

# Forest Carbon Initiative

## Aerial Forest Fertilization Prescription

| ADMINISTRATION/AREA DESCRIPTION |                    |                         |                                                       |
|---------------------------------|--------------------|-------------------------|-------------------------------------------------------|
| Resource District               | TSA/TFL/Licensee   | Location                | Field Work Completed by and date                      |
| Chilliwack                      | Fraser TSA         | Clear Creek             | Jeff McWilliams RPF, Louis Orioux RPF Heli Feb 3 2020 |
| Mapsheet                        | RESULTS Opening ID | Treatment Unit/Block    | Project Number/Plan name                              |
| 92H.062                         | 1661521            | ClearCrkFCI_2           | FC0000427 (19-20)                                     |
| Gross Opening(s) Area (ha)      |                    | No Treatment Area (ha)  | Net Treatment Area (ha)                               |
| 88.2                            |                    | 0.0                     | 88.2                                                  |
| Stand Tending History           |                    | Aspect                  | Topography                                            |
| N/A                             |                    | S (variable)            | Even to gently rolling                                |
| <b>Latitude:</b>                | 49°40'44.5"N       | <b>Longitude:</b>       | 121°47'21.6"W                                         |
| <b>Elevation (min):</b>         | 460m               | <b>Elevation (max):</b> | 980m                                                  |

\*The net treatment area accounts for areas removed for NP (natural), permanent access structures, riparian reserve zones, and areas identified as not suitable for treatment. Area estimates are based on digitized (non-traversed) treatment boundaries.

| STAND DESCRIPTION <sup>1</sup>                                                   |                                                  |                       |                                |                        |
|----------------------------------------------------------------------------------|--------------------------------------------------|-----------------------|--------------------------------|------------------------|
| Dom/Co-Dom trees of target species expected to respond to fertilization (sph)    | Live Crown % (of crop trees)                     | Crown Closure %       |                                | Age (yrs)              |
| Fd600(Cw)                                                                        | 30-40                                            | 60-80                 |                                | 60                     |
| Estimate Species Composition/Inventory Component (based on volume or basal area) | Estimated Height (top height of leading species) | Total Estimated (sph) | Estimated SI <sup>2</sup> (Fd) | Ht to Diam (DBH) Ratio |
| Fd80Hw10Cw10                                                                     | 33-33.5                                          | 800                   | 32-34                          | 0.6 - 0.8              |

| ECOSYSTEM INFORMATION <sup>1</sup> |              |                      |             |                            |                |                      |
|------------------------------------|--------------|----------------------|-------------|----------------------------|----------------|----------------------|
| Polygon                            | Net Area(ha) | Zone Subzone Variant | Site Series | Edatope Moisture/Nutrients | Slope Position | Slope Avg. % & Range |
| A                                  | 81.6         | CWHds1(ms1)          | 01(03)      | (2)3-4/B-C                 | Mid-slope      | 50                   |
| B                                  | 6.6          | CWHds1(ms1)          | 01(03)      | (2)3-4/B-C                 | Mid-slope      | 50 (45-65)           |

<sup>1</sup> Stand and ecological descriptions and stand tending history estimates are based on VRI, RESULTS information, aerial photo review and helicopter and/or field recce assessments.

<sup>2</sup> Based on "Site Index Estimates Derived from RESULTS or field measurements and Site Index Curves or Growth Intercept data.

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| TREATMENT DETAILS                                                                                                                                                                                                                         |                        |                    |                             |                                                                             |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------|-----------------------------|-----------------------------------------------------------------------------|------------------------|
| <b>Foliar Analysis:</b> (reference any foliar analysis work)<br>N/A<br><b>Re-Treatment:</b> (indicate if area has been previously treated; number of times; years since last treatment and fertilizer used)<br>Not previously fertilized. |                        |                    |                             |                                                                             |                        |
| Polygon                                                                                                                                                                                                                                   | Net Treatment Area(ha) | Type of Fertilizer | Prescribed Application Rate | Season/Timing                                                               | Fertilizer Amount (kg) |
| A                                                                                                                                                                                                                                         | 81.6                   | Urea               | 435 kg/ha                   | Fall or spring. Repeated every 7-10 years, up to 10 years prior to harvest. | 35,496                 |
| B                                                                                                                                                                                                                                         | 6.6                    | Urea               | 435 kg/ha                   | Fall or spring. Repeated every 7-10 years, up to 10 years prior to harvest. | 2,871                  |
| <b>Total Area:</b>                                                                                                                                                                                                                        | 88.2                   | Urea               | 435 kg/ha                   | <b>Total kg:</b>                                                            | 38,367                 |

| RISK ASSESSMENT: FOREST HEALTH, WILDFIRE                                                            |
|-----------------------------------------------------------------------------------------------------|
| <b>Forest Health</b><br>RR < 5%                                                                     |
| <b>Wildfire (e.g. risk ranking)</b><br>Low                                                          |
| <b>Private Property</b><br>There are no private properties directly adjacent to the treatment area. |

| MANAGEMENT OBJECTIVES/IRM VALUES                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Treatment Objective(s) and Future Regime:</b><br>The treatment objective is to increase the diameter and height growth of dominant and co-dominant Douglas-fir crop trees resulting in an increased total volume of wood per hectare. The primary benefit of the treatment is increased sequestration of CO2 over at least a ten-year period. A secondary benefit is an increased merchantable volume at harvest. |
| <b>Research Installations or Permanent Sample Plots:</b><br>The treatment area does not conflict with any research installations or permanent sample plots.                                                                                                                                                                                                                                                          |
| <b>Visuals:</b><br>The treatment unit is not visually sensitive.                                                                                                                                                                                                                                                                                                                                                     |
| <b>Cultural Heritage:</b><br>A First Nations referral will be completed prior to each treatment.                                                                                                                                                                                                                                                                                                                     |
| <b>Recreation:</b><br>The treatment areas are directly adjacent to two legal OGMAs.                                                                                                                                                                                                                                                                                                                                  |
| <b>Wildlife/Biodiversity/Species at Risk:</b><br>The treatment area is within a WHA No Harvest zone (Spotted Owl Habitat).                                                                                                                                                                                                                                                                                           |
| <b>Range:</b><br>The treatment area is not within an established range tenure.                                                                                                                                                                                                                                                                                                                                       |
| <b>Other Resources or Tenure/Issues: (e.g. Karst; Trappers; hydro rights-of-way; weather stations)</b><br>The treatment area is within identified Trapline TR0210T002. Fertilization is not expected to have significant detrimental effects on wildlife in the area.                                                                                                                                                |
| <b>Water Bodies/Fish/Water Quality:</b><br>Management Objectives:<br>1. To maintain the water quality of streams flowing in and adjacent to this unit                                                                                                                                                                                                                                                                |

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| Riparian Classes                                                           | Location/Measures Prescribed/ Buffers/ Comments                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Streams (NCD, S4, S6)                                                      | Streams identified in the vicinity of the treatment area during field reconnaissance have been excluded from treatment.<br><br>Streams found to be visible from the air during the pre-treatment aerial recce will be protected by establishing 10-20 m no treatment zones. Streams not visible from the air will be treated over.<br><br>Fertilizer loading zones will not be located within Riparian Management Zones. |
| Wetlands W1-W5                                                             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Lakes L1-L5                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Non-classifiable wetland (NCW; NCL; NCD)                                   | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Residential Water Intakes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Watersheds &amp; Water Quality Sampling (if in community watershed)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| The treatment area is not within a community watershed.                    |                                                                                                                                                                                                                                                                                                                                                                                                                          |

| LOGISTICS AND SAFETY                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Access:</b>                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Distance from Nearest Town (Chilliwack)</b>                                                                                    | Approximately 80 km from Chilliwack.<br><br>Get on Hwy/BC-1 E for 16 km and take exit 135 for BC-9 toward Agassiz/Harrison/Hot spring road. Continue for 9 km and turn right onto Agassiz-Rosedale Hwy/Evergreen Dr/BC-9 N. Continue for 2 km and turn right onto Agassiz-Rosedale Hwy/Hot Springs Rd/BC-9 N and proceed 6.5 km. Turn left on to Lillooet Rd and stay on the road for 8.5 km. Turn left onto Harrison East Forest Service Rd and continue on this mainline for ~36.5km. Turn right on to the Clear Creek FSR. Continue up this FSR for ~7.8km to the treatment area. |
| <b>Access Condition</b>                                                                                                           | 4x4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Access Improvements Required</b>                                                                                               | None required at this time. Access and stagings should be re-confirmed prior to treatment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potential Staging Areas</b>                                                                                                    | EH10 – 121°44'48.4"W 49°40'57.1"N<br>EH12 - 121°49'24.6"W 49°39'47.0"N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Staging Improvements Required</b>                                                                                              | None required at this time. Access and stagings should be re-confirmed prior to treatment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Comments:</b>                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Safety: (Distance to hospital and contact information; radio frequencies for access; any safety specific protocols; snags)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Approximately 80km to Chilliwack General Hospital.<br><br>45600 Menholm Rd, Chilliwack, BC V2P 1P7<br>(604) 795-4141              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| STORAGE/HANDLING OF FERTILIZER                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage/Transport: (e.g. type of fertilizer; any regulations as far as transport; conditions of storage)</b>                                                                                                                                                                                                                                                            |
| Forest-grade fertilizers are not regulated for rail or road transportation. Because of water solubility, blended fertilizer must be stored in dry containers and protected from moisture. Storage areas must be secure to prevent cattle or wildlife from eating fertilizer – small doses of the urea component of blended fertilizers are lethal to cattle and ungulates. |

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**Accidental Spills: (e.g. ground, water)**

To be handled consistent with the applicator's spill and safety protocols.

**FOREST FERTILIZATION PRESCRIPTION CERTIFICATION****Attachments:**

1:10,000 Aerial Fertilization Prescription Map

Plan Prepared By: Matthew Thompson, FIT

Date: March 10, 2020

**RPF's Signature and Seal**

RPF Name: Louis Orioux, RPF

Date Signed: March 27, 2020

