A. PROJECT INDENTIFICATION	
PROJECT ID AND UNIT ID: City of Salmon Arm CRI #608 Park Hill Fuel Treatment Units PAR1-A, -B, -C	**LAND OR TENURE HOLDER:** Municipal Crown Land
LATITUDE/LONGITUDE: 50°45'8"N, 119°14'17"W	**GEOGRAPHIC DESCRIPTION:** Within the municipal park "Park Hill" located in northeastern Salmon Arm, south of Canoe Beach.
HIGHER-LEVEL PLAN(s): Okanagan Shuswap Land and Resource Management Plan	**MAP REFERENCE NUMBER:** 82L.074

B. FUEL TREATMENT PROJECT DESCRIPTION			
OBJECTIVE:	☒ Public Safety	☐ Range Improvement	☐ Ecosystem Restoration
	☒ Recreation	☐ Wildlife Habitat	☐ Other:
	Description: This Fuel Treatment Unit (FTU) is located within the municipal park "Park Hill" within the city of Salmon Arm. The objective of the planned fuel management work is to reduce the crown fire and spotting potential and overall wildfire intensity and spread rates within the treated areas on the forested land adjacent to residential areas. Specific objectives for this fuel management treatment are to: • Improve public and community safety; • Reduce the crown fire, spotting potential, and overall wildfire intensity and spread rates; • Improve firefighter safety and access in the event of wildfire suppression activities; and, • Protect municipal park resources and values.		

STRATEGIES:	Treatment will involve the removal of understory stems that act as ladder fuels, and surface fuel clean up to lower potential surface fire intensity. The stands within the TUs are generally open, with a high live canopy, and minimal understory throughout; therefore, very little pruning and thinning is required. This treatment will primarily target a reduction in the surface fuel loading; increasing the canopy base height and understory spacing will be limited and done only where necessary. Removing/reducing surface and ladder fuels along the trail corridor will help to minimize horizontal and vertical spread of any potential human caused fire along the trail. Treating a corridor rather than the entire stand will reduce drying effects of wind and solar radiation and help maintain visual aesthetics. **Reduction in surface fuel loading:** Removing excessive surface fuel loads reduces potential surface fire intensity, and thereby: • Increases the chances of tree survival by reducing heating of the cambium and foliage; • Reduces likelihood for adverse soil effects by reducing potential flame residence times and intensity; • Reduces the potential for passive (e.g. torching) and active crown fire behavior through reducing aerial fuel preheating necessary to reach ignition temperatures; and, • Creating better and safer suppression opportunities by increasing the likelihood that direct attack by ground personnel and equipment will be feasible. **Increased canopy base height:** Pruning of low branches and removal of smaller understory trees increases the separation between surface and canopy fuels ("strata gap"). This increases the thresholds for fire intensity and flame lengths necessary to sufficiently heat aerial fuels to their ignition temperature, thereby decreasing the potential for crown fire initiation. Low branches and foliage can also act as "ladder fuels" which propagate fire vertically into tree crowns, and their removal further decreases the ability of a crown fire to initiate within the stand. Applying these strategies together along the treatment corridor will aid in buffering the forested stand, making it more resilient to wildfire, safer to the local public, and more conducive to suppression opportunities, all while balancing recreation, wildlife habitat, and ecosystem values.

METHODS:	**Field Marking:** N/A – The FTU boundaries will be GPS located only (i.e. ribbonless) to reduce ribbon along the trails for visual aesthetics. **Field Sampling/Data Collection:** Stand inventory information was collected using 3.99 m fixed radius plots at in interval of 1 plot/ha (200m inter-plot distance along trail). Surface fuel loading information was collected using a combination of fuel transects (line intersect method), and visual estimation/ Photo Guide For Quantifying Forest Stands in British Columbia #501 and #502 / Photoload Sampling Technique[1]. **Fuel Treatment – Hand Crews and/or Small Equipment** This prescription is designed for flexibility to utilize a variety of treatment systems (i.e. hand crews in conjunction with small equipment) as long as contractors can demonstrate prescription targets are achievable, and can ensure minimal impact to leave trees, understory retention, and soil. Specific activities will include: • spacing of non-merchantable stems (<12.5 cm DBH) where required • pruning of branches, • surface fuel cleanup, • debris removal, and/or pile & burn

C. TREATMENT UNIT (TU) SUMMARY

TU	NET AREA (ha)	GROSS AREA (ha)	LEAVE AREAS (ha)	NP (ha)	NAR (ha)	TREATMENT REGIME (i.e. PRUNE, THIN, PILE, BURN, BROAD, CHAUL, ETC.)
PAR1-A	2.5	2.5	0	0	2.5	Surface fuel clean-up and debris removal. Pruning and understory spacing (<12.5cm DBH) as needed.
PAR1-B	3.5	3.5	0	0	3.5	
PAR1-C	13.7	14.7	0	1.0	13.7	
TOTAL	**19.7**	**20.7**	**0**	**1.0**	**19.7**	

TU	GENERAL SITE DESCRIPTION
PAR1-A, -B, -C	This FTU occurs on predominantly gentle to moderately sloped terrain, with slopes ranging from flat up to 70%. The steep slopes are fairly short in length, occurring on broken terrain. Existing trails occur throughout. The stands are Douglas-fir and cedar dominated, with lesser components of larch and deciduous, with a fairly closed canopy. Understory vegetation is generally low to moderate cover.

D. SITE CHARACTERISTICS

TU	CFFBPS FUEL TYPE	TIMBER TYPE	BGC SUBZONE, VARIANT & SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE RANGE (%)	ASPECT
PAR1-A, -B, -C	C7	CwFd(Lw)	ICHxm1	350-460	Lower	0-70	N/NE/NW

FUEL TYPE DETERMINATION (Rationale)	These sites are not exact matches for any specific CFFDRS fuel type. C7 is the closest approximation but may not provide an exact estimate of potential surface fire intensity of the post-treatment stand. As a result, targets set in this prescription exceed BCWS requirements and are designed to create significant separation between surface and crown fuels.

[1] Keane, Robert E.; Dickinson, Laura J. 2007. The photoload sampling technique: estimating surface fuel loadings from downward-looking photographs of synthetic fuelbeds. General Technical Report RMRS-GTR-190. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 44 p.

E. SOIL CHARACTERISTICS							
TU	SOIL TEXTURE	DUFF DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	SOIL HAZARD RATING		
					Compaction	Erosion	Displacement
PAR1-A, -B, -C	SiL	3	15	10	H	L	L

F. VALUES – FOREST AND RANGE PRACTICES ACT				
RIPARIAN & LAKESHORE AREAS - Forest Planning and Practices Regulation (FPPR) division 3, Government Action Regulation (GAR) section 6, Forest and Range Practices Act (FRPA) sections 180 and 181				
Is the proposed cutting, modification or removal of trees, or site preparation, in an area that contains streams, lakes or wetlands? YES ☒ NO ☐	Shuswap Lake is ~150m from the FTUs.			
RIPARIAN MANAGEMENT AREAS (RMAs) - FPPR sections 51 and 52				
STREAM, LAKE, WETLAND ID	CLASS	RRZ (m)	RMZ (m)	SPECIFICATIONS FOR RIPARAN OR LAKESHORE MANAGEMENT AREAS
Shuswap Lake	L1-A	0	0	Shuswap Lake is ~150 from the nearest point of the FTUs. No layer 1 >15cm DBH tree removal is proposed.
TEMPERATURE SENSITIVE STREAMS - FPPR section 53, GAR section 15, FRPA sections 180 and 181				
Are there temperature sensitive streams or direct tributaries to temperature sensitive streams within or adjacent to the proposed treatment area? YES ☐ NO ☒	N/A			
ROAD CONSTRUCTION IN RIPARIAN MANAGEMENT AREAS - FPPR section 50				
Is road construction proposed in riparian management areas within the treatment area or an associated road permit (RP)? YES ☐ NO ☒	N/A			
STREAM CROSSINGS - FPPR section 55				
Will stream crossings be constructed within the proposed treatment area or a road permit road providing access to the treatment area? YES ☐ NO ☒	N/A			
MAINTAINING STREAM BANK AND CHANNEL STABILITY ON S4, S5, and S6 STREAMS - FPPR section 52 (2)				
Is the proposed treatment in the RMZ of an S4, S5 or S6 stream that is directly tributary to an S1, S2 or S3 stream and the activity is likely to contribute significantly to the destabilization of the stream bank or the stream channel? YES ☐ NO ☒	N/A			

F. VALUES – FOREST AND RANGE PRACTICES ACT				
DOMESTIC WATER LICENCES (inside or outside of community watershed) - FPPR section 59				
Does the proposed treatment area contain water sources that are diverted for human consumption by a licensed waterworks? YES ☐ NO ☒	N/A			
LICENCED WATER WORKS (inside or outside of a community watershed) - FPPR section 60				
Does the proposed treatment include areas that are within 100 m of a licensed waterworks? YES ☐ NO ☒	N/A			
FISHERIES SENSITIVE WATERSHED - GAR section 14, FPPR section 8.1				
Are any activities proposed within a fisheries sensitive watershed? YES ☐ NO ☒	N/A			
COMMUNITY WATERSHED - GAR section 8, FPPR section 8.2, 61, 62 and 84				
Does the proposed treatment area include areas that are within a community watershed? YES ☐ NO ☒	N/A			
Will this project require road construction or deactivation within a community watershed? YES ☐ NO ☒	N/A			
WATERSHED ASSESSMENT CONSIDERATIONS - FRPA section 180 areas with "significant watershed sensitivity"				
Does the proposed treatment area include areas that have watershed assessment considerations? YES ☐ NO ☒	N/A			
SOIL DISTURBANCE AND PERMANENT ACCESS STRUCTURES - FPPR sections 35 and 36				
TREATMENT UNIT	Proposed Max. Allowable Soil Disturbance (%)	Proposed Max. Soil Disturbance for Roadside Work Areas (%)	Proposed Max. Permanent Access Structures (%)	COMMENTS
PAR1-A, -B, -C	10	N/A	0	No roads proposed.
Do the proposed Permanent Access Structures exceed 7% of the total area? YES ☐ NO ☒	Existing trails will be utilized.			
LANDSLIDES AND TERRAIN STABILITY - FPPR section 37				
Does the proposed treatment area include areas where terrain stability is a concern? YES ☐ NO ☒	N/A			
SUITABLE SECONDARY STRUCTURE - FPPR section 43.1				

F. VALUES – FOREST AND RANGE PRACTICES ACT	
Does the proposed treatment area include a "targeted pine leading stand"? YES ☐ NO ☒	N/A
UNGULATE WINTER RANGE - GAR section 12, FRPA sections 180 and 181, FPPR section 69	
Does the proposed treatment area include areas within an Ungulate Winter Range? YES ☐ **NO** ☒	N/A
WILDLIFE HABITAT AREA - GAR section 10, FRPA sections 180 and 181, FPPR section 69	
Does the proposed treatment area include any wildlife habitat areas (WHA)? YES ☐ NO ☒	N/A
MIGRATORY BIRD CONVENTION ACT - 1994	
Does the proposed treatment have the potential to impact migratory bird habitat? YES ☒ NO ☐	FTUs fall within a Risk Rank 4 and 5 (Moderately High and High) migratory bird polygon. Nesting Zone Area A2. The following BMPs have been implemented: PL1 (Partial Cut/High Retention), PL2 (Planned Retention), LO2, (Riparian Protection), LO4 (Wildlife Tree & Snag Retention)[2]. If any nesting sites are identified during treatments, all work activities must cease until any necessary assessments and measures to mitigate impact to nests are applied.
OBJECTIVES SET BY GOVERNMENT FOR WILDLIFE - FPPR section 7	
Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply? YES ☐ NO ☒	There are eight species listed with Species at Risk Notices under FPPR section 7 in the FTU area: Tiger Salamander, Great Basic Spadefoot, Great Basin Gopher Snake, Flammulated Owl, Interior Western Screech Owl, Lewis's Woodpecker, Fringed Myotis and Spotted Bat. The FTU does not overlap, nor is it adjacent to any Wildlife Habitat Areas (WHAs) for these species, and no visual sightings or signs of activity were observed during field work.
SPECIES AT RISK – FPPR Section 7	
Are there species at risk present within the boundaries of the prescribed treatment area? YES ☒ NO ☐	Painted Turtle (Rocky Mountain Population) is known to exist in the general area. There are no riparian features within the vicinity; and low impact hand treatments are prescribed, to be carried out in frozen conditions.
OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Landscape Level) - FPPR section 9	
Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply? YES ☒ NO ☐	The FTU overlaps a Natural Disturbance Type4 (NDT4), which are ecosystems with frequent stand-maintaining fires.

[2] Migratory Bird Strategy: Reducing Incidental Take for Migratory Birds. Version 1. 2016. Unpublished. Prepared for the Council of Forest Industries, BC.

F. VALUES – FOREST AND RANGE PRACTICES ACT	
OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Stand Level) - FPPR section 9.1	
Are considerations for maintaining stand structure (wildlife trees, wildlife tree reserves, etc.), coarse woody debris, and maintaining tree and vegetation species composition incorporated into this prescription? YES ☒ NO ☐	All live/healthy Layer 1 trees >15cm DBH, and dead trees with high wildlife habitat value will be retained from falling except those that must be felled for operational or safety considerations. Hand treatment activities are not anticipated to drastically alter the forest floor vegetation composition. CWD targets are outlined below in this prescription document.
RECREATION FEATURES - FRPA section 56 and 149, FPPR section 70	
Does the proposed treatment area contain interpretive sites, recreation trails, recreation sites, recreation facilities that are considered to be of significant recreation value and are designated a resource feature? YES ☒ NO ☐	The FTU is within the Park Hill trail system, a highly used recreational area in the City of Salmon Arm. The FTUs are targeted along trails that are heavily used year-round. The William Baker Park also exists adjacent to the FTUs; this park contains highly used recreation features including ball diamonds, a playground, and various recreation outbuildings. To mitigate the visual impacts along the trails post-treatment, the FTU boundaries were not flagged with ribbon.
VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2	
Is the proposed treatment within a scenic area? YES ☒ NO ☐	FTUs overlap a “Partial Retention” and “Modification” Visual Quality Objective (VQO). The proposed hand treatment and Layer 1 retention (>15cm DBH) is expected to meet both of these visual objectives.
ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10	
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area? YES ☐ NO ☒	No known sites. If a previously unidentified cultural heritage resource is encountered during operations, forest practices will be modified or cease to the extent necessary to protect the resource, or until a qualified professional can evaluate and document the feature.
INVASIVE PLANTS - FRPA section 47 and FPPR section 17	

F. VALUES – FOREST AND RANGE PRACTICES ACT	
Is the introduction and spread of invasive plants likely as a result of the proposed treatment? YES ☒ NO ☐	An IAPP search was completed and found the following invasive plants within and adjacent to the FTUs: • Bohemian knotweed (*Fallopia x bohemicum*) • Japanese knotweed *(Fallopia japonica)* • Nightshade *(Solanum spp)* • Poison hemlock *(Conium maculatum)* • Brown knapweed *(Centaurea jacea)* • Black knapweed *(Centaurea nigra)* • Bull thistle *(Cirsium vulgare)* • Burdock species *(Arctium spp)* • Short-fringed knapweed *(Centaurea nigrescens)* • Canada thistle *(Cirsium arvense)* • Hound's-tongue (*Cynoglossum officinale*) • Meadow knapweed *(Centaurea debeauxii)* • Oxeye daisy *(Leucanthemum vulgare)* • Spotted knapweed *(Centaurea biebersteinii)* • Common tansy *(Tanacetum vulgare)* • Yellow hawkweed *(Hieracium pratense)* • Yellow/common toadflax *(Linaria vulgaris)* • Black locust (*Robinia pseudoacacia)* • White cockle *(Lychnis alba)* • Himalayan blackberry (*Rubus armeniacus)* The following strategies are recommended to reduce likelihood of spreading invasive plants: - Field crews should be trained and knowledgeable in the identification of invasive plants and report any discovered during treatments through Report-a-Weed application. - All crews must visually inspect for and manually remove any vegetation found on all vehicles, equipment and tools before entering the work site. - Burn piles must be placed at least 5 meters horizontal distance away from the road and trail right of way.
NATURAL RANGE BARRIERS - FRPA section 48, FPPR section 18	
Are there natural range barriers within the proposed treatment area that are likely to be removed or rendered ineffective? YES ☐ NO ☒	N/A
LAND USE OBJECTIVES - Higher Level Plans and objectives set by Government under the *Land Act*	
Are there land use objectives (higher level plans or objectives under the *Land Act*) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area? YES ☐ NO ☒	N/A

F. VALUES – FOREST AND RANGE PRACTICES ACT	
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the *Land Act*)? YES ☐ NO ☒	N/A
Known and potential species at risk, windthrow hazard, and old growth management areas? YES ☐ NO ☒	N/A
CHRISTMAS TREE FARMS	
Does the proposed treatment overlap an active Christmas tree farm? YES ☐ NO ☒	N/A

G. OTHER CONSIDERATIONS AND REQUIREMENTS	
CONSULTATION – FIRST NATIONS	
FIRST NATION	SUMMARY OF ENGAGEMENT, INFORMATION SHARING, CONCERNS IDENTIFIED AND MEASURES TO ADDRESS
N/A	N/A
First Nations consultation complete? YES ☐ NO ☒	Public open house meeting was held December 7, 2023
CONSULTATION – GENERAL PUBLIC/COMMUNITY MEMBERS	
Public open house meeting was held December 7, 2023	
EXISTING TENURE HOLDERS (Forest, Range, Guide Outfitters, Trappers)	
TENURE HOLDER	CONCERNS IDENTIFIED AND MEASURES TO ADDRESS
N/A	N/A
PRIVATE PROPERTY	
Does private property border the proposed treatment area? YES ☒ NO ☐	Private property exists adjacent to the west of TU PAR1-A, and along the east and south boundaries of TU PAR1-C. There were no fence-lines noted during field data collection. The residences' yards are marked and easily identified; there will be no incursion onto private land.
SMOKE MANAGEMENT	
Does a smoke management plan exist for the proposed treatment area? YES ☐ NO ☒	N/A
SAFETY	
Have any specific safety concerns been identified in or adjacent to the proposed treatment area? YES ☒ NO ☐	FTUs are located along trails/roads used by the public. Any treatment activity and tree falling will need to be completed with safety lookouts and sufficient notices on trails/roads. Distribution power lines exist adjacent to the southern reach of the FTU; treatment crews will maintain WorkSafeBC limits of approach distances (see Utilities section below).

G. OTHER CONSIDERATIONS AND REQUIREMENTS	
	Operational based safety practices should be covered by contractor prior to treatment.
UTILITIES	
Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc. YES ☒ NO ☐	Distribution powerlines exist along Park Hill Rd. Contractors will contact BC Hydro prior to commencing work near the powerlines, and WorkSafeBC limits of approach distances will be maintained. Burn piles will be located a minimum of 5m from guy lines and outside of the powerline right of way.
ACCESS CONTROL	
Are there any foreseen issues with access and access control during and post treatment? YES ☒ NO ☐	A number of trails/roads exist within and around the FTUs; contractors should provide signs on trails/roads and at entrance points indicating treatment is ongoing. Spotters will be required during tree felling operations within two tree lengths of roads/trails.
TRAFFIC CONTROL	
Is traffic control required at any point during operations? YES ☒ NO ☐	Traffic control may be required along Park Hill Rd and Canoe Beach Drive.
OTHER	
N/A	

H. FUEL LOADING AND TREATMENT SPECIFICATIONS

Fuel Treatment Unit: FTU PAR1-A, PAR1-B, PAR1-C

H.1 TREATMENT SPECIFICATIONS SUMMARY

FUEL REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES

HAND TREATMENT AND/OR SMALL EQUIPMENT

The hand treatment component of this prescription is designed for flexibility to use small machinery such as line winch in conjunction with hand crews to make surface fuel cleanup more efficient. Small equipment use must still ensure minimal impact to leave trees, understory retention, and soil disturbance.

TREE FALLING (>12.5 cm DBH)

All live Layer 1 trees >15 cm DBH, and dead trees (>40 cm DBH), are to be retained as wildlife trees except for those specifically marked and designated as danger trees by a WorkSafe BC certified Danger Tree Assessor. Falling work of trees more than 15 cm DBH must be completed by a BC Forest Safety Council certified Faller.

Tree Falling Measurable Standard

- All live trees >15 cm DBH, and dead trees >40 cm DBH, are to be retained except assessed and marked danger trees.

Understory Spacing (<12.5 cm DBH)

Layer 2, 3, and 4 spacing will be completed as follows:

- Thin out understory stems enough so that branches of adjacent trees do not overlap – Target removing supressed stems or those with poor form,
- Remove all stems from within 1 m of the dripline of Layer 1 leave trees,
- Remove all dead stems,

- Retain all deciduous, live or dead, and
- Priority is to retain Fd stems in the understory.

Spacing Measurable Standard
A minimum of 95% of the target trees are to be removed.

PRUNING

Pruning will be conducted on all live and dead conifer stems over 4 m in height. Trees will be pruned to a maximum of 50% of tree height (i.e. 50% live crown retained), or 3 m from the ground to the lowest branch tip, whichever is less. Pruning will include both dead and live branches with branch stubs not to exceed 1 cm in length. This is designed to create significant separation between surface and crown fuels reducing the crown fire, candling and spotting potential. If using a machine, pruning debris must be amalgamated by pruning crew for machine piling.

SURFACE FUEL CLEANUP

Surface fuel cleanup will involve targeting all <7cm as per surface fuel loading targets below. Removal of previously down debris will be limited to elevated stems, tops and limbs <20 cm diameter fuels, excluding designated CWD. Barkless debris partially buried in the organic litter layer can be retained regardless of size to prevent site disturbance.

The following standards should be achieved:
- over 95% of spacing debris into burn piles,
- over 95% of green branches into burn piles,
- over 95% of all pruning, live and dead, down to 1 cm in diameter into burn piles,
- over 95% of the available previously downed surface fuels between 1 cm and 20 cm in diameter, into burn piles,
- Fine Fuels (≤7 cm) must be **≤8 t/ha on average** post-treatment,
- large diameter woody debris (7-20 cm diameter) must be **≤8 t/ha on average** post-treatment, and
- coarse woody debris (>20 cm) must be under must be **≤20 t/ha on average** post-treatment.

Snow Conditions
Surface fuel removal should be conducted with snow free conditions, or minimal snow coverage to ensure surface fuel targets set in this prescription are met.

DEBRIS CHIPPING AND REMOVAL

All debris created by hand treatment activities should be considered for chipping and removal where appropriate. Any combination of chipping/removal, and pile burning are acceptable. Any chipping equipment used must ensure targets for soil disturbance are met. Broadcast dispersal of chips is not recommended in order to adhere to prescribed standards for fine fuel loading post-treatment.

Chipping and Removal Measurable Standard
- Equipment must not exceed legal soil disturbance limits
- Chipping and removal must ensure post-treatment fine fuel loading targets above are achieved

OPEN BURNING
In the event there will be pile burning, all slash piles will be randomly distributed throughout the area and will be burned progressively with treatments within the FTU boundary. Burn piles should be at least five meters, horizontal distance, from any retained coarse woody debris, fence lines, trails, riparian features, park infrastructure, and/or powerline right of way. Piles must be located to prevent scorch, root damage and stress to the leave trees. Piles are not to be more than 3 m x 3 m and piles to be at least as tall as wide before ignition can occur. Understory trees with excessively singed needles caused by burning of piles must be felled and burned along with the piles. Burning of piles should be left to the late Fall, Winter or early Spring, and conducted under conditions that will minimize spread.

All burning must be complete within contract timelines. All open burning must be in compliance with the BC Wildfire Act, Wildfire Regulation Hazard Abatement Requirements, and Open Burning Smoke Control Regulations. See Smoke Management Plan for details.

Open Burning Measurable Standard

- All burn piles pushed in and over 95% of debris consumed.
- All piles are fully extinguished

TREATMENT SPECIFICATION RATIONALE

The hand treatment component of this prescription is designed for flexibility to use small machinery such as line winch in conjunction with hand crews to make surface fuel cleanup more efficient. Small equipment use must still ensure minimal impact to leave trees, understory retention, and soil disturbance.

Removing/reducing surface and ladder fuels along the trail corridor will help to minimize horizontal and vertical spread of any potential human caused fire along the trail. Treating a corridor rather than the entire stand will reduce drying effects of wind and solar radiation and help maintain visual aesthetics. Retaining a small amount of understory (primarily deciduous and Fd) will also contribute to wind, solar, and visual objectives while not significantly compromising wildfire risk reduction objectives.

H.2 STAND FUEL LOADING

Is merchantable timber cutting prescribed? If yes, please provide details below. ☐ Yes ☒ No

Merchantable harvest is not prescribed for this TU. Some hand falling of merchantable stems may be required pending the results of a Danger Tree Assessment. Removal of live trees this is expected to be minimal across the entire TU.

STAND AND STOCK TABLE SUMMARY (copied from Stand and Stock Tables in Appendix)

FTU PAR1-A, PAR1-B, PAR1-C

SPECIES AND DIAMETER CLASS	Average Crown Base Height (m)	Average Tree Height (m)	Average Age	STEMS PER HECTARE (SPH)		
				Existing	Cut	Leave
Total All Species Layer 1	4 to 25	26.5	N/A	960	100	860
Total All Species Layer 2	4 to 15	14.2	N/A	220	150	70
Total All Species Layer 3	0 to 15	7.3	N/A	1020	942	78
Total All Species Layer 4	0.1 to 0.2	0.5	N/A	520	476	44
TOTAL ALL LAYERS	0.1 to 25	12.1	N/A	2720	1668	1052

H.3 SURFACE FUEL LOADING (t/ha)

Size Class (cm)	Existing (t/ha)	Existing Distribution	Target (t/ha)	Target Distribution
Fine Woody Debris (</=7 cm)	5-13	Fine fuel loading consists primarily of timber litter (twigs, branches, and needles).	Average <8	Surface fuel cleanup will involve targeting all debris from spacing and at least 95% of the pruned branches. Removal of previously down debris will be limited to elevated stems, tops and limbs from 20 cm – 1 cm in
Large Diameter Woody Debris (LDWD) (>7 cm – 20 cm)	2-10	LDWD is variable throughout the FTU. The majority of the FTU contain minimal LDWD. Pockets of blowdown exist along the trails – notably in the south of the FTU along the "Remembrance Day" trail.	Average <8	

Coarse Woody Debris (CWD) (>20 cm)	0-30	CWD >20cm is minimal throughout the FTU. Some CWD exists in pockets of blowdown as mentioned above.	Average <20	diameter, excluding designated CWD. Barkless debris more than 25% buried in the organic litter layer can be retained regardless of size to prevent site disturbance.
Methodology Used	Surface fuel loading information was collected using a combination of fuel transects (line intersect method), and visual estimation/Photo Guide For Quantifying Forest Stands in British Columbia #501 and #502/ Photoload Sampling Technique.			

H.4 CROWN CLOSURE AND CANOPY BULK DENSITY

Crown Closure (%)	Existing: (Dead / Live) 60%	Target: 60%
Canopy Bulk Density (description including fuel stratum gap)	Existing: (Dead / Live) Canopy base height is generally high, ranging from 4-25m in Layer 1 stems. Conifer stems in Layers 2, 3 and 4 contribute to ladder fuels and a smaller fuel stratum gap.	Target: Decrease canopy bulk density by pruning to 3m and understory thinning – primary focus will be in the understory to reduce ladder fuels.

H.5 BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS

COARSE WOODY DEBRIS (CWD) RETENTION TARGET - SPH and Distribution	The Coarse Woody Debris (CWD) target (where practicable) for the treatment area is of 4 logs/ha (minimum 2 m long and 7.5 cm diameter at one end) distributed uniformly. Preference is to retain logs with signs of advanced decay, bark off, and those buried partly in the organic soil layer.
WILDLIFE TREE RETENTION TARGET	All live/healthy Layer 1 trees >15cm DBH, and dead standing trees > 40 cm DBH with high wildlife value will be retained except for those that must be felled for safety or operational considerations. Stems with the following characteristics should be prioritized for retention: • Internal decay (heart rot or natural/excavated cavities present) • Crevices present (loose bark or cracks suitable for bats) • Large brooms present • Active or recent wildlife use • Tree structure suitable for wildlife use (e.g., large nest, hunting perch, bear den) • Large trees for the site (>40 DBH) and veterans • Locally important wildlife tree species
FOREST HEALTH	No forest health issues were noted at the time of fieldwork.

I. TREATMENT DESCRIPTION	
TREATMENT APPROACH - MERCHANTABLE TIMBER HARVEST	
ROADS, LANDINGS AND TRAILS:	N/A
FELLING:	N/A
YARDING/SKIDDING:	N/A
PROCESSING LOADING AND HAULING:	N/A
SLASH DISPOSAL:	N/A
SITE DISTURBANCE:	N/A
SPECIAL MEASURES:	N/A
TREATMENT APPROACH – STAND MODIFICATION TREATMENT	
BRUSHING	No brushing of vegetation will occur unless it is required for the safe thinning of stems.
PRUNING	Pruning will occur to a height of 3m as per the CSI calculator.
THINNING	Thinning will be by chainsaw.
SKIDDING/ PROCESSING	N/A
DEBRIS PILING	See treatment description.
PILE BURNING	See treatment description.
MULCHING	N/A
MASTICATION	N/A
GRINDING	N/A
PRESCRIBED FIRE	N/A
PLANTING	N/A
OTHER	N/A
AUTHORIZATION AND TIMBER TENURE	
FRPA SECTION 52	N/A
FORESTRY LICENCE TO CUT (FLTC)	N/A
PARK USE PERMIT	N/A
ROAD PERMIT OR ROAD USE PERMIT	N/A
OTHER (E.G. LOCAL GOVERNMENT, UTILITIES)	Approval from BC Hydro to conduct treatment operations along distribution lines

J. POST TREATMENT

EXPECTED VEGETATION RESPONSE:

Treatment is designed to minimize vegetation growth and maintain a shaded understorey. No significant amount of canopy openings is expected to be created by treatment.

ADDITIONAL TREATMENTS OR MAINTENANCE:

Future maintenance will depend largely on forest health, specifically drought, insect infestations, and windthrow. A change in forest health will necessitate a re-assessment of the wildfire hazard and the need for further fuel reduction activities.

J. POST TREATMENT

PLANNED / SCHEDULED MONITORING & MAINTENANCE

Time Post Treatment (months / years)	Activity / Treatment	FTU(s)	Comments
5 years	Re-assessment	All	

TRIGGERS FOR MAINTENANCE TREATMENTS: A change in forest health will necessitate a re-assessment of the wildfire hazard and the need for further fuel reduction activities.

SILVICULTURE OBLIGATIONS: Do silviculture obligations apply to the treatment area? YES ☐ NO ☒

PLANTING: Is planting a treatment identified in this prescription or required as a legislative obligation? YES ☐ NO ☒
Planting is not recommended in the treatment area. This stand should be maintained as an open understory to maintain separation between surface and crown fuels.

STOCKING STANDARDS

TU	Stocking Standard ID	Pref. Spp.	Acc. Spp.	Well-Spaced Stem/ha				Minimum Height (m)			Regen Delay	Free Growing (years)
				TSS	MSS		MITD	PI	Others	RTH (%)		
					Pref. & Acc.	Pref.						
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

K. OUTSTANDING WORKS

Assessing and marking of danger trees by treatment contractor prior to commencement of treatments.
Approval from BC Hydro to conduct treatment operations along distribution lines
First Nations and Stakeholder information sharing and any necessary layout amendments/prescription updates
Authorizations: FLTC

L. ADMINISTRATION

PREPARATION

QUALIFIED REGISTERED PROFESSIONAL NAME *(Printed)*	QUALIFIED REGISTERED PROFESSIONAL SIGNATURE
Hailey Sigalet, RPF	REGISTERED PROFESSIONAL FORESTER PROVINCE OF HAILEY SIGALET BRITISH COLUMBIA NO. 5302 *I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Forest Professionals of British Columbia.*
PROFESSIONAL ASSOCIATION & MEMBER NUMBER: FPBC No. 5302	DATE: February 3, 2025

M. ATTACHMENTS		
MAPS : YES ☒ NO ☐ Type(s)	CRUISE DATA: YES ☐ NO ☒	WUI WTA Plots and Photos: YES ☐ NO ☒
FIELD DATA CARDS YES ☐ NO ☒ Type(s):	MODELING/DATA ANALYSIS: YES ☐ NO ☒ Type(s):	ARCHAEOLOGY IMPACT ASSESSMENT YES ☐ NO ☒ Completed By: Date:
AIR PHOTOS/IMAGERY: YES ☐ NO ☒	BURN PLAN: YES ☐ NO ☒	OTHER: YES ☒ NO ☐ Describe: CSI Worksheet
BIOLOGIST ASSESSMENT: YES ☐ NO ☒ Completed By: Date:	TERRAIN STABILITY ASSESSMENT YES ☐ NO ☒ Completed By: Date:	VISUAL IMPACT ASSESSMENT YES ☐ NO ☒ Completed By: Date:
BROWNS TRANSECT: YES ☐ NO ☒		

Project:		Pre-treatment	Post-treatment spec.
TU(s): Little Mountain Park	Weight of fuel (kg/m^2):		
Weather Station: Turtle / Sicamous	Rate of Spread (m/min):		
90th Percentile BUI:	Wildfire Intensity (kW/m):		
90th Percentile ISI:	Crown Base Height (CBH) (m):[1]		
CFFBPS Fuel Type:	Critical Surface Intensity (kW/m):		

[1] CBH - refer to Fuel Management Prescription Guidance for CBH measurement direction

Surface Fire Intensity Targets		
Is Wildfire Intensity below 2000 kW/m?	Yes	← These boxes auto populate when Wildfire Intensity and CSI values are input into their respective boxes.
Is Wildfire Intensity less than CSI?	Yes	←

Critical Surface Fire Intensity Calculations

Wildfire Intensity I = HWR (Byram 1959)		
Enter Weight of the Fuel (kg/m^2)	→	0.8
Enter Rate of Spread (m/min)	→	2.8
Wildfire Intensity (kW/m)	=	672.0

Wildfire intensity is used to index fire suppression difficulty and to evaluate whether the critical threshold for crown fire ignition has been exceeded. Post-treatment wildfire intensity should be below 2,000 kW/m or the CSI, whichever is the lower value.

Critical Surface Fire Intensity for Initial Crown Combustion (Van Wagner 1977)		
Enter Foliar Moisture Content (%)	→	95
Enter Crown Base Height (m)	→	3.0
Critical Surface Fire Intensity (kW/m)	=	824.1

The threshold for which a surface fire will begin to involve crown fuel is the Critical Surface Fire Intensity (CSI). Suppression is more successful when the surface fire intensity is less than the CSI and crown fuel is not ignited.

Supplemental Information

Wildfire Intensity

Surface Fire Intensity based on Flame Length (Alexander 1982)		
Enter Observed Surface Fire Flame Length (m)	→	
Surface Fire Intensity (kW/m)	=	0.0

Surface fire intensity based on observed flame length can be used to assess fire behavior, evaluate fuel management outcomes, or to analyze fire effects after a wildfire or prescribed fire.

Thresholds

Lethal Crown Scorch Intensity (Van Wagner 1973)		
Enter Lethal Crown Scorch Height (LCSH) (m)	→	
Fire Intensity Required to Reach LCSH (kW/m)	=	0.0

The fire intensity required to reach LCSH can be used as a threshold for crown survival above a given height. This can be used to approximate tree retention or mortality.

Fire Characteristics

Surface Fire Flame Length (Byram 1959)		
Enter Surface Fire Intensity (kW/m)	→	840.0
Surface Fire Flame Length (m)	=	1.7

Surface fire flame length based on wildfire intensity can be used to approximate the distance surface fire flames may reach and interact with fuel.

Fire Effects

Lethal Crown Scorch Height (Van Wagner 1973)		
Enter Surface Fire Intensity (kW/m)	→	840.0
Lethal Crown Scorch Height (m)	=	13.2

Lethal crown scorch height can be used to predict fire effects (crown and tree survial or mortality) at a given fire intensity.

Information Independent of CSI Calculations

PARK HILL FTU 1: STAND AND STOCK TABLE - FULL					
SPECIES AND DIAMETER CLASS	Average Crown Base Height (m)	Average Tree Height (m)	STEMS PER HECTARE (SPH)		
			Existing	Cut	Leave
Layer 1A (≥ 37.5 cm dbh)					
Fd	4 to 25	37	200	0	200
Hw	15 to 20	34	40	0	40
Total Suppressed	0	0	0	0	0
Total Dead	19 to 19	34	20	0	20
Total Live	4 to 25	36	220	0	220
Total All Species	4 to 25	36	240	0	240
Total Conifers	4 to 25	36	240	0	240
Layer 1B (≥ 32.5 cm - 37.5 cm dbh)					
Cw	8 to 8	29	40	0	40
Total Suppressed	0	0	0	0	
Total Dead	0	0	0	0	
Total Live	8 to 8	29	40	0	
Total All Species	8 to 8	29	40	0	40
Total Conifers	8 to 8	29	40	0	40
Layer 1C (≥ 27.5 cm - 32.5 cm dbh)					
Cw	4 to 16	26	80	0	80
Fd	25 to 25	37	20	0	20
Total Suppressed	0	0	0	0	0
Total Dead	0	0	0	0	0
Total Live	4 to 25	28	100	0	100
Total All Species	4 to 25	28	100	0	100
Total Conifers	4 to 25	28	100	0	100
Layer 1D (≥ 22.5 cm - 27.5 cm dbh)					
Ac	15 to 15	20	20	0	20
Cw	8 to 14	24	60	0	60
Fd	15 to 18	33	40	0	40
Total Suppressed	0	0	0	0	0
Total Dead	0	0	0	0	0
Total Live	8 to 18	27	120	0	120
Total All Species	8 to 18	27	120	0	120
Total Conifers	8 to 18	28	100	0	100
Layer 1E (≥ 17.5cm - 22.5 cm dbh)					
Ac	12 to 12	16	20	0	20

Cw	4 to 15	23	220	0	220
Total Suppressed	0	0	0	0	0
Total Dead	0	0	0	0	0
Total Live	4 to 15	22	240	0	240
Total All Species	4 to 15	22	240	0	240
Total Conifers	4 to 15	23	220	0	220
Layer 1F (≥ 12.5 cm - 17.5 cm dbh)					
Cw	4 to 16	19	200	100	100
Fd	14 to 14	20	20	0	20
Total Suppressed	0	0	0	0	0
Total Dead	14 to 14	20	20	0	20
Total Live	4 to 16	19	200	0	200
Total All Species	4 to 16	19	220	100	120
Total Conifers	4 to 16	19	220	100	120
Total Layer 1 (≥ 12.5 cm DBH)					
Total Layer - All Species	4 to 25	27	960	100	860
Total Layer - Conifers Only	4 to 25	27	920	100	820
Layer 2 (7.5 cm - 12.4 cm DBH)					
Cw	4 to 8	14	200	150	50
Ep	15 to 15	20	20	0	20
Total Suppressed	0	0	0	0	0
Total Dead	0	0	0	0	0
Total Live	4 to 15	14	220	150	70
Total All Species	4 to 15	14	220	150	70
Total Conifers	4 to 8	14	200	150	50
Layer 3 (< 7.5cm DBH, ≥ 1.3 m tall)					
Cw	0 to 4	6	840	798	42
Ep	15 to 15	20	20	0	20
Fd	0.3 to 0.5	5	160	144	16
Total All Species	0 to 15	7	1020	942	78
Total Conifers	0 to 4	6	1000	942	58
Layer 4 (< 1.3 m tall)					
Cw	0.1 to 0.2	0	480	456	24
Fd	0.1 to 0.2	1	40	20	20
Total All Species	0.1 to 0.2	1	520	476	44
Total Conifers	0.1 to 0.2	1	520	476	44