loaded logging trucks must travel over roads administered under the *Highway Act* and its pertinent Regulations, without truck-to-truck transfer to the point of appraisal, or on roads administered under the *Highway (Industrial) Act* where prolonged road restrictions prevent the use of oversize loads or in all instances where the volume per tree is less than 0.20 m³.
4. **Off-Highway:** loaded logging trucks can travel over roads administered under the *Highway (Industrial) Act* to the point of appraisal or to recognized water/special transportation systems where prolonged known restrictions (e.g., bridge load limit, narrow road, through rock cut, etc.) do *not* prevent the use of oversize loads.
5. **Species Percents:** these are automatically transferred from the tree-to-truck sample (see Tree-to-Truck section item #11), but they can be changed for any hauling sample by overwriting the current entries. If the harvested timber was sorted before hauling to different destinations the species percents should be adjusted to reflect what was hauled for each hauling contract/sample.
6. **Cycle Time:** enter the actual round trip cycle time as defined in Section 4.5 of the IAM, that the sample cost was based on. Record to the nearest 0.1 hr. Indicate the average load and unload time for each sample in the comment box.
7. **Total Loaded Haul Distance:** enter the total one-way loaded log haul distance to the place of unloading as delivered per the hauling contracts. Record to the nearest kilometer.
8. **Defect and Net Merchantable Volume per Tree:** these are automatically transferred from the tree-to-truck sample (see Tree-to-Truck section items #15 and #19), but they can be changed for any hauling sample by overwriting the current entries. If the harvested timber was sorted before hauling to different destinations the Defect and Net Merchantable Volume per Tree should be adjusted to reflect what was hauled for each hauling contract/sample. Use the best available information.
9. **Hauled Volume:** enter the net volume hauled (regardless of grade) to the nearest m³. If species costs are different, enter species volume, costs and adjust defect and net volume per tree. Species volumes should total harvested volume.
10. **Hauling Rate:** log hauling costs are calculated by dividing the total dollars paid for hauling the logs by the volume hauled. Enter the net cost for hauling after any adjustments for bonus, highway restrictions, weather conditions, camp and benefit plans, etc. All hauling costs must be adjusted appropriately for any retroactive payments or adjustments. Record to the nearest 0.01 \$/m³.

Schedule 9 – Miscellaneous Unique Logging Costs

Description

This schedule may be used to record supplementary information on the costs for harvesting activities considered to be unique by the licensee. “Unique” costs are not restricted to post logging treatments, but may include costs reported in tree-to-truck, road construction, road management, forest planning administration. Some examples of “unique” costs are water quality monitoring stations and root disease control. Schedule 9 should be used to record costs for Remedial or Wing Fencing, Cattleguards, and Pipeline Crossings.

Instructions

1. **Company Identity:** enter the reference code used by the licensee for identification of the contractor, own crew operation, or the contractual area (e.g. timber mark, contractor code, cutting permit number, etc.).
2. **Contractual Item:** select one of the categories from the drop down list.

If none of the specific categories is applicable select “Other” and enter a brief description in the comment box. Road deactivation may be reported on schedule 9; however costs must also be included in road management costs report on schedule 6.

3. **Units:** enter the number of items, related harvested net volume, area treated, time required, length, etc. applicable to the contractual item(s).
4. **Unit Type:** select the type of unit applicable from the drop down list. If none of the specific unit types is applicable, select “Other” and enter your own code and explain your choice in the comment box.
5. **Zone:** select the applicable Biogeoclimatic Zone from the drop down list. See General Instructions for further information.
6. **Cost:** enter the total cost of the item(s) sampled.
7. **Source:** select the source of the contractual costs from the drop down list as follows:
 - Included in Original TtT Rate
 - Licensee’s Own Forces
 - Separate ContractIf “Included in Original TtT Rate” is selected, enter, in the comment box, the Tree-to-Truck sample page(s) where this cost is included.
8. **Add the following additional information using the comment box:**
 - Cattle guards – add the load rating(not rated if not rated) and if certified or not
 - Pipelines – enter the pipe diameter for each pipe installed
9. **Add (Click Add):** to record the data.

Schedule 10 – Road Construction

Description

This schedule is the actual experienced “as built” costs, whether constructed under contract, using rented equipment, or built by own crews and equipment. These roads are generally a single lane width for logging related traffic, with turnouts as required. These roads may or may not be stabilized (ballasted or surfaced) with trucked-in gravel or rock.

Report roads only where the subgrade is completed to the stage where it is ready to be stabilized, if so planned, or could be used under favourable weather conditions (e.g., winter) by logging related traffic. If subgrade construction activities started the previous year(s) (e.g., rough subgraded, etc.), report the total costs.

The road reported must be:

1. a “contract” with a stated road length or
2. has both the length and the pertinent costs recorded on the company records separating subgrade and stabilization costs.

All costs for subgrade and stabilization incurred within the first summer season are considered road construction costs.

Those licensees who operate in more than one Region must complete a separate Schedule for each Region, identifying the Region and TSA.

When road construction costs, are deducted from the TtT phase, *these road costs must be reported* on ‘Schedule 10 – Road Construction,’ regardless of the year built; or the TtT data *will not be used* in the data compilation.

Aggregate all road sections less than 0.1 km with other adjacent roads making appropriate adjustments to average site conditions, and include the total as a sample.

Subgrade, additional stabilization and/or bridge costs must be recorded separately. Use the distance-weighted averages for the variables for the road reported.

Instructions

1. **Page (Select or Add) for a New Road Construction Page:** the page number is entered automatically by the report program. Road samples from the same License, Cutting Permit, etc. should be grouped as samples on the same page.
2. **Division:** enter the name of the logging division if the licensee has more than one. Else, enter the name of the general location where the licensee operates.
3. **Period Surveyed:** enter of the period during which roads on this page were completed.
4. **Region:** select, from the drop down list, the forest region in which this page’s sample(s) are located.

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5. **TSA:** select, from the drop down list, the TSA in which this page's sample(s) are located; or "Tree Farm License" if in a TFL.
6. **Supply Block:** select applicable Supply Block from the TSA specific drop down lists. This item will be automatically be skipped if "Tree Farm License" selected in item 5 above. If the supply block is located in more then one forest district, use the comments box to record the districts.
7. **TFL:** enter the TFL number if "Tree Farm License" selected in item 5 above, else skipped.

Special Instructions for Road Section/Sample Details:

When recording the road specific data for each sample, it is important to use "as-built" data. Specific information about a road sample such as slope, material, length, width, and other characteristics should be recorded as built, not as originally appraised or estimated. In analysis of road data, one of the goals is to determine the relationship, if any, between actual cost and the actual characteristics of the constructed road.

For additional information on the reporting of road costs, refer to Appendix 2.

1. **Road Name:** enter the name of the road, road permit number, cutting permit number, or construction contract number to properly identify the road sample and its location.
2. **Road Type:** select from the drop down list the appropriate road type as defined below and report samples of Long Term Roads, Short Term Roads, or Snow/Ice Roads from all operating areas in which harvesting and or road building operations were carried out:
 - a. **Roads** are either: **(1) Long Term (2) Short Term or (3) Snow/Ice**. Enter the appropriate road type from the drop down list. **(DO NOT** select Temporary).
 - b. **Long Term:** A long term road is a road with a continuous raised sub-grade and ditch line (the raised sub-grade and ditch line may be interrupted for short sections <100 m (e.g., when crossing a short section of rock or at the crest of a hill). In flat terrain the ditch line may simply be the depression created when subgrade material is excavated to create a raised subgrade.
 - c. **Short Term Road:** A short term road is a road with the stumps removed and a bladed running surface. There may be elements of ditching and elevated grade, particularly around wet areas but these features are not continuous.

Schedule 10

d. **Snow/Ice Roads:** a single lane seasonal road including turnouts, with a flat road profile that is built with a combination of snow, ice and dirt, on a surface that may or may not have been stumped. The driving surface is built up using multiple layers of snow and ice such that extra stabilizing material costs are not applicable. A flat road profile means the side slope is less than or equal to 15% and there is minimal side cut. Minimal means, cuts into mineral or organic soil must not exceed 0.5 m in depth for distances up to 0.1 km. Seismic lines being used for roads, that have not previously been used as roads, will be considered as new construction and qualify as snow/ice roads provided they fall within the above criteria.

3. **Soil Moisture Code:** enter one of; Wet, Moist, or Dry, as defined by referring to the ‘Relative Soil Moisture to Absolute Soil Moisture Conversion Table’ (see Appendix III of the *Interior Appraisal Manual*). Determine the Absolute Soil Moisture Code by using Appendix III to cross reference the Relative Soil Moisture regime class (0-7) and the BEC-Subzone, for each road sample.

Soil Moisture Regime Class (0-7), should be determined using site plan information, reference to the appropriate field guide, and by physical observation. The chart “Soil Moisture Regime Classes and Characteristics” can be referenced, and is available at the following link:
<http://www.for.gov.bc.ca/hre/forprod/fordyn/projects/referenc/moisture.htm>

After determining the Absolute Soil Moisture code, select Dry, Moist, or Wet, from the drop down as per the following table:

Absolute Soil Moisture Code	ILCR entry
ED, VD, or MD	Dry
SD or F	Moist
M, VM, or W	Wet

4. **Biogeoclimatic Zone (sub-zone and variant) and Relative Moisture Regime Class:** select the Biogeoclimatic Zone from the drop down list. See General Instructions on page 5 for further information.

In addition you **MUST** record the sub-zone and variant, and the relative moisture regime class (as used to determine the Absolute Soil Moisture Code above). Enter this information in the comment box in the following format; BEC-subzone and variant-relative soil moisture regime class.

Example: ESSF-dc1-4

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5. **Side Slope Percent:** enter the average uphill side, side slope percent for the road reported. Uphill side slope percent represents all slopes in the section and may show a range of variation (±15 percent about the average) within any section length. To derive a meaningful average for uphill side slope percent, several representative cross-section measurements are taken along the section length and the sum of one-half of the distance on each side of the measurement is applied as a weight against the measurement at that cross-section. The uphill side slope is measured at right angles to the road centreline and is recorded to the nearest integer. Where the road is located on a bench, the uphill side slope of the bench is used.

To derive a meaningful average for each item, (side slopes, materials type, etc.) several representative cross-section measurements are taken along the road and the sum of one-half of the distance on each side of the measurements is applied as a weight against the measurement at the cross section.

e.g. uphill slope % =
$$\frac{X1(0.5d1) + X2(0.5d1 + 0.5d2) + \dots Xn(0.5dn)}{D}$$

where: D is road length
 d1...dn is distance between cross sections
 X1...Xn is the slope percent at each cross section along the road.

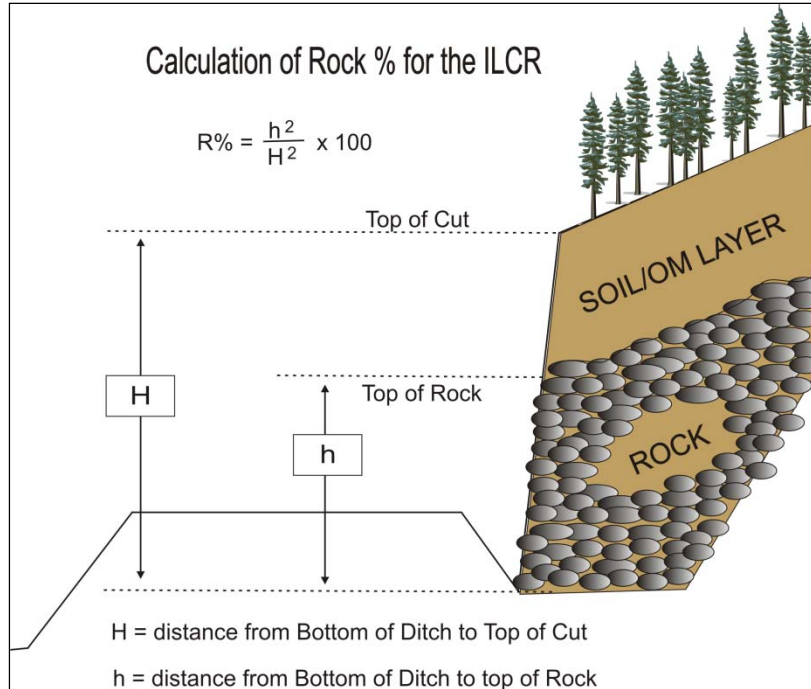
6. **Boulder area percent:** this refers to surface boulders over 0.5 m in diameter not requiring breaking or drilling and blasting. Record percent of area covered within the cleared right-of-way width.
7. **Materials Type (Percent of total Road Prism volume):** enter the best estimate of soil materials percentages that constitute the total road prism volume for each type that are representative for the road reported. The sum of rock, coarse grained, fine grained and organic (peat) soils must total 100%.

- a. **Rock Percent:** enter rock percent for:
- i. **Solid (Hard) Rock:** including large boulders, greater than 1.5m, requiring breaking or drilling and blasting,
 - ii. **Rippable Rock:**
 The % of total road prism volume that is rock (R%) which includes both solid hard and rippable rock, can be estimated (maximum of 50%) as follows:

$$R\% = \frac{h^2}{H^2} * 100$$

Where: h = vertical cut height of all rock measured from the bottom of the ditch
 H = vertical total cut height of all materials (including overburden) above the bottom of the ditch.

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- b. **Coarse:** enter the combined percent of gravel, sand and imbedded small boulders (less than 0.5 m average diameter).
 - c. **Fine:** enter the combined percent of silt, clay, and loam soils.
 - d. **Organic:** enter the combined percent of partly or completely decomposed organic materials.
8. **Includes Detailed Engineering Costs:** enter Yes if the road section meets one or more of the specific situations that are considered for detailed engineering cost estimates **and** the costs are included in the Total amount. If Yes is entered, the sample will not be used for tabular cost estimation.

Enter No, if there are no detailed engineering cost estimates (ECE) or if the total cost of the ECE has been entirely (100%) removed from the total amount.

If No is entered the sample will be used in the tabular cost estimates where rock and slope percentages are up to 50%. Samples with rock and/or slope greater than 50% may also be used as required.

Special Instructions for Subgrade:

1. **Length:** record the road section length to the nearest metre (example 5.555 km).

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2. **Surface Width:** record the average surface width for the road section to the nearest 0.1 m (example 5.0 m) the average road width is to exclude pullouts and is to be measured as shown in Figures 3, 4 and 5 of the *Forest Practices Code of British Columbia* publication entitled *Forest Road Engineering Guidebook*.
3. **Actual Costs:** enter the total costs from accounting records. Subgrade construction costs include: clearing, grubbing, stripping, stump removal, ditch construction, turnout construction, material costs, and installation of culverts with diameters less than 950 mm, or the equivalent cross sectional area, or a single log abutment culverts up to 3.4 m span. Right-of-way felling and logging is excluded. When it is necessary to refreeze a winter-only road several times, enter the aggregate cost for that road for the survey period.
4. **TtT (Tree-to-Truck) Transfers:** record all costs that were deducted from Schedule 8: Tree-to-Truck sample(s). Note relevant tree-to-truck page and sample numbers in the comments box.
5. **Other Transfers:** record all costs that were included in contractor rates including those for which no Schedule 8 TtT samples were requested.
6. **Total Costs:** are automatically calculated as follows:

$$\text{Total Costs} = \text{Actual Costs (3)} + \text{TtT (Tree-to-Truck) Transfers (4)} + \text{Other Transfers (5)}.$$

7. **Less Bridges:** enter the costs of bridges included in Actual Costs, TtT Transfers, and/or Other Transfers above. All bridge costs should be transferred to and reported on Schedule 7: Single Span Bridge and Culvert Costs.
8. **Less Culverts:** enter the costs of *large* culverts (i.e., over the limits defined in item #3 above) included in Actual Costs, TtT Transfers, and/or Other Transfers above. All large culvert costs should be transferred to and reported on Schedule 7: Single Span Bridge and Culvert Costs.
9. **Less Landings:** enter the costs for landing construction included in Actual Costs, TtT Transfers, and/or Other Transfers above. All landing costs should be transferred to and reported on Schedule 8: Tree-to-Truck if the landing(s) service a harvested area that is sampled for tree-to-truck phase. See item #22, "Additions to Original TtT (Tree-To-Truck) Rate."
10. **Less End Haul:** enter the costs for the removal of excavated material from a road or landing right-of-way to a separate spoil area to avoid side casting on steep and or sensitive sites. If costs are entered, you will also be required to enter the average distance (km) to the spoil area and the volume (m³) of material removed. (See bottom of screen)

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11. **Less Overland:** enter the costs for developing and trucking in material for extensive filling to develop a roadbed. Costs for initial development of the gravel pit or quarry should *not* be assigned to a single road construction sample, unless the pit or quarry was developed and used exclusively for that sample. They should be reasonably allocated on a unit basis (\$/m³ of fill material) over the expected life of the pit or quarry. If costs are entered, you will also be required to enter the average distance (km) to the gravel pit or rock quarry and the volume (m³) of fill material brought in (See bottom of screen).
12. **Less Other Engineering Costs:** enter the costs for any of the other specific situations that are considered for detailed engineering cost estimates. These specific situations are listed in Section 4.3.3 “Detailed Engineering Cost Estimates” of the current *Interior Appraisal Manual*.
13. **Total:** automatically calculated as follows:
Total = Total = Actual Costs + TtT (Tree-to-Truck) Transfers + Other Transfers – Less Bridges – Less Culverts – Less Landings – Less End Haul – Less Overland – Less Other Engineering Costs

Special Instructions for Additional Stabilization (Ballasting):

Additional Stabilization is defined in the *Interior Appraisal Manual*.

Exclude placement of additional stabilizing material where geotextile, corduroy, crushed and/or screened rock/gravel are used.

Additional Stabilization:

1. **Code** select the method of stabilizing required from the drop down list.

None Required	no additional stabilizing (ballasting) required.
Continuous	generally required for operational and block roads (depending on soil material and season of use). Depth may be variable but the entire road subgrade is covered, except for minor sections (i.e., short rock cut).
Due at a Later Date	if additional stabilizing materials to be trucked in at a later date.
2. **Length:** enter the length, to the nearest 0.1 km, of stabilized/ballast road section.
3. **Surface Width:** is automatically transferred from Subgrade Surface Width, if entered. Else, record the average surface width for the road section to the nearest 0.1 m. The average road width is to exclude pullouts and is to be measured as shown in the most recent Forest Practices Code of British Columbia publication entitled Forest Road Engineering Guide Book.

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4. **Type:** select the applicable additional stabilization (ballast) material type from the drop down list as follows:

Gravel

Ripped Rock - rock *not* requiring drilling and blasting.

Quarried Rock - rock that requires drilling and blasting.

5. **Depth:** enter the average estimated compacted material depth to the nearest 0.1m. The distance weighted average depth is estimated along the road length reported.
6. **Distance:** enter truck haul distance to the material source, to the nearest 0.1 km. The distances are measured from the quarry and/or borrow pit(s) to the mid-point of the section where the stabilizing material is used. If several borrow pits were used, enter the weighted average haul distance.
7. **Actual Costs:** enter the total costs from accounting records.
8. **TtT (Tree-to-Truck) Transfer:** record all costs that were deducted from Schedule 8: Tree-to-Truck sample(s). Note relevant tree-to-truck page and sample numbers in the comments box.
9. **Other Transfers:** record all costs that were included in contractor rates for which no samples were requested.
10. **Totals:** are calculated automatically and will include actual costs plus transfers. Costs for additional stabilization (ballast) includes borrow pit preparation, rock drilling explosives, loading of explosives, blasting, loosening and/or pushing materials in borrow pits when required (e.g., compacted or cemented gravel, oversize material, etc.), loading gravel trucks, truck hauling, and spreading and compacting the material.
11. **Cost/km:** calculated automatically as follows:
$$\$/\text{km} = \text{Totals } (\$) / \text{Length (km)}$$

Schedule 11 – Basic Silviculture

Description

This schedule is not required for this year.

Any overhead costs associated with silviculture and previously included on Schedule 11 must be included in Schedule 3.

Appendix 1 – Forest Management Administration Costs

Forest Management Administration Costs are only those costs directly related to administration and supervision of the tenure obligation adjustments (TOA), which are forest management, road development, road maintenance and basic silviculture.

These costs do not include harvesting costs (direct or indirect), business related or corporate costs, discretionary costs, director's fees and expenses, unless portions of these costs are directly attributable to the management of the forest, nor do they include sales expenses, restructuring expenses or other expenses, which have been deemed unacceptable.

Allowable Costs

- Licenses, Fees, Insurance:
 - License Permits/Water/Special Use Permits
 - Environmental Fees
 - Membership Fees/Dues and Subscriptions to Associations
 - Insurance on Building/Office Equipment/Supplies
- Taxes, Leases, Rentals:
 - Business Property and Municipal Tax
 - Land Leases
 - Office Building Rents/Leases
 - Property Rentals
- Wages, Salaries, Benefits:
 - Wages Salaries and Benefits
 - Bonuses (management and staff)
 - Relocation Costs
- Vehicle Expense:
 - Fuel and Lubricants
 - Insurance and Licenses
 - Repairs and Maintenance
 - Leases
- Office Expenses:
 - Audit Fees
 - Corporate Aircraft (directly charged to forest planning only)
 - Information Technology/Data Processing/Service Agreements
 - Fire Protection Supplies
 - Human Resources/Training Development/Recruitment Costs
 - Legal Fees (forest planning only)
 - Meals and Entertainment

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Office Building Repairs/Cleaning/Maintenance
Office Equipment Repairs/Rentals/Leases
Office and Computer Supplies/Postage/Courier
Safety Supplies
Travel and Accommodation/Room and Board
Telephone/Telex/Radio Communication
Utilities/Light/Heat/Power

- Scaling Expense:
Scaling (all wood delivered at the mill yard)
- Consulting Services:
Archaeological Studies and Reports
Certification (ISO etc.)
Cruising
Contractual Beetle (beetle detection, beetle planning, probing and baiting
Development
Engineering (includes road layout, geo-technical and design, excluding
engineering cost estimates)
Environmental Protection
Forest Protection
Planning/Layout/Mapping/Drafting/Inventory
Residue and Waste/Surveys/Reports
Right of Way Easements
Stream Classification/Terrain Analysis
- Depreciation (administration only):
Office Building and Equipment
Vehicles
- Basic Silviculture:
Include any administration and supervision cost, which is included in basic
silviculture

Unacceptable Costs

The following “cost items” are unacceptable costs for appraisal purposes unless portions of these costs are directly attributable to the management of the forest:

- Allocated Costs¹ i.e. Corporate Head Office and Plant Operations (lumber mills, veneer, plywood, OSB, pulp, paper etc.)
- Annual Rents (Section 111 of the *Forest Act*)
- Corporate Aircraft

¹ Allocated Costs are not acceptable for MPS. Costs must be directly charged to “Forest Planning Administration” and supported by relevant and reliable audit evidence.

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- Executive Bonuses
- Freight Charges/Leased Car Costs (all deducted from Average Market Values (AMVs))
- Income Taxes and Logging Taxes
- Loss/Gain on Disposal of Fixed Assets/Investments
- Privately Owned/Purchased/Sold/Logs
- Legal Fees
- Penalties and fines
- Interest (finance and overdue charges)
- Political/Corporate Donations
- Restructuring Expenses (accounting and consulting)
- Research and Development
- Selling Expenses/Export Duty/Entry Charges (deducted from AMVs)
- Shareholder Expenses (dividends, notices, transfer agent costs etc.)
- Share Purchase Plans
- Stumpage Fees and Royalties

Appendix 2a – Tools for Road Construction Cost Collection

In 2009 a working subgroup of the Operating Cost Subcommittee (OCS) of Interior Appraisal Advisory Committee (IAAC) was formed to look into ways to improve the integrity of cost data collected in the annual Interior Log Cost Report (ILCR). One of the concepts investigated is the need to ensure that data collected is relevant, consistent, and representative of actual operational activity. It is important to ensure that costs reported are actual costs and specific to the sample reported.

In the case of road costs reported on schedule 10 of ILCR, it is important that the cost and operational characteristics report are on an actual or as-built basis, rather than based on averages, or appraisal estimates prior to construction. To facilitate the collection of as-built data in the field, the sub-group developed a sample template that could be used by licensees to collect relevant road sample data. The excel template is available on the ILCR website at this link:

<http://www.for.gov.bc.ca/hva/ilcr/index.htm>

Also attached is a summary of the data collection points (data entry boxes) for schedule 10 of the ILCR, indicating the recommended source of data for each data point. Since a large degree of variability exists in woodlands accounting and management systems, licensees must assess which sources are best supported by their individual systems, but should consider the points recommended. The excel template is available on the ILCR website at this link:

<http://www.for.gov.bc.ca/hva/ilcr/index.htm>

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Appendix 2c – Recommended Schedule 10 Data Source

Interior Log Cost Report Recommend data sources for Schedule 10 - Road Construction		
Input:	Source	Comments
General:		
Road Type	On site inspection after construction	determine the extent of continuous raised subgrade and continuous ditching
Soil Moisture Code	Site Plan and BEC maps, confirmed by on site inspection	
BEC zone/subzone	Site Plan and BEC maps, confirmed by on site inspection	
Side Slope %	Road design documents, confirmed by on site measurement & inspection	
Boulder Area %	Estimated by construction supervisor	
Rock %	Measured after/during construction, verified by construction supervisor	refer to instructions for calculation
Rock Type	Measured after/during construction, verified by construction supervisor	
Soil Type break-down	Measured after/during construction, verified by construction supervisor	
Included ECEs	Refer to Appraisal to identify where ECE's are used	Where the ECE portion of a sample can not be reported separately sample not used
Subgrade:		
Length	Actual, measured and confirmed after construction	
Surface Width	Actual (average), measured/confirmed after construction	
Actual Costs	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/low costs for potential coding errors
TtT Transfers	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	If transfers are not actually recorded in the system, but are know to exist, an estimate of cost should be made
Other Transfers	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	If transfers are not actually recorded in the system, but are know to exist, an estimate of cost should be made
Bridges	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
Large Culverts	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
Landings	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
End Haul	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
Overland	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
Other Engineering Costs	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	Review high/lows for potential coding errors / If cost not coded separately estimate of cost must be made
Additional Stabilization:		
Code	Appraisal, verified by construction supervisor	
Length	Actual Construction, Verified by construction supervisor	
Surface Width	Actual Construction, Verified by construction supervisor	
Type	Actual Construction, Verified by construction supervisor	
Depth	Actual Construction, Verified (estimated) by construction supervisor	
Distance to Source	Measured after construction, verified by construction supervisor	
Actual Costs	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	
TtT Transfer	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments)	If transfers are not actually recorded in the system, but are know to exist, an estimate of cost should be made
Other Transfers	Actual costs reported in the company financial accounting and reporting system (invoices or contract payments).	If transfers are not actually recorded in the system, but are know to exist, an estimate of cost should be made