

# WOODLOT LICENCE PLAN #1

WOODLOT LICENCE # W1679

2009 to 2019

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**Authorized Licensee Signature:**

[Signature]

[Print Name]

[Date]

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# Disclaimer

Recognizing the special nature of management on a woodlot licence, this disclaimer forms part of the Woodlot Licence Plan (WLP) for Woodlot Licence Number W1679 and advises that:

- the decision to operate under one or more of the Default Performance Requirements provided in the Woodlot Licence Planning and Practices Regulation (WLPPR) is the sole responsibility of the woodlot licence holder, and involved no detailed oversight or advice from the prescribing registered professional forester,
- this disclaimer is signed on the explicit understanding and information provided by government that the use and achievement of a Default Performance Requirement meets the expectations of government with respect to the management of woodlot licences,
- the undersigned Registered Professional Forester certifies that this Woodlot Licence Plan and the supplemental information fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work.

Signed \_\_\_\_\_

Seal:

Name (Print) \_\_\_\_\_

RPF # \_\_\_\_\_ Contact phone number (250)-337-5588

Email mail@econ.ca

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# I. MANDATORY CONTENT FOR A WOODLOT LICENCE PLAN (WLP)

## PLAN AREA

This plan covers the entire 456.65 ha of private and Crown land included in Woodlot Licence W1902.

The Crown parcel is 357.53 ha in size and is located southwest of Campbell River, east of Lower Quinsam Lake. The main entrance to the crown portion is by Branch ER11S1 (Old Tom Brown Rd), off the Elk River Main Line at kilometre 12.5. This area is referred to as the Quinsam parcel throughout this plan.

The private land contribution to this Woodlot Licence consists of 99.12 ha located 10 km north of Courtenay. The holdings consist of a mosaic of farmland, settlement areas and forested land, situated south of Smith road between Highway 19A and Headquarters Road.

## MAP AND INFORMATION

**Table 1: Map and Information Content**

Information Item	Map	Text	N/A
Forest cover	√		
Topography; (unless exempted by DM)	√		
Location of streams, wetlands and lakes as shown on forest cover maps, terrain resource inventory maps and fish and fish habitat inventory maps.	√		
Riparian classification of streams, wetlands and lakes if shown on maps	√		
Identification of fish streams	√		
Biogeoclimatic zones and subzones (unless exempted by DM)		√	
Public utilities (transmission lines, gas & oil pipelines, and railways)			√
Existing roads	√		
<b>Special Situations that may not Apply to the WL area</b>			
Resource Management Zones, Landscape Units or Sensitive Areas		√	
Wildlife Habitat Areas (unless exempted by DM)			√
Scenic Areas			√
Ungulate Winter Ranges			√
Community Watersheds			√
Fisheries Sensitive Watersheds			√
Community and domestic water supply intakes that are licensed under the Water Act and any related water supply infrastructures			√
Contiguous areas of sensitive soils			√
Temporary or permanent barricades to restrict vehicle access		√	
Private property within or adjacent to the woodlot licence area	√		
Resource features other than wildlife habitat features and archaeological sites (unless the location of the resource feature is not to be disclosed)			√

All of the applicable information required to be addressed under section 8(1) of the *Woodlot Licence Planning and Practices Regulation* (WLPPR) and checked in Table 1 is discussed in the following text of this section and/or is identified on the WLP maps.

### **Biogeoclimatic Classification**

The entire Woodlot Licence area is within the Very Dry Maritime variant of the Coastal Western Hemlock biogeoclimatic zone (CWH xm1) where the average rainfall can range from 1100 to 2721 mm per year. Much of the original forest cover within the Crown portion was either burnt in the 1938 Sayward fire or harvested around this period. The disturbance history has resulted in continuous areas of even aged Douglas fir with a minor component of western red cedar and western hemlock.

### **Resource Management Zones, Landscape Units and Sensitive Areas**

The Crown portion of the Woodlot Licence area is not included in the Vancouver Island Land Use Plan (VILUP), but is located south of Resource Management Zone (RMZ) #31. The location, along with that of an adjacent woodlot licence, is considered isolated as it is encircled by private forestlands and is a considerable distance from other Crown blocks. As a result this area was been excluded from the VILUP planning process.

The Vancouver Island Land Use Plan does not cover the private portions of the woodlot either. These private holdings are included within the Agricultural Land Reserve (ALR) and are subject to the restrictions of this designation.

The Crown and private portions of the woodlot are located within the Quinsam and Tsolum landscape units respectively. There are no approved landscape unit plans for either landscape unit.

Sensitive areas are areas of land and water that have unique or locally significant forest resources that are frequently sensitive to resource development such as hot springs or rare plant communities. There are no known sensitive areas within the woodlot.

### **Scenic Areas**

There are no established scenic areas or visual quality objectives for the any part of the woodlot.

### **Community Watersheds**

The woodlot is not located within a community watershed.

### **Licensed Water Supply Intakes and Infrastructure**

There are no licensed water supply intakes or infrastructure within or near to the woodlot.

### **Contiguous Areas of Sensitive Soils**

There are no contiguous areas of sensitive soils within the woodlot. The terrain of the Crown portion of the tenure area includes rolling hills and swampy wetlands that slope northeast toward the Quinsam River. Few slopes have an extended gradient of over 30%. The private land contribution to Woodlot Licence W1679 occupies a gently sloping plain between Portuguese Creek and the Tsolum River.

### **Temporary or Permanent Barriers to Restrict Vehicle Access**

At the time of preparation of this woodlot licence plan there are no permanent barriers to restrict vehicle access within the crown portion of the woodlot. Construction of temporary or permanent barriers to restrict vehicle access may take place within the woodlot in the future. The purpose of these installations would be to deter illegal activities, reduce fire hazard, minimize firewood theft, protect property (equipment etc.) and to prevent garbage dumping.

### **Other Resource Uses and Issues**

Recreational activities in the Quinsam parcel include the harvesting of non-timber forest products and seasonal hunting.

The Ministry of Forests and Range (MoFR) recreation inventory information pertaining to the WLP area is summarized in the following table. No recreation polygons or attributes are included in the MoFR database for the private portion of the woodlot.

**Table 2: Recreational Resource Inventory for the Woodlot Licence W1678**

<b>R.O.S. Polygon</b>	<b>R.O.S. Class</b>	<b>R.F.I. Polygon</b>	<b>Recreation Features</b>	<b>Impact Management</b>
12161	Roaded Modified (RM)	73668	E02: Regenerating stands E03: Second growth coniferous timber. M13: Numerous small waterbodies and midsize lakes (Quinsam Lake).	No conflict expected with normal woodlot management.

The following are **not known to exist** within the woodlot licence area:

- Wildlife habitat areas, ungulate winter ranges, or fisheries sensitive watersheds
- Archaeological sites
- Designated recreation sites, trails, or interpretive sites
- Resource features not otherwise mentioned in this woodlot licence plan

## AREAS WHERE TIMBER HARVESTING WILL BE AVOIDED

There are no areas in this Woodlot Licence where timber harvesting will be strictly avoided.

## AREAS WHERE TIMBER HARVESTING WILL BE MODIFIED

Areas in this Woodlot Licence where timber harvesting will be modified to protect and manage resources are shown on the map by shading, hatching or lines.

**Riparian reserve zones (RRZs) and wildlife tree patches (WTPs)** are not planned for regular harvesting other than those situations specified in regulation, such as tree removal for the purpose of creating trails or for carrying out a sanitation treatment. These areas include zones allocated to streams and wetlands and those areas designated or projected as WTPs. RRZs and WTPs are denoted in light red shading on the WLP map.

**Riparian Management Zones (RMZs)** will have modified harvesting prescriptions. The table below outlines how timber harvesting will be modified based on the stream and lake classification. Depending on the present stand structure, terrain, windthrow risk and block configuration the retention level will be uniform, grouped or spatially distinct. In general understory and unmerchantable cedar and other conifers of good form and vigour will be maintained wherever possible to meet the intent of management for all stream and wetland classifications. RMZs are denoted by light green diagonal lines on the WLP maps.

**Table 3: Modification of Harvesting in RMZs by Riparian Classification**

RIPARIAN CLASS	INTENT OF MANAGEMENT	SPECIES TO RETAIN	RETENTION LEVEL POST HARVEST (stems/ha)
S2 (Fish bearing or Community Watershed >5≤20m)	<ul style="list-style-type: none"> <li>Maintain the integrity of the RRZ</li> <li>Assist in maintaining wildlife attributes within the RMA, such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>	<b>Fd, Cw, Hw, Pl, Dr, Act, and Mb</b>	25 - 100%
S3 (Fish bearing or Community Watershed 1.5 - 5.0m)	<ul style="list-style-type: none"> <li>Maintain the integrity of the RRZ</li> <li>Assist in maintaining wildlife attributes within the RMA, such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>		25 - 100%
S4 (Fish bearing or Community Watershed) up to 1.5m)	<ul style="list-style-type: none"> <li>Maintain stream bank integrity</li> <li>Provide shaded cover, LWD and litter</li> </ul>		25 - 100%
S6 (non-fish ≤3m)	<ul style="list-style-type: none"> <li>Minimize potential introduction of deleterious materials.</li> </ul>		0 - 100%
Lake and Wetlands	<ul style="list-style-type: none"> <li>Maintain the integrity of the RRZ</li> <li>Assist in maintaining wildlife attributes within the RMA, such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure.</li> </ul>		25 - 100%

Fd = Douglas fir, Cw = western red cedar, Hw = western hemlock, Pl = lodgepole pine, Dr = red alder, Act = black cottonwood  
Mb = Bigleaf Maple

Stream classification has been completed for the entire woodlot area. The consultant’s reports express the difficulty encountered during the classification process as the morphology of streams in the area do not fit well into the accepted definitions of streams, wetlands and non-classified drainages (NCD).

In general the reports describe the streams in the Crown portion of the woodlot area as wide, flat, silty and sedgey. Defined stream channels are not continuous for the length of the streams, but classification has been based on the width of such channels when they appear. This has resulted in conservative classification of S3 and S4 streams in areas that may be best managed as wetlands. The reports conclude that fish habitat is marginal but fish may be present when water levels are high. Final classification of streams and wetlands will be based on detailed site assessments completed at the pre-harvest mapping phase.

## PROTECTING AND CONSERVING CULTURAL HERITAGE RESOURCES

The woodlot lies within the traditional territories of three First Nations. A list of these First Nations and their contact information is provided within Part II of this plan. In addition to the information sharing process that is implemented for the approval of this plan, First Nations and other interested parties are welcome during the term of this plan to review planned developments upon their own initiative. Documentation of all consultation with First Nations is included within the supplemental information (Part II) of this plan.

An Archaeological Overview Assessment (AOA) was completed for the East Coast of Vancouver Island in 2008. This AOA identifies a small area of moderate potential for veteran CMTs adjacent to the larger wetlands 106 and 39 in the far north and far south of the woodlot respectively. The AOA also identifies a smaller area of moderate potential for non-CMT archaeological resources in the same vicinity.

Consistent with the recommendations of the 2008 AOA, field staff will identify the presence of veteran or snag western redcedar or yellow cedar in potential development areas prior to harvest. As well, large cedar stumps not cut with a chainsaw and lacking springboard notches will be considered an indication of archaeological potential. If these features are identified they will be retained from harvest or an archaeological impact assessment (AIA) will be completed for the area and the subsequent recommendations followed. If all snags are heavily fire scarred the archaeological potential will be considered low and retention or completion of an AIA will not be considered necessary.

If the licensee or any personnel connected with the Woodlot Licence operation finds evidence of traditional use or cultural heritage values, the Ministry of Forests Aboriginal Liaison Officer will be notified and all work will cease within the immediate (30 m) area. The licensee will cooperate fully, as requested by the Ministry of Forests Aboriginal Liaison Officer.

The following results and strategies (Table 4) for managing cultural heritage values will apply. These are based on known cultural heritage issues of interest to First Nations in the Campbell River Forest District.

**Table 4: Results and Strategies for Cultural Heritage Resources**

<i><b>Cultural Heritage Value</b></i>	<i><b>Results &amp; Strategies</b></i>
<b>Cedar:</b>	<p><i><b>Result:</b></i></p> <ul style="list-style-type: none"> <li>• Enable continued access to red cedar for traditional use by local First Nations.</li> </ul> <hr/> <p><i><b>Strategies:</b></i></p> <ul style="list-style-type: none"> <li>• Based on availability of stock and ecological suitability (e.g. Cw listed as preferred species), a component of Cedar will continue to be planted in the woodlot to ensure a long-term supply.</li> <li>• Naturally occurring young cedar trees (including poles) will be retained where operationally practicable.</li> <li>• Local First Nations will be allowed access to monumental cedar trees for traditional use. There are currently no known monumental cedar trees within the woodlot but the aforementioned recruitment strategies will enable opportunities for future generations.</li> </ul>
<b>Traditionally Used Plants:</b>	<p><i><b>Result:</b></i></p> <ul style="list-style-type: none"> <li>• Enable continued access to traditionally used plants for traditional use by local First Nations.</li> </ul> <hr/> <p><i><b>Strategies:</b></i></p> <ul style="list-style-type: none"> <li>• When local First Nations have indicated specific interest in traditional use plants, the licensee will identify the presence of such plants in planned harvest areas and communicate this to the interested First Nations prior to cutting permit submission. This is to allow for review by the local First Nations and for the collection of traditional use plants by local First Nations prior to harvest. Interested local First Nations will also be notified of traditionally used plants indicated to the licensee as being scarce if they are subsequently identified anywhere on the woodlot.</li> <li>• A no-pesticide use policy is implemented in this Woodlot Licence. Manual brushing and early planting of large stock are the preferred methods to overcome brush problems.</li> </ul>

<b>Cultural Heritage Resources</b>	<p><b>Result:</b></p> <ul style="list-style-type: none"> <li>• Harvest plans will consider identified cultural heritage resources.</li> </ul>
	<p><b>Strategies:</b></p> <ul style="list-style-type: none"> <li>• The Licensee will share information with local First Nations upon request and be available for field reviews.</li> <li>• The licensee and representatives will be diligent in looking for evidence of cultural heritage resources during fieldwork and will notify the MoFR district Aboriginal Liaison Officer and local First Nations if any evidence is discovered.</li> <li>• The licensee will conduct an Archaeological Impact Assessment in any areas proposed for development that are indicated in Millennium Research Limited East Vancouver Island AOA as having a moderate or greater potential for cultural heritage resources or in areas identified by local First Nations as traditionally used sites.</li> </ul>

# WILDLIFE TREE RETENTION STRATEGY

Note: The proportion of the Woodlot Licence area that is occupied by wildlife tree retention areas is specified in the “PERFORMANCE REQUIREMENTS” section of this Woodlot Licence plan.

## **INDIVIDUAL WILDLIFE TREES**

### **a) Species and Characteristics:**

Desired species are (in order of preference): Fd, Cw, Hw, Dr, and Mb with a minimum dbh of 50cm. The following table describes the species and characteristics of individual trees that will guide the selection of wildlife trees to be retained from harvesting.

**Table 5: Wildlife Tree Value and Characteristics for All Species**

	<b>HIGH (at least two of the listed characteristics)</b>	<b>MEDIUM</b>	<b>LOW</b>
<b>CHARACTERISTICS</b>	<ul style="list-style-type: none"> <li>• Internal decay (heartrot or natural/excavated cavities present)</li> <li>• Crevices present (loose bark or cracks suitable for bats)</li> <li>• Large brooms present</li> <li>• Active or recent wildlife use</li> <li>• Current insect infestations</li> <li>• Tree structure suitable for wildlife use (e.g. large nest, hunting perch, bear den, etc.)</li> <li>• Largest tree on site (height and/or diameter) and/or veterans</li> <li>• Locally important wildlife tree species</li> </ul>	<ul style="list-style-type: none"> <li>• Large, stable trees that will likely develop two or more of the characteristics listed under HIGH</li> </ul>	<ul style="list-style-type: none"> <li>• Trees not covered by HIGH or MEDIUM categories</li> </ul>

From: Wildlife Tree Committee recommendations available at - <http://www.for.gov.bc.ca/hfp/wlt/wlt-policy-02.htm>

All high value wildlife trees will be retained but given the nature of the historic logging and the thrifty second-growth stands present in the Woodlot Licence area few trees in a given stand may have ‘high’ value attributes. As such, a minimum of one tree per hectare will be used as a minimum threshold for retention where the highest value attained is medium or low. Trees may be left as dispersed individuals or as a groups either internally or externally to harvest areas.

Additionally, cottonwood will be retained when worker safety permits.

## **b) Conditions under which Individual Wildlife Trees may be Removed:**

Specific conditions that influence the decision of where individual wildlife trees may be removed include:

- Worker safety;
- The significance of forest health risk to surrounding stands;
- The ability to retain other wildlife trees to perform as suitable wildlife habitat; and
- The availability of wildlife trees and CWD in adjacent areas.

All workers involved with the removal of potential wildlife trees will be informed of applicable standards prior to fieldwork to help mitigate unnecessary removals.

## **c) Replacement of Individual Wildlife Trees:**

Individual trees will be replaced if they are of ‘high’ wildlife value. Replacement trees will be selected using criteria outlined above with a preference for selecting trees that have two or more high wildlife tree value characteristics.

## **WILDLIFE TREE RETENTION AREAS**

### **a) Forest Cover Attributes:**

Wildlife tree patches (WTP) are preferentially located in fully constrained areas for long-term retention (e.g. riparian reserve zones). The presently allocated WTPs and RRZs for W1679 are shown on the 1:5000 WLP maps and occupy 43.48 ha or approximately 9.5% of the Woodlot Licence area.

The WTPs include some representative larger trees (DBH > average operational cruise) with moderate to high value to wildlife and regenerating stands with future wildlife potential. A list of presently allocated WTPs and their attributes are outlined in the table below.

**Table 6: Forest Cover Attributes of Existing Wildlife Tree Patches (WTPs) and Riparian Reserve Zones (RRZs)**

Wildlife tree patch ID	Size (ha)	Forest Cover Attributes	Productive Ground	Comments:
WTP 1	0.45	103 F 3405-33	100%	Representative of typical Douglas-fir stand within the woodlot
WTP 2	0.36	12 F 3504-22	100%	Adjacent to unclassified wetland near the east woodlot boundary
WTP 3	0.27	103 F 3405-33	100%	Adjacent to Wetland 106 (W1)
WTP 4	0.34	103 F 3405-33	100%	Adjacent to an unclassified wetland and connect the RMZs of Creeks 4 and 4A
Wetland 102 & Crk 2A	3.32	109 D(F) 3305-23 53 FB(D) 1103-40 104 D(F) 3406-37	100%	RRZ on Creek 1 connecting with RRZ of W1 and Creek 2A
All other wetland RRZ	5.07	Various forest cover – generally Fd & Dr, age class 3 on good sites	100%	RRZ surrounding wetlands of class W1 & W2
Quinsam River	2.15	157 FD (B) 1101-36 158 D (MbC) 3405-29	100%	RRZ where Quinsam River (S1) crosses a NE corner of woodlot
Erfyl River	12.90	Various forest cover – generally Fd & Dr, age class 3 on good sites	100%	RRZ crosses woodlot, east/west and follows edge of wetland along SW boundary of woodlot
All other RRZ	5.62	Various forest cover – generally Fd & Dr, age class 3 on good sites	100%	RRZ along several S3 creeks
Private Land WTP and RRZ	13.00	Various coniferous and deciduous forest cover.	100%	RRZ along streams and WTPs surrounding unclassified wetlands.
	<b>43.48</b>			

The size, shape and location of the presently allocated WTPs is subject to change upon further engineering work. Final mapping and location of WTPs adjacent to cutblocks will be shown on pre-harvest mapping documents required under Section 33 of the *Woodlot Licence Planning and Practices Regulation (WLPPR)*.

The minimum proportion of the Woodlot Licence area for long-term WTP retention is 36.5 ha (8.0%) as per Section 52(1) of the WLPPR.

Through on-going observation, there will be potential for identifying and locating nesting trees and other important habitat trees for retention and additional wildlife tree patches. No nesting sites or bear dens requiring specific management consideration have been identified to date.

**b) Conditions Under which Trees may be Removed from Wildlife Tree Retention Areas:**

Stand-specific issues that influence the decision of where salvage may be appropriate for WTPs include:

- Worker safety
- The significance of forest health risk to surrounding stands
- The ability of the retained wildlife trees to perform as suitable wildlife habitat
- The availability of wildlife trees and CWD in adjacent harvest areas.

Salvage of windthrown timber is permitted within WTPs where it is not within the RRZ and where windthrow impacts 25% to 50% of the dominant or co-dominant stems. Salvage of windthrown timber and harvesting of remaining standing stems is permitted within WTPs where windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP.

Individual trees may be felled but not removed if considered a safety hazard. Unsafe wildlife trees will be protected by no-work zones or re-design of cutblock configuration if they exhibit a combination of the following high value wildlife tree characteristics: wildlife tree value category HIGH applicable, DBH greater than 50 cm, wildlife tree class 2 – 8, greater than 20 m high, conks or decay present, wildlife use present (nesting, cavities, recent feeding, denning), species Fd, Cw, Hw, Ba, Ss, Act, Dr, or Mb.

**c) Replacement of Trees Removed from Wildlife Tree Retention Areas:**

Given the nature of the adjacent stands and existing WTPs, the felling of danger trees within a distance from harvest edges defined in the specific cutting authority will not be a common occurrence or threaten the long-term integrity and usefulness of the WTPs. As such, no strategy for the specific replacement of individual trees within WTPs is presented.

Where salvage/harvesting is planned and authorized within a non-RRZ wildlife tree patch, a suitable replacement WTP of at least equivalent quality will be identified concurrently to achieve the retention target. Where all or part of a WTP is salvaged, the salvaged area should be replaced with other suitable habitat in the nearest possible location. If a WTP suffers windthrow, but is not salvaged, it need not be replaced. Replacement areas must have equal or better wildlife values. For non-riparian WTPs, attempts will be made to incorporate important features such as snags, marking, perch and nesting trees, dens, and other significant wildlife features.

## MEASURES TO PREVENT INTRODUCTION OR SPREAD OF INVASIVE PLANTS

The woodlot area will be monitored for the appearance of invasive plant species listed in the Invasive Plant Regulation (BC Reg. 18/2004).

Exposed mineral soils will be grass seeded if establishment of invasive species within the woodlot becomes a concern. In the event that an invasive species becomes established it will be brushed repeatedly or scarified and grass seeded.

Where it is known or reasonably expected that machinery will be transported from a contaminated site, on or off the woodlot, cleaning of tires, tracks, bucket, undercarriage, etc. will be completed prior to transportation. Where gravel is imported to the woodlot for road construction purposes it will come from a source that is free of invasive species.

Seed mixtures used for the above purposes or for those under S.29 of the WLPPR will be Common #1 Forage grade or better.

## MEASURES TO MITIGATE EFFECT OF REMOVING NATURAL RANGE BARRIERS

There are no rangelands present on or adjacent to the Woodlot Licence and no measures or activities are proposed.

## STOCKING INFORMATION FOR SPECIFIED AREAS

The stocking standards for specified areas are found in Appendix 3 – Alternative Stocking Standards.

Specified areas include:

- Areas subject to commercial thinning
- The removal of individual trees
- Areas subject to single/group tree selection
- Other types of intermediate cutting
- Areas subject to the harvest of special forest products

For the purposes of this plan, commercial thinning, the removal of individual trees, single/group selection, intermediate cutting or the harvest of special forest products may take place anywhere within the woodlot except in designated areas where harvesting will be avoided. The delineation of specific areas will be conducted in conjunction with the pre-harvest mapping as per Section 33 of the WLPPR.

# PERFORMANCE REQUIREMENTS

## SOIL DISTURBANCE LIMITS

Alternative - WLPPR s.24(1)(a):

- a) up to a maximum of 30% in localised areas (standard unit basis) dominated by heavy salal or salmonberry where light soil raking using an excavator mounted brush rake will be prescribed to disturb and stir up the salal/salmonberry roots to create planting spots, to facilitate seedling establishment and to achieve early brush control. While this treatment may create dispersed wide to very wide scalps (thus the increased limit), the objective is a mixed substrate of soil and forest floor and not a complete removal of the forest floor.
  
- b) up to a maximum of 15% in wet site units with fluctuating water tables or prolonged periods of standing water in the winter. In these areas 400-600 mounds per ha may be created (where prescribed) using an excavator bucket to create suitable micro sites. This will result in dispersed deep gouges.

**Rationale:** These site preparation treatments would be conducted concurrent with or immediately following harvesting resulting in soil disturbance and they may meet the assessment criteria for scalps and gouges. The increased limits are maximums only and are included to increase flexibility on these sites. These site conditions will normally constitute a small proportion of an applicable harvest area. Prescription and application of these treatments will consider critical site factors including soil sensitivity and erosion potential.

## PERMANENT ACCESS STRUCTURES

Default: WLPPR s.25:

The maximum area occupied by permanent access structures is as follows:

- Cutblocks  $\geq 5$  ha – 7% of cutblock area
- Cutblocks  $< 5$  ha – 10% of cutblock area
- Total Woodlot Licence Area – 7% of Woodlot Licence area

## USE OF SEED

Default - WLPPR s.32:

Adoption of Chief Forester's Standards for Seed Use.

## **STOCKING STANDARDS**

☒ Alternative - WLPPR s. 35(1)(a):

The stocking standards, regeneration dates and free growing dates are indicated in Appendix 3. Clarification and rationale is provided in the supplementary information included with the plan. See Section II - 4.

## **WIDTH OF STREAM RIPARIAN AREAS**

Alternative - WLPPR s.36(4)(a):

In general the width of stream riparian areas will be as specified in Section 36(4) of the WLPPR and shown in Table 7. However, there is one variation due to road location constraints. The following riparian area widths are reduced to the distance from the streambank edge to the lower edge of the fill slope for the roads and trails indicated below.

- Stream 1A North RMA to Patrick Road for the length of the road

The RMA width is shown on the WLP map for illustration purposes only; the actual width is based on field measurement according to the Riparian Management Guidebook. Clarification and rationale for the RMA reductions is provided in the supplementary information included with the plan.

See Section II - 4.

**Table 7: Width of Default Stream Riparian Areas**

<b>Riparian Class</b>	<b>Riparian Management Area (m)</b>	<b>Riparian Reserve Zone (m)</b>	<b>Riparian Management Area (m)</b>
S1-A	100	0	100
S1-B	70	50	20
S2	50	30	20
S3	40	20	20
S4	30	0	30
S5	30	0	30
S6	20	0	20

## **WIDTH OF WETLAND RIPARIAN AREAS**

Alternative - WLPPR s.37(3)(a)

In general the width of wetland riparian areas will be as specified in Section 37(3)(b) of the WLPPR and shown in Table 8. However, there is one variation due to road location constraints. The following riparian area widths are reduced to the distance from the wetland edge to the lower edge of the fill slope for the roads and trails indicated below.

- Wetland 106 RMA to Nora Road

The RMA width is shown on the WLP map for illustration purposes only; the actual width is based on field measurement according to the Riparian Management Guidebook. Clarification and rationale for the RMA reductions is provided in the supplementary information included with the plan.

See Section II - 4.

**Table 8: Width of Default Wetland Riparian Areas**

<b>Riparian Class</b>	<b>Riparian Management Area (m)</b>	<b>Riparian Reserve Zone (m)</b>	<b>Riparian Management Area (m)</b>
W1	50	10	40
W2	30	10	20
W3	30	0	30
W4	30	0	30
W5	50	10	40

## **WIDTH OF LAKE RIPARIAN AREAS**

Default - WLPPR s.38(2)(b):

The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as specified in WLPPR s.38(2)(b).

## **RESTRICTIONS IN A RIPARIAN RESERVE ZONE**

Alternative - WLPPR s.39:

In general the cutting, modifying or removing trees in a riparian reserve zone will be limited to the purposes described in Section 39(1) of the WLPPR.

For the purposes of Section 39(2.1) a road may be constructed through the RRZ of Creek 10 or Wetland 41 in order to access polygons 42 and 43.

## **RESTRICTIONS IN A RIPARIAN MANAGEMENT ZONE**

Default - WLPPR s.40:

Restrictions on and conditions of road construction, maintenance and deactivation activities, and on cutting, modifying or removing trees in a riparian management zone are as described in Section 40 of the WLPPR.

## **WILDLIFE TREE RETENTION**

Default - WLPPR s.52(1):

The proportion of the Woodlot Licence area that is occupied by wildlife tree retention areas is no less than the least of the following:

- The proportion specified for the area in a land use objective, or
- The proportion specified in the WLP, or
- 8%

Note: The proportion of the Woodlot Licence area that is presently occupied by projected wildlife tree retention areas is currently at 43.48 ha (9.5%).

## **COARSE WOODY DEBRIS**

Default - WLPPR s.54(1):

Area on Coast – minimum retention of 4 logs per ha  $\geq 5$  m in length and  $\geq 30$  cm in diameter at one end.

## **RESOURCE FEATURES**

Default - WLPPR s.56(1):

Ensure that forest practices do not damage or render ineffective a resource feature.

\*\*\*\*\*

**Note: Only the performance requirements in Part 3 (Practice Requirements) of the WLPPR for which an alternative can be proposed are shown in this Woodlot Licence Plan. The remaining performance requirements in Part 3 are not shown, nor are the performance requirements in Part 4 (Roads).**

## APPENDICES

Appendix 1: Map of Crown Portion of Woodlot W1679

Appendix 2: Map of Private Portion of Woodlot W1679

Appendix 3: Alternative Stocking Standards for Woodlot W1679

## **Appendix 1: Woodlot Licence Plan Map (Crown Portion)**

# Woodlot Licence W1679 Quinsam East

Ministry of Forests  
Campbell River

## Woodlot Licence Plan



Decl.: 18°47'E (2007)  
Ann Change 13'W

1:5,000

0 50 100 200 Meters

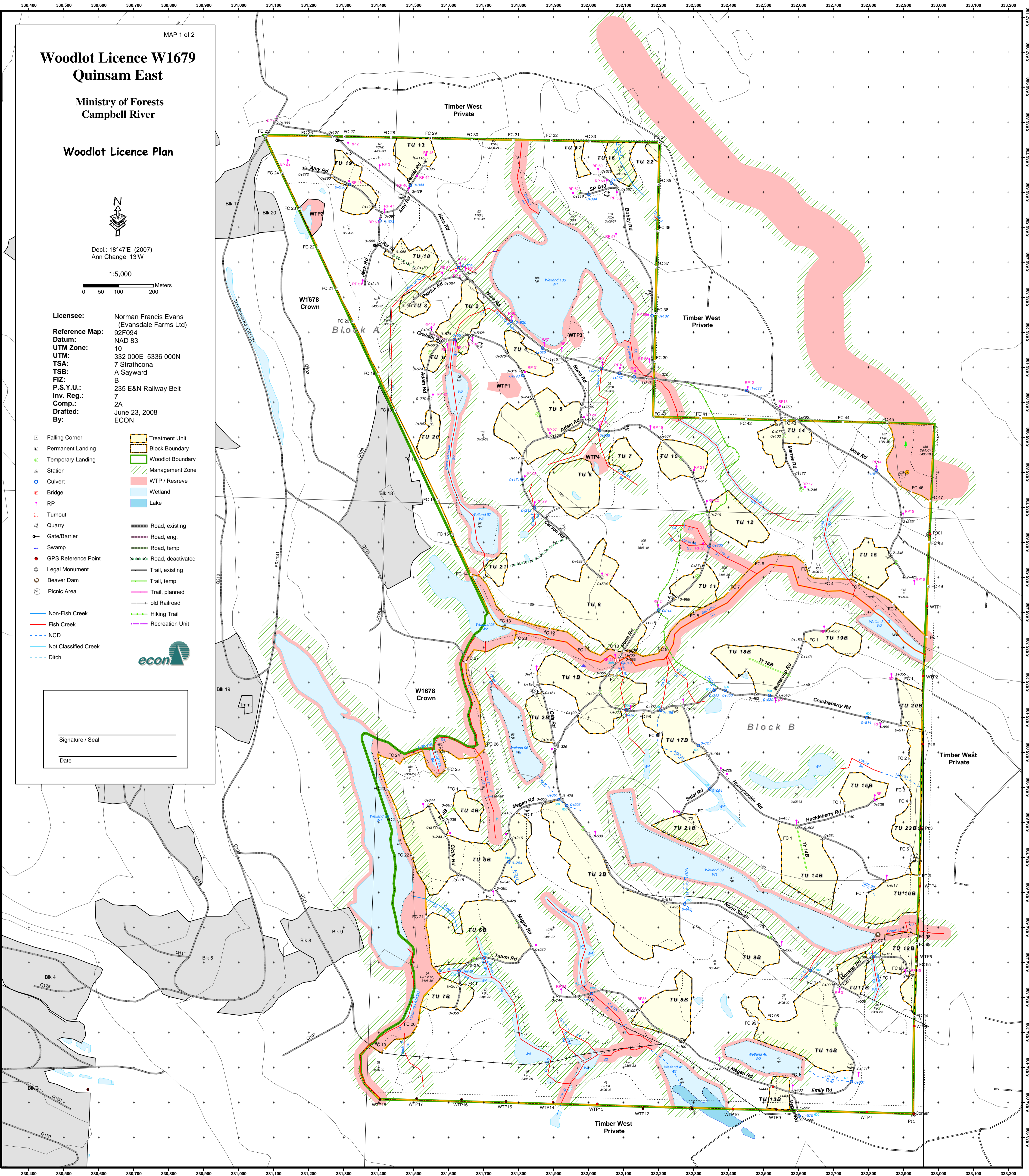
**Licensee:** Norman Francis Evans  
(Evansdale Farms Ltd)  
**Reference Map:** 92F094  
**Datum:** NAD 83  
**UTM Zone:** 10  
**UTM:** 332 000E 5336 000N  
**TSA:** 7 Strathcona  
**TSB:** A Sayward  
**FIZ:** B  
**P.S.Y.U.:** 235 E&N Railway Belt  
**Inv. Reg.:** 7  
**Comp.:** 2A  
**Drafted:** June 23, 2008  
**By:** ECON

- |                        |                     |
|------------------------|---------------------|
| □ Falling Corner       | ▭ Treatment Unit    |
| ○ Permanent Landing    | ▭ Block Boundary    |
| ○ Temporary Landing    | ▭ Woodlot Boundary  |
| △ Station              | ▭ Management Zone   |
| ○ Culvert              | ▭ WTP / Reserve     |
| ○ Bridge               | ▭ Wetland           |
| ↑ RP                   | ▭ Lake              |
| ○ Turnout              | ▭ Road, existing    |
| ○ Quarry               | ▭ Road, eng.        |
| ○ Gate/Barrier         | ▭ Road, temp.       |
| ○ Swamp                | ▭ Road, deactivated |
| ○ GPS Reference Point  | ▭ Trail, existing   |
| ○ Legal Monument       | ▭ Trail, temp.      |
| ○ Beaver Dam           | ▭ Trail, planned    |
| ○ Picnic Area          | ▭ old Railroad      |
| ▬ Non-Fish Creek       | ▭ Hiking Trail      |
| ▬ Fish Creek           | ▭ Recreation Unit   |
| ▬ NCD                  |                     |
| ▬ Not Classified Creek |                     |
| ▬ Ditch                |                     |



Signature / Seal

Date



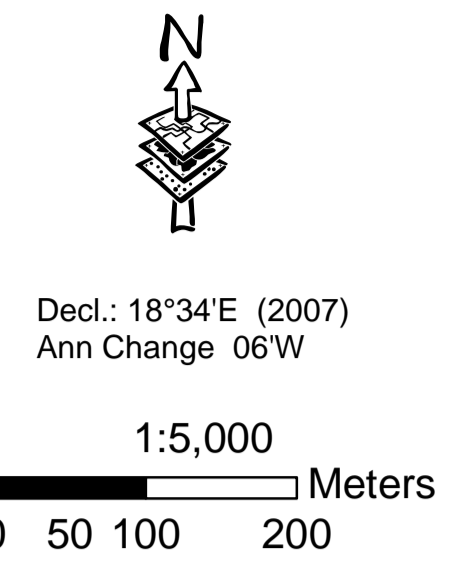
## **Appendix 2: Woodlot Licence Plan Map (Private Portion)**

# Woodlot Licence W1679 Evansdale Farm

Ministry of Forests  
Campbell River

**Licensee:** Norman Francis Evans  
(Evansdale Farms Ltd)  
**Reference Map:** 92F075  
**Datum:** NAD 83  
**UTM Zone:** 10  
**UTM:** 353 000E 5513 300N  
**Airphoto:** 15BCB93085#244,245  
**Drafted:** June 23, 2008  
**By:** ECON

## Woodlot Licence Plan



□	Falling Corner	■	Treatment Unit
○	Permanent Landing	▭	Block Boundary
●	Temporary Landing	▭	Unit Boundary
△	Station	▭	Management Zone
○	Culvert	▭	WTP / Reserve
○	Bridge	▭	Wetland
↑	RP	▭	Lake
○	Turnout	—	Road, paved
□	Quarry	—	Road, existing
—	Gate/Barrier	—	Road, engineered
—	Swamp	—	Road, temporary
●	GPS Reference Point	—	Road, deactivated
○	Legal Monument	—	Trail, existing
○	Beaver Dam	—	Trail, temp
○	Picnic Area	—	Trail, planned
—	Non-Fish Creek	—	old Railroad
—	Fish Creek	—	Hiking Trail
—	NCD	—	Recreation Unit
—	Not Classified Creek		
—	Ditch		



Polygon	Inv. Label (1998)
A1	Fd (Dr Bg Ss Act) 4 5 0 6-35
A2	Dr (Fd Mb Bg Hw) 3 3 0 7-23
A3	Dr (Fd Mb Bg Hw) 3 3 0 7-23
A4	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
A5a	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
A5b	Brush
A6	Dr (Mb Act Ss) 3 2 0 5-20
A7	Fd Dr (Bg Mb Hw) 3 3 0 7-30
A8	Fd Dr (Bg Mb Hw) 3 3 0 7-30
A9	Dr Fd Mb 3 3 0 6-21
A10	Fd (Dr Bg Ss Act) 4 5 0 6-35
A11	Dr (Mb Act Ss) 3 2 0 5-20
A12	Dr Act 2 3 0 5-25
B1	Dr (Fd Mb Bg Hw) 3 3 0 7-23
B2	Fd (Dr Bg Ss Act) 4 5 0 6-35
B3a	Dr Act (Ss Fd Hw) 3 4 0 6-28
B3b	Dr Act (Ss Fd Hw) 3 4 0 6-28
B4a	Fd Bg (Hw Ss) 33 4 0 8-36
B4b	Fd Bg (Hw Ss) 33 4 0 8-36
B5	Fd Act Bg (Dr) 3 5 0 7-42
B6	Act (Dr Ss) 3 5 0 5-43
B7a	Fd (Dr Bg Ss Act) 4 5 0 6-35
B7b	Fd (Dr Bg Ss Act) 4 5 0 6-35
B8	Swamp, pond
B9	Fieldstrip
C1a	Fd 3 4 6-39
C1b	Fd 3 4 6-39
C2	Field
C3	Field
C4	Act (Dr Ss) 3 5 0 5-43
D1a	Dr Act 2 3 0 5-25
D1b	Dr Act 2 3 0 5-25
D2	Dr Act (Bg Hw Fd) 3 4 0 6-22
D3a	Dr Act 2 3 0 5-25
D3b	Dr Act 2 3 0 5-25
D4	Fd Dr (Bg Mb Hw) 3 3 0 7-30
D5	logged
D6	Brush
E1	Fd (Dr Bg Ss Act) 4 5 0 6-35
E2	Dr (Fd Mb Bg Hw) 3 3 0 7-23
F1a	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
F1b	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
F1c	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
F1d	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
F1e	Fd Dr (Mb Ss Bg Hw) 4 3 0 7-30
F2	Fd (Dr Bg Ss Act) 4 5 0 6-35
F3	Mb Dr (Bg) 3 3 0 7-27
F4	Bg (Dr Mb Fd) 3 3 0 8-37
F5a	Dr Act 2 3 0 5-25
F5b	Dr Act 2 3 0 5-25
F6	Brush
G1a	Bg (Dr Mb Fd) 3 3 0 8-37
G1b	Bg (Dr Mb Fd) 3 3 0 8-37
G1c	Bg (Dr Mb Fd) 3 3 0 8-37
G2	Dr (Mb Act Ss) 3 2 0 5-20
G3	Brush
G4	Swamp, pond

Signature / Seal \_\_\_\_\_  
Date \_\_\_\_\_

# APPENDIX 3: ALTERNATIVE STOCKING STANDARDS

Table: A

ADMINISTRATION																											
Vancouver Forest Region			Campbell River Forest District			Licensee: Evansdale Farms Ltd.												Woodlot Licence #W1679			June 19, 2008						
ID #	BEC		Preferred Species						Acceptable Species								Stocking (w/s)			Min Inter Tree Dist (m)	Regen Delay	FG Date	Tree Ht > Brush (min %)	Post Spacing Density		Comments:	
	Zone & variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	MITD (m)	Max (yrs)	Late (yrs)		Min	Max		
A	CWHxm	01/04	Fd	3.0					Pw <sup>5</sup>	2.5	Hw <sup>8</sup>	2.0	Cw	1.5	Lw <sup>9</sup>	1.5	900	500	400	2.0	3	12	150	500	1500	None – Zonal site	
B	CWHxm	02	Fd	2.0	Pl	1.25			Pw <sup>5</sup>	2.5							400	200	200	2.0	3	12	150	200	800	Avoid logging – xeric site, shallow soils	
C	CWHxm	03	Fd	2.0	Pl <sup>6</sup>	1.25			Cw	1.0	Pw <sup>5</sup>	2.5	Lw <sup>9</sup>	1.5			800	400	400	2.0	3	12	150	400	1200	None	
D	CWHxm	05/07	Cw	2.0	Fd	4.0			Bg	3.5	Pw <sup>5</sup>	2.5					900	500	400	2.0	3	12	150	500	1500	None	
E	CWHxm	06	Fd	3.0	Cw	1.5	Hw	2.0	Pw <sup>5</sup>	2.5							900	500	400	2.0	6	14	150	500	1500	None	
F	CWHxm	08/09 <sup>1</sup>	Cw	2.0	Bg	3.5			Ss <sup>7</sup>	4.0							900	500	400	1.5	3	12	150	500	1500	Floodplain - medium/high bench	
G	CWHxm	10	Act	4.0	Dr <sup>4</sup>	4.0	Mb <sup>4</sup>	4.0									800	400	400	1.5	3	12	150	400	1200	Floodplain - low bench	
H	CWHxm	11 <sup>1</sup>	Cw	1.0	Pl <sup>1</sup>	1.25											400	200	200	1.5	3	12	150	200	800	Avoid logging – wet and very poor	
I	CWHxm	12 <sup>1</sup>	Cw	1.0					Hw <sup>4</sup>	1.5	Pw <sup>5</sup>	2.5	Ss <sup>7</sup>	1.5			800	400	400	1.5	3	12	150	400	1200	Organic soils - avoid ground based equipment	
J	CWHxm	13/14 <sup>1,2</sup>	Bg	3.5	Cw	2.0	Fd <sup>1</sup>	4.0	Ss <sup>7,9</sup>	4.0							900	500	400	1.5	3	12	150	500	1500	Fluctuating water table	
K	CWHxm	15 <sup>1,2</sup>	Cw	2.0					Ss <sup>7,9</sup>	4.0							800	400	400	1.5	3	12	150	400	1200	Fluctuating water table	
L	CWHxm	01/06	Dr <sup>4</sup>	3.0	Mb	3.0											1200	1000	800	1.5	3	12	150	800	1500	High density deciduous management	
M	CWHxm	05/07/08/ 09 <sup>1</sup> /02/13/ 14 <sup>1,2</sup> /15 <sup>1,2</sup>	Act	4.0	Dr <sup>4</sup>	4.0	Mb	4.0									1200	1000	800	1.5	3	12	150	800	1500	High density deciduous management	
O	CWHxm	01/04/06	Cw	1.5	Pw <sup>5</sup>	2.5			Fd <sup>3</sup>	3.0	Hw <sup>8,3</sup>	2.0	Lw <sup>9</sup>	1.5			900	500	400	2.0	3	12	150	500	1500	Alternate species root rot treatment	
P	CWHxm	03	Cw	1.0	Pw <sup>5</sup>	2.5	Pl	1.25	Fd <sup>3</sup>	2.0	Lw <sup>9</sup>	1.5					800	400	400	2.0	3	12	150	400	1200	Alternate species root rot treatment	
Q	CWHxm	02	Pw <sup>5</sup>	2.5					Pl <sup>6</sup>	1.25	Fd <sup>3</sup>	2.0					400	200	200	2.0	3	12	150	200	800	Avoid logging – xeric site, shallow soils	
R	CWHxm	05/07	Cw	2.0	Pw <sup>5</sup>	2.5			Fd <sup>3</sup>	4.0	Bg <sup>3</sup>	3.5	Hw <sup>3</sup>	1.75			900	500	400	2.0	3	12	150	500	1500	Alternate species root rot treatment	
S	CWHxm	08/09	Cw	2.0					Bg <sup>3</sup>	3.5	Ss <sup>3,7</sup>	4.0					900	500	400	1.5	3	12	150	500	1500	Alternate species root rot treatment	
T	CWHxm	11	Cw	1.0	Pl <sup>6</sup>	1.25											400	200	200	1.5	3	12	150	200	800	Alternate species root rot treatment	
U	CWHxm	12	Cw	1.0	Pw <sup>5</sup>	2.5			Hw <sup>3</sup>	1.5	Ss <sup>7</sup>	1.5					800	400	400	1.5	3	12	150	400	1200	Alternate species root rot treatment	
V	CWHxm	13/14 <sup>2</sup>	Cw	2.0					Bg <sup>3</sup>	3.5	Fd <sup>3</sup>	4.0	Ss <sup>7</sup>				900	500	400	1.5	3	12	150	500	1500	Alternate species root rot treatment	

### ***Foot Notes***

- 1 Elevated microsites are preferred
- 2 These sites represent areas with strongly fluctuating water tables. They are often found as mosaics in combination with other sites. Elevated microsites are preferred, either mechanical or natural
- 3 Bg, Fd, and Hw are not acceptable within 10 m of Bg, Fd, and Hw second growth stumps,
- 4 Avoid gleyed soils and in frost pockets
- 5 Pw must be free of blister rust within 10 cm of the stem and be pruned as per ministry guidelines or be blister rust resistant stock ( $\geq 50\%$  resistance). Pw may occupy 5% on all sites except sites 04 & 05 where 20% will be the upper limit of the Free-Growing composition. When used for root rot treatment no limit on percent composition is set.
- 6 Restricted to nutrient-very-poor sites
- 7 Risk of weevil damage, use resistant stock where possible. Ss will not exceed 20% of the free growing stand on site series or 5% of the free growing stand on 13, 14, & 15 site series on a dispersed basis. Clumps not to exceed 0.1ha in size.
- 8 Hw is not acceptable on site series 04. The proportion of the free-growing stand comprised of Hw will not exceed 20%.
- 9 Larch (Lw) will be used as an alternative species in W1679 in site series 03 and 04 only with approval from CRFD as more field data becomes available or as MOFR policy provides clearance.

### ***Stocking Standards - General Comments***

This table has been developed from the *Reference Guide for FDP Stocking Standards* dated December 11, 2002 and the standards established in the *Woodlot Licence Forest Management Regulations* (January 31, 2004) Division 2 of Part 6, Schedule A, Table A as well as the correlated guidelines and site interpretation for the Vancouver Forest Region (VFR). Where site series have similar stocking standards, they have been combined. Sections A-K are the general stocking standards. Sections L & M are the deciduous stocking standards. Sections O-V apply to sites affected by root rot.

‘Biogeoclimatic unit’ or ‘BEC’ means the zone, subzone, variant and site series described in the most recent field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.

Site series with the comment of ‘avoid logging’; floodplain site series or sites with strongly fluctuating water tables have been included. However, management on these sites will be limited and will generally be included within a mosaic of better sites. In some cases where there are fluctuating water tables, mounding may be prescribed to create better microsites.

Where standards units (SUs) are comprised of an un-mappable mosaic of site series, the practice will be to manage for the stocking standards, noted by the ID#, of the dominant site series provided that the tree species are suitable (i.e. preferred and acceptable) in all site series contained within the SU.

A limited number of scattered broadleaf trees will be tolerated on all conifer plantations to provide a nurse crop, promote nutrient cycling and for general biodiversity objectives. Up to 50 stems per hectare (sph) of broadleaf trees will be allowed such that they do not influence the free to grow status of adjacent conifers. Because the standard methodology

(3.99m radius plot) is too small to reflect appropriate deciduous densities only 1 deciduous tree per 4 sample plots will be allowed.

The minimum inter-tree spacing is generally reduced to 1.5 m under the following site-specific conditions: frequent bedrock, large blocky colluvium, hygric sites, and disturbed roadside areas amongst slash accumulations (up to 10 m from the travelled portion of the road). On machine mounded sites the minimum inter-tree spacing is reduced to 1.0 m.

The regen delay and late free growing dates are extended by four (4) and eight (8) years respectively for blocks harvested using a shelterwood or seed tree silviculture system (both systems employ natural regeneration). This is to allow for annual variation in seed production, natural regeneration establishment, and potentially slower initial growth rates due to lower light conditions. The harvest commencement date will be the start of the harvest entry (preparatory or establishment cut) that results in less than a fully stocked stand.

The late free growing date is extended by four (4) years for openings that are less than one hectare and for retention systems that retain greater than 10% of the initial stand to account for potentially slower initial growth rates due to a lower light regime. There is no extension to the regen delay date when artificial regeneration (planting) is prescribed.

### ***Deciduous Management***

Recommended Regime: The product objective is to manage for high quality knot-free sawlogs on a 40 - 50 year rotation. Stand-establishment with high densities (1500 sph) is required to achieve a target of 1200 stems/ha at free growing. At approximately age 10 but not before stand height 12 to 16 m space to 900 stems/ha. Dead branch prune the crop trees early and continue density regulation treatments approx. every 10 years to maintain good crown forms and eliminate low quality stems.

The establishment of a second conifer layer (Cw, Ss) before or after density treatment is optional. If a cedar or Sitka spruce understory is planted in addition, then the natural pruning of the alder would be enhanced. The removal of the alder at harvest age is operationally possible, while leaving a fully stocked, semi-mature conifer pole stand remaining.

Where conifers are established underneath a designated deciduous stand, the stand's regeneration and free to grow status will be measured using the deciduous standards only. The minimum free growing height criterion for deciduous species is based on the tallest conifer standard for each site series. Damage criteria for deciduous species have not been formally established. General free-growing criteria will be adopted, such that well spaced stems will be of good form, health and vigour.

### ***Stocking Standards – Specified Areas***

For salvage of timber resulting from windthrow, root rot mortality, or other similar events, openings of up to 0.1 ha in size are acceptable and do not require pre-harvest mapping or associated requirements for regeneration and establishment of a free growing stand. No long-term impact on timber yield is expected as the subject areas are likely to regenerate naturally or will be planted concurrent with harvest in adjacent areas.

**Table B: Stocking Information for Specified Areas**

Target from Table A standards	Layer*	Stocking**		
		Target pa	MIN pa	MIN p
(stems/ha)		(well-spaced/ha)		
<b>900 - 1200</b>	1	400	200	200
	2	500	300	250
	3	700	400	300
	4	900	500	400
<b>800</b>	1	300	150	150
	2	400	200	200
	3	600	300	300
	4	800	400	400

\*Stand Layer definition

Tree Layer 1	Mature	trees $\geq$ 12.5 cm dbh
Tree Layer 2	Pole	trees 7.5 cm to 12.4 cm dbh
Tree Layer 3	Sapling	trees $\geq$ 1.3 m height to 7.4 cm dbh
Tree Layer 4	Regeneration	trees < 1.3 m height

\*\* pa - preferred and acceptable species    p - preferred species

Preferred and acceptable species and "Target from Table A standards" are as specified in Table A by biogeoclimatic ecosystem classification (BEC) site series. Preferred and acceptable species and "Target from Table A standards" are as specified in Table A by biogeoclimatic ecosystem classification (BEC) site series

## **II. SUPPLEMENTAL INFORMATION REQUIRED TO BE SUBMITTED IN SUPPORT OF THE PROPOSED WOODLOT LICENCE PLAN**

### 1. REVIEW AND COMMENT

#### **ADVERTISING**

A notice advertising the general purpose and term of this plan, the location of the woodlot, and the time period and means for review and comment was placed in the Campbell River Mirror and Comox Valley Record newspapers on December 3<sup>rd</sup>, 2008. Copies of the advertisements are included in this Supplemental Information section of this plan.

#### **REFERRALS**

This plan will be referred to the following agencies and/or groups either directly or via the Ministry of Forests and Range (contact Aaron Smeeth ALO):

<b>Hamatla Treaty Society</b> 1441-A Island Highway Campbell River, B.C. V9W 2E3 Ph: 287-9460, Fax: 287-9469	<b>Cape Mudge First Nation</b> PO Box 220 Quathiaski Cove, BC V0P 1N0 Ph: 285-3316, Fax: 285-2400
<b>Campbell River First Nation</b> 1400 Weiwaikum Road Campbell River, BC V9W 5W8 Ph: 286-6949, Fax: 287-8838	<b>Comox First Nation</b> 3320 Comox Road Courtenay, BC V9N 3P8 Ph: 339-4545, Fax: 339-7053

#### **Maps will be forwarded by MoFR to:**

Guide-Outfitter certificate holder #100675

Guide-Outfitter certificate holder #100572

\*Note: Online resource registries include conflicting records for guide-outfitter permit areas. Letters to both licence holders will be forwarded to the MFR with request for clarification.

#### **COPY OF WRITTEN COMMENTS RECEIVED**

All comments received were reviewed by the licensee and Erik Holbek, RPF. Copies of all referral correspondence are contained in the Supplemental Information section of this plan.

## **REVISIONS MADE AS A RESULT OF COMMENTS RECEIVED**

All revisions made as a result of comments received during the public review and comment period are summarized in the letter to the District Manager accompanying the final submission of the plan.

## **2. CONSULTATION WITH FIRST NATIONS**

This plan was referred directly to the K'omoks, Campbell River, and Cape Mudge First Nations as well as the Laich-Kwil-Tach Treaty Society. Comments were received from all First Nations either directly or through the Treaty Society. Copies of all First Nations referral correspondence are included in the Supplemental Information section of this plan.

## **3. EXEMPTIONS**

N/A

## **4. RATIONALE IN SUPPORT OF PROPOSED ALTERNATIVE PERFORMANCE REQUIREMENTS**

### **STOCKING STANDARDS**

Alternative stocking standards are proposed given the location and the licensee's full intent to facilitate intensive forest management and to improve site productivity and species/product diversity. Additionally, existing standards with respect to the use of broadleaf species lack measurable and enforceable standards for implementation and are therefore defined further within the alternative stocking standards. Full details and listing of the stocking standards are provided in Appendix 3.

All areas of harvest will undergo pre-harvest mapping as per Section 33 of the *Woodlot Licence Planning and Practices Regulation*. At that stage the fundamental decision will be made if either conifer or a broadleaf standard will apply and the Standard Unit ID will be assigned.

Forest health concerns give rise to issues regarding the appropriateness of the defaults in areas where root rot (e.g. *Phellinus weirii*) impacts the regeneration and long-term health and productivity of the preferred species. The proposed alternative stocking standards promote healthy stands that protect adjacent resources and values. For example on an infected zonal site (01) adjacent to an S4 creek or recreational trail where stumping is not appropriate to control sediment or to maintain visual appearance. In these cases the establishment of Douglas-fir (preferred) may prove difficult and unsuited in the long-term due to re-infection.

The Chief Forester's stocking standards indicate black cottonwood (Act), red alder (Dr) and bigleaf maple (Mb) as being a productive, reliable and feasible regeneration options

on several site series within the CWH xm1. The attached Alternative Stocking Standards include the standards for both pure broadleaf stands and mixed woods regeneration. The use of broadleaf species is proposed in consideration of the Chief Foresters memorandums dated August 22<sup>nd</sup>, 2000 and May 1<sup>st</sup>, 2008 and the supporting note 'Common Principles for the Management of Red Alder within the Coast Forest Region' dated August 2004.

The management for broadleaf species is proposed on a limited scale. There are currently only a small number of deciduous leading stands within the woodlot and the deciduous component of the annual allowable cut (AAC) is only 5.8% of the total (175 m<sup>3</sup>/year). While deciduous management was not specifically considered in the latest management plan (see Management Plan #1 dated July 1<sup>st</sup>, 1998) it is expected that it will have an overall positive impact on the AAC. If deciduous management becomes a more important aspect of woodlot management it will be accounted for the in next AAC determination.

The broadleaf standards are also supported by the following research literature:

Hibbs et al. The Biology and Management of Red Alder (1994),  
E.B. Petersons et al. FRDA Report 250 – Black Cottonwood and Balsam poplar manager's handbook for British Columbia (1996).  
L. Sigurdson et al. 2nd draft report on Weyerhaeuser's Red Alder Management Practices (1998),  
P.J. Courting et al. Forest Research Extension Note 016 - Red Alder management trials in the Vancouver Forest Region (2002).

The minimum density post-spacing shown corresponds to the values recommended in the Establishment to Free-growing Guidebook for the VFR– i.e. the same as the minimum-stocking standard for conifer stands.

Higher stocking is noted for the deciduous stands to ensure self-pruning and may include a conifer component. The maximum density post-spacing has been increased to allow for two-stage spacing entries in order to manage snow press, blow-down risks and provide the opportunity to capture the small-diameter resource.

The minimum height criterion for deciduous species is based on the tallest conifer standard of the particular site series since the listed hardwoods are at least as rapidly growing as their conifer counterpart. If a cedar or sitka spruce understory is planted in addition to the full hardwood stocking, then the natural pruning of the alder would be enhanced. However, the stand's status will only be measured using the broadleaf standards. The removal of the alder at harvest age is operationally possible, while leaving a fully stocked, semi-mature conifer pole stand behind.

Damage criteria for broadleaf species have not been established. No significant insect or disease outbreaks have been recorded for existing alder trials to date. General free-growing criteria will be adopted and damage assessed by the survey technician at the time

of the survey. Well-spaced stems will be of good form, health and vigour. Species-specific damage criteria will be used upon development.

The stocking standards for specified areas are consistent with the default, with one exception. In the case of deciduous stands established under this WLP where initial stocking densities will be 1000-1200 sph (see Appendix 3 alternative stocking standards), and where these stands may be in the future subject to commercial thinning. These represent a reduction in the targets and minimums for tree layer 1 as compared to the default standards. The reason for this is that the default standards have been developed for conifer stands, which have different crown characteristics from deciduous species. Under deciduous management regimes, while initial densities will be higher to promote self-pruning and encourage stem development, lower target thinning densities in managed stands may be applied during later stages of the rotation.

### **SOIL DISTURBANCE LIMITS**

Site preparation treatments would be conducted concurrent with or immediately following harvesting resulting in soil disturbance that may meet the assessment criteria for scalps and gouges. The increased limits are maximums only and are included to increase flexibility on these sites. These site conditions will normally constitute a small proportion of an applicable harvest area. Prescription and application of these treatments will consider critical site factors including soil sensitivity to erosion, displacement and compaction.

## **WIDTH OF STREAM AND WETLAND RIPARIAN AREAS**

Patrick Road was constructed in the RMA of Stream 1A North due to terrain constraints. Patrick Road is located at the toe of a short but steep slope. Construction of this road further to the south and outside of the RMA of Stream 1A North would have resulted in an increased risk of sediment delivery to Stream 1A due to the increased amount of soil disturbance and the creation of a larger cutslope prone to surface erosion and ravelling.

A number of roads within the woodlot were constructed prior to its designation as a woodlot and prior to the implementation of the Forest Practices Code Act and associated riparian area restrictions. This includes Nora Road, which was constructed in the riparian management zone of Wetland 106 roughly between 0+700 and 1+151. These roads are in good condition and to relocate them would result in additional soil disturbance, loss of productive area and further risk of sediment delivery to adjacent water features.

The alternative proposed reduces the width of the RMZ of Stream 1A North and Wetland 106 to the lesser of the distance between the foot of the fill slope or top of the cut slope of the road and the stream bank or wetland edge. This alternative is based on the conclusion that in situations where the RMZ is bisected by a road the portion of the RMZ that is no longer contiguous with the RMZ adjacent to the water feature is unable to contribute to the role of protecting streamside riparian structure and vegetation.

Given the road locations, further efforts will be made to protect water quality and quantity of neighbouring water features by limiting brushing and clearing on the creek side of the road beyond the minimum required for user safety.

## **RESTRICTIONS IN RIPARIAN RESERVE ZONES**

In general the cutting, modifying or removing trees in a riparian reserve zone will be limited to the purposes described in Section 39(1) of the WLPPR. However, for the purposes of Section 39(2.1) a road may be constructed through the RRZ of Creek 10 or Wetland 41 in order to access polygons 42 and 43.

Access options to polygons 42 and 43 have not been thoroughly explored on the ground. Preliminary review however reveals that access to these polygons can only be achieved by crossing Creek 10, Wetland 41 or through TimberWest's private land. If an agreement to build road through TimberWest land cannot be reached or if this option is not practical due to other circumstances (terrain or environmental), road access may have to infringe on the riparian reserve zone of Wetland 41 or Creek 10. The final access decision will be based on detailed ground surveys and both environmental and economic considerations.

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