



Request for Proposals

FRUITVALE WILDFIRE RESILIENCY PROJECT

Closing date and time: 2:00 PM Friday March 22nd, 2024

**Location of proposal opening:
The Village of Fruitvale
1947 Beaver Street
Fruitvale, B.C.
V0G 1L0**

**Inquiries
Cabin Resource Management
Carmyn Elvidge
Email: celvidge@cabinworks.ca**

**Submission
Village of Fruitvale
Email: finance@village.fruitvale.bc.ca**

Date Issued: February 20, 2024

REQUEST FOR PROPOSAL FOR
Fruitvale Wildfire Resiliency Project

A. INTRODUCTION

The Village of Fruitvale (“Village”) was successful in receiving funding through the Crown Land Wildfire Risk Reduction Program – Columbia Basin Wildfire Resiliency Initiative (CBWRI). The Village is seeking proposals for implementation of a wildfire risk reduction fuel treatment for approximately a 3.3 hectare parcel of Village owned land. We anticipate the project to be completed by December 31st, 2024, however, proposed alternate timelines may be considered.

Roll	00221.020
Parcel Identifier (PID)	010-936-378
Rural Legal	
Urban Legal	NEP785A 49
Address	HIGHWAY 3B

B. THE SERVICE

The successful Proponent will implement the treatment of a 3.3 Fuel management prescription in Fruitvale with the primary objectives of public education and FireSmart demonstration. The treatment will reduce fire risk and improve firefighter access for surrounding private property, with Hwy 3B along the eastern boundary.

Services include hand treatment, pruning, understory thinning, and chipping and removal of fuels (recommended). The predominant wildfire threat is from the ladder fuels of understory deciduous tree and shrub mortality, as per the specifications set out in Section E.

The Village has retained the services of Cabin Resource Management to conduct the pre-work meeting, site visits, and verify the prescription objectives are met.

Contractors are encouraged to view the site prior to submitting a proposal. No formal site meeting will be held.

C. SELECTION OF SUCCESSFUL PROPOSALS / PROPONENTS

Proposals should be submitted using the fillable form provided in Appendix A.

The following information should be provided:

1. Proponent Profile (/5 points)

The proposal should include the following:

- In this section, please provide a brief profile of your company, including a description of the company’s history and areas of expertise.

- Discuss your company's experience in relevant fields, expanse of other related experience, and strengths relevant to these assignments.
- Provide specific details to demonstrate how your company is well-suited and best qualified to perform these services.
- If your company has multiple locations, please identify the corporate head office and any local offices that may be involved in project delivery and coordination.

2. Proposed Team (/10 points)

Provide a brief description of the Site Supervisor's qualifications, including description of how many years of relevant experience, and responsibilities for this assignment.

3. Approach and Methodology (/20 points)

Describe your project plan and methodology to meet the fuel management prescription requirements. Address known issues and project requirements such as:

- Safety and communication plan
- Specify methodology used for hand treatment and pile burning.
- Falling within striking distance of roads, homes, and powerlines
- <10% soil disturbance
- Debris management methodology: pile burning.
- Venting and open burning restrictions
- Pruning, thinning

4. Experience (/20 points)

Please describe the company's experience doing fuel modification treatments in similar ecotypes using hand treatments and pile burning.

Provide 2 References (/40 points)

5. Sustainability and Social Value (/25 points)

- Describe any formal policies and/or strategies in use to be environmentally sustainable or socially responsible, or any certifications that are demonstrative of positive good environmental practices or social impact.
- If your company is First Nation owned or has plans to sub-contract to a First Nations entity, please elaborate.

6. Pricing (/15 points)

Provide the cost per hectare to complete the implementation of this fuel treatment.

Provide the lump sum cost for each of the following:

- Thinning (including spacing and pruning)
- Debris management (chipping and removal or pile & burn)

The Village reserves the right to reject proposals from Proponents unable to provide evidence they possess the necessary skills, labour and/or equipment to perform the work. The Village reserves the right to determine this competency.

Pricing is only scored if proponent reaches minimum threshold of 70/140 in all other sections.

See Appendix A for fillable form.

D. GENERAL INSTRUCTIONS, TERMS AND CONDITIONS

1. Proposals will be accepted until **2:00 PM Friday March 22nd, 2024** at the Village of Fruitvale office, located at: 1947 Beaver Street (PO Box 370), Fruitvale, BC V0G 1L0

2. Email submission to: finance@village.fruitvale.bc.ca

Proposals may be mailed, faxed, emailed or dropped off at the above address. Please note that the Village will not be held responsible for transmission problems or other errors that could occur. Emails should be titled "RFP – Fruitvale Wildfire Resiliency Project – 2023" in the subject line.

3. All proposals should be submitted on the provided fillable form, Appendix A.

4. Inquiries should be directed to Carmyn Elvidge, Cabin Resource Management, celvdige@cabinworks.ca

Inquiries will be accepted until **2:00 PM March 18th, 2024**. Inquiries made after this date may not receive a response.

5. A qualified proposal is one which meets both the specifications and conditions as outlined in this Request for Proposal (RFP). A qualified proposal must also meet cost expectations of the Village for this particular RFP.

6. The Village of Fruitvale reserves the right to accept any proposal or parts of proposals and to waive any informalities, irregularities or technicalities. The Village also reserves the right to award the Contract for such goods or services as the Village deems will best serve its interest.

7. A proposal which is **not** qualified is one which does not meet the specifications and/or Conditions and/or exceeds the cost expectations of the Village. In the event that any or all proposals exceed the cost expectations and/or do not conform to specifications, and/or do not meet the conditions, the Village reserves the right to reject any or all proposals and seek an alternative solution of its choosing.

8. The Village will determine whether a proposal is qualified by evaluating it based on the

specifications, conditions and price, and may opt to have the proposals examined by qualified individuals to ensure quality and conformity to the specifications. The Purchasing Department will examine all proposals and recommend which, if any, is in the Village's best interest.

9. The Village recognizes that "**BEST VALUE**" is the essential part of purchasing a product and/or service and therefore the Village may prefer a proposal with a higher price if it offers greater value and better serves the Village's interests, as determined by the Village, over a proposal with a lower price.

Note: BEST VALUE is the value placed on service, quality, past performance and price.

10. The Village reserves the right to negotiate with the preferred or any proponent on any details including changes to specifications and price. If specifications require significant modification, all bidders shall have the opportunity to adjust their proposals or resubmit altogether, as determined by the Purchasing Department.
11. The Village reserves the right to cancel this RFP at any time. The Village also reserves the right to reject proposals from proponents who are unable to provide evidence to the Village's satisfaction that they are capable of providing the necessary labour, skills, materials, and equipment to perform the work. Evidence of such competency and experience must be provided by the contractor upon request. The Village further reserves the right to cancel any agreement with the contractor with 30 days written notice.
12. All goods, equipment, supplies, labour and workmanship associated with this RFP must conform to all necessary standards for use in Canada and the Province of British Columbia such as CSA, ULC, ETL, WCB, Canadian Weights and Measures, Canadian Electrical Codes and Occupational Health and Safety Standards.
13. The Village of Fruitvale will not be responsible for the costs of preparing proposals.
14. The successful proponent will be authorized to proceed only upon approval from the Village of Fruitvale signified by receipt of a valid Purchase Order or signed contract.
15. The successful Proponent will guarantee that the proposal will meet the needs of the Village. The successful Proponent will also guarantee that any goods supplied and/or services rendered shall be correct. If the goods supplied and/or services rendered by the successful Proponent are in any way incorrect or unsuitable, all correction costs shall be borne solely by the successful Proponent.

E. SPECIFICATIONS

1. Operational implementation of this Fuel Management Prescription. This would include, but not necessarily be limited to:

- Completion of fuel treatment activities that meet the intent of the prescription see Appendix C. This includes:
 - Pruning to 3 m
 - Managing surface fuel to below:
 - <0.3 kg/m² for fine fuels <7 cm diameter
 - <0.5 kg/m² for coarse fuels >7 cm diameter
 - <50 pieces of CWD >20 cm diameter
 - Retain live L1 deciduous & conifers to a minimum-inter-tree-distance (bole to bole) of 5 m
 - Preference to retain L1/L2 high-tolerance wildfire resistant species over low-tolerance species:
 - High-tolerance: Douglas-fir, ponderosa pine
 - Medium-tolerance: paper birch
 - Low-tolerance: western cedar, western hemlock
 - Space L2-4 deciduous & conifers 3 m off L1 tree drip-line up to 100 sph.
 - Remove dead deciduous shrubs/trees
 - Brush deciduous shrubs within 3 m of retained conifers to achieve a 2-3 m vertical fuel gap
- Posting signage at the end of First Street.
- Traffic control and/or signage is required when falling within striking distance of a road (Hwy 3B).
- WorkSafe BC Notice of Project
- Pre-work meeting with supervising contractor, Cabin Resource Management.
- Notifying the Regional District of Kootenay Boundary (RDKB) Fire Department when undertaking pile and burning activities.
- Providing interim reporting weekly to Fruitvale contract monitor and Supervision Contractor (Cabin Resource Management) via email.

2. See Appendix A for RFP Fillable Form

3. See Appendix B for Maps.

4. See Appendix C for Rx.

5. Clean and tidy worksite on completion.

6. Proponent must provide proof of insurance, WorkSafeBC compliance letter, warranty/guarantee provisions for work, liability insurance naming the Village as an additional insured and a copy of a valid Village of Fruitvale Business License and/or Inter-Municipal Business License for the Greater Trail Area.

7. Proponent will be required to have in place a general liability insurance policy for not less than \$2,000,000 during the project, naming the Village as an additional insured.

8. Contractor's Liability: The Contractor shall be responsible for any and all damages done or claims for injuries or accidents caused by the Contractor or by any of the Contractor's operations or by the Contractor's employees, or from any failure, neglect or omission on the Contractor's part or on the part of the Contractor's employees, and covenants and agrees to hold the Village harmless and indemnified from and against all such damages and claims for damage.
9. Proposal must include references for projects of similar scope.
10. To make arrangements to view project site, contact the Village Office at (250) 367-7551.
11. Work must be completed by April 30th, 2025 as per the Contribution Agreement.
12. Termination: The Village reserves the right to terminate the contract at any time.

Thank you for submitting your proposal.



20A 100 KALAMALKA LAKE RD
 VERNON, BC, V1T9G1
 778-475-3655

Village of Fruitvale – Fuel Modification Prescription Treatment - 2023/2024 Request for Proposal

Company Information	
Company Name	
Company Contact	
Phone Number	
Email Address	
Mailing Address	

Summary of scoring (see rubric):

Scored criteria	
Proponent Profile	/5
Proposed Team	/10
Approach & Methodology	/20
Experience	/20
References	/40
Sustainability & Social Value	/25
Price	/15
Total	/140

Pricing is only scored if proponent reaches minimum threshold of 70 in all other sections.

1) Proponent Profile

In this section, please provide a brief profile of your company, including a description of the company's history and areas of expertise.

Discuss your company's experience in relevant fields, expanse of other related experience, and strengths relevant to these assignments.

Provide specific details to demonstrate how your company is well-suited and best qualified to perform these services.

If your company has multiple locations, please identify the corporate head office and any local offices that may be involved in project delivery and coordination.

Response



20A 100 KALAMALKA LAKE RD
VERNON, BC, V1T9G1
778-475-3655

2) Proposed Team

Provide a brief description of the Site Supervisor's qualifications, including description of how many years of relevant experience, and responsibilities for this assignment.

Response

3) Approach and Methodology

Describe your project plan and methodology to meet the fuel management prescription requirements. Address known issues and project requirements such as:

- *Safety and communication plan*
- *Specify methodology used for hand treatment and pile burning.*
- *Falling within striking distance of roads, homes, and powerlines*
- *<10% soil disturbance*
- *Debris management methodology: pile burning.*
- *Venting and open burning restrictions*
- *Pruning, thinning*

Response



20A 100 KALAMALKA LAKE RD
VERNON, BC, V1T9G1
778-475-3655

4) Experience

Describe the company's experience doing fuel modification treatments in similar ecotypes through the use of hand treatments and pile burning.

Response

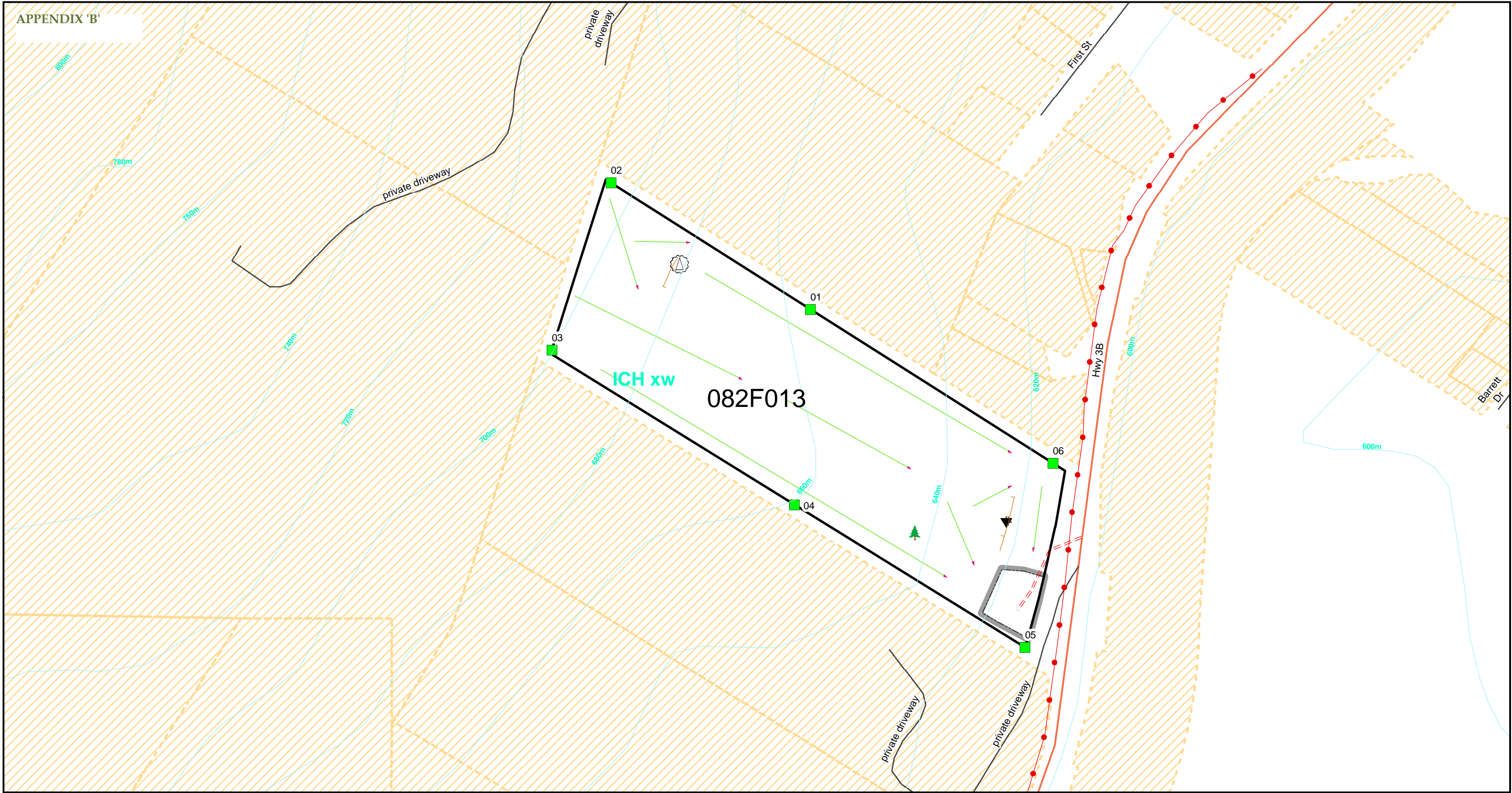


Reference # 1:	
Reference Name & Title	
Reference Company	
Reference Phone Number	
Reference Email Address	
Project Experience Description	

Reference # 2:	
Reference Name & Title	
Reference Company	
Reference Phone Number	
Reference Email Address	
Project Experience Description	

5) Sustainability & Social Value
<p>a) Describe any formal policies and/or strategies in use to be environmentally sustainable or socially responsible, or any certifications that are demonstrative of positive good environmental practices or social impact.</p> <p>b) If your company is First Nation owned or has plans to sub-contract to a First Nations entity, please elaborate.</p>
Response

6) Pricing
<p>Provide the cost per hectare to complete the implementation of this fuel treatment.</p> <p>Provide the lump sum cost for each of the following:</p> <ul style="list-style-type: none"> • Thinning (including spacing and pruning) • Debris management (chipping and removal or pile & burn)
Response:
Lump Sum (3.3 ha)
Cost of thinning per hectare (/5)
Cost of debris management per hectare (/5)



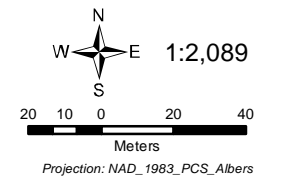
Fruitvale FMP - Operations Map

Block Location Map

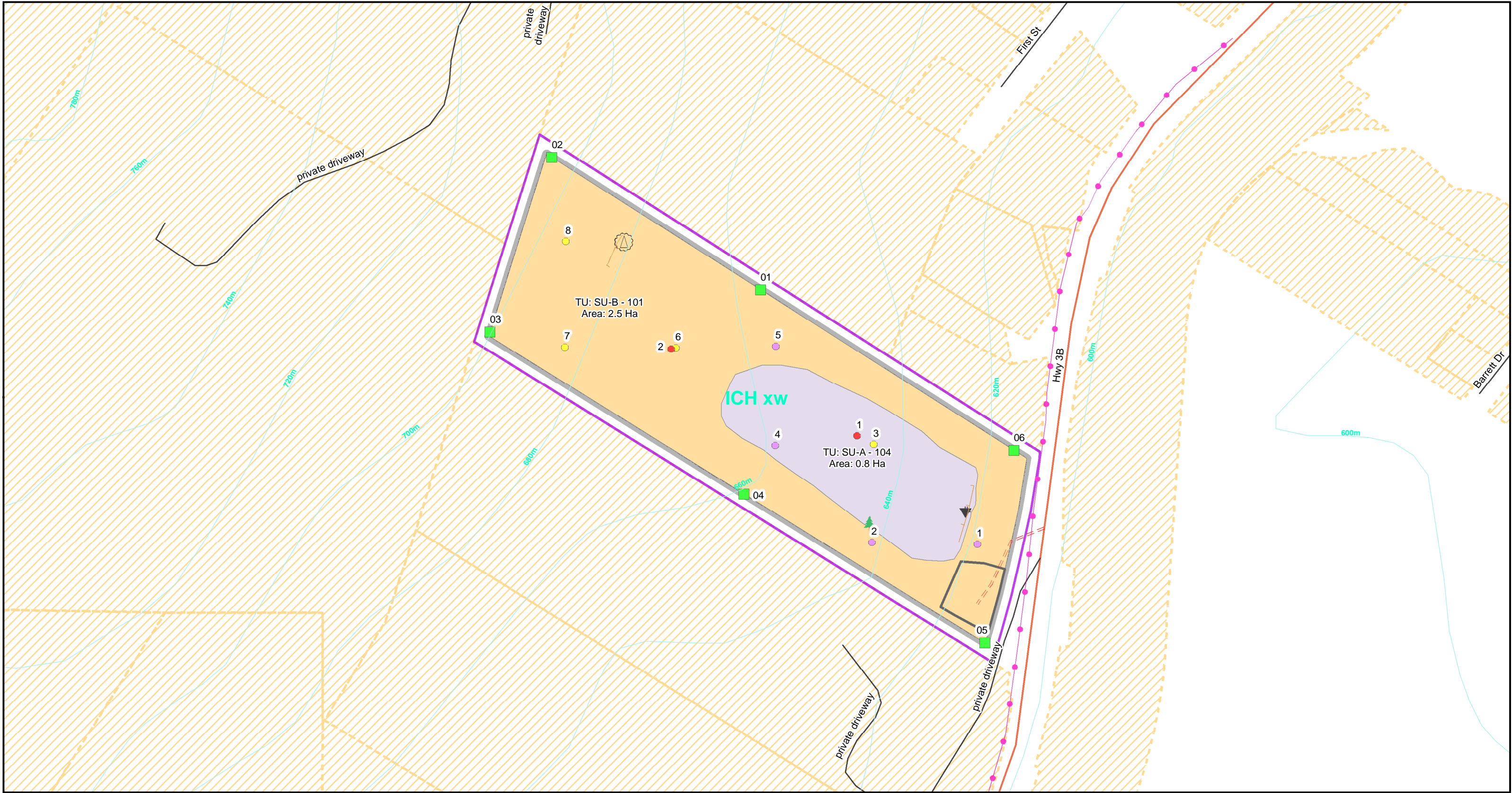


Legend

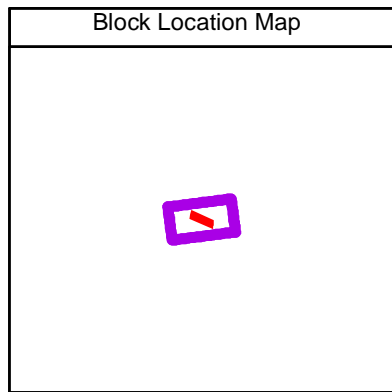
Fruitvale FMP Project Boundary	Cliff	Proposed Road	Skid Direction	Transmission Line	Point Features	Cave	Cliff	Falling Corner	Geode	Rock	Wildlife Tree	Landing	Highway/Arterial	Road	Trail; service	Streams	Forest Tenured Roads	OGDA (OGSR TAP)	Wetlands	Owner Type	Private	Fence	STOCK TRAIL	WATER DEVELOPMENT	Transmission Lines	TRIM Contours
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Client: Fruitvale Private
 Operational Consultant: Cabin Resource Management
 GIS Consulted: Chris Sutton
 Created On: 9/21/2023



Fruitvale FMP - Ecology/Sample Map



Legend	
Fruitvale FMP Project Boundary	Point Features
TU ID	TYPE
SU-A - 104	Cave
SU-B - 101	Cliff
Cliff	Falling Corner
Proposed Road	Geode
Transmission Line	Rock
SP Plot	SS Plot
SS+SFL Plot	Wildlife Tree
Fruitvale FMP Parcel Area	Highway/Arterial
Road	Trail; service
Streams	Forest Tenured Roads
OGDAs (OGSR TAP)	Wetlands
Wetlands	Owner Type
Private	Fence
STOCK TRAIL	WATER DEVELOPMENT
Transmission Lines	TRIM Contours

20 10 0 20 40

1:2,000

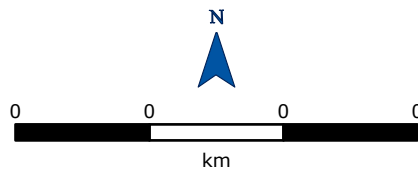
Meters

Projection: NAD_1983_PCS_Albers

Client: Fruitvale Private
 Operational Consultant: Cabin Resource Management
 GIS Consulted: Chris Sutton
 Created On: 9/21/2023



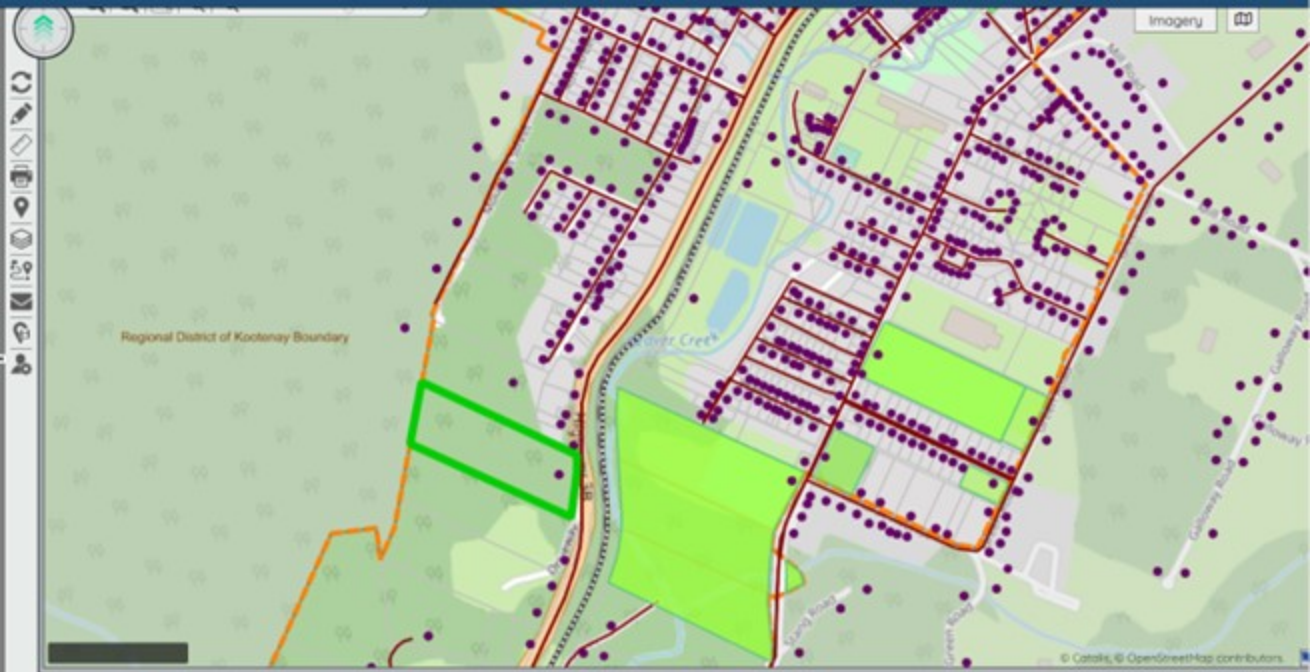
Village of Fruitvale_FMP_RDKB Ortho



Scale: 1:4,514

Date Printed: 2024-02-05

Note: This map is for general information only. The RDKB does not guarantee its accuracy or correctness. All information should be verified.



100 yd
100 m



© Catalis, © OpenStreetMap contributors

Current Scale 1: 7500

Regional District of Kootenay Boundary

Roll: 00221020
Rural Legal:
Urban Legal: NEP785A.49
Address: HIGHWAY 3B

Highway 3B

Highway 3B

1727

1728



Fuel Management Prescription



A. PROJECT IDENTIFICATION	
PROJECT ID AND UNIT ID: Village of Fruitvale Wildfire Resiliency Project Fuel Management Prescription Columbia Basin Trust Contract ID #19399 TU-A	LAND OR TENURE HOLDER: Village of Fruitvale
LATITUDE/LONGITUDE: 49.1074402, -117.5572089	GEOGRAPHIC DESCRIPTION: Village of Fruitvale west of Hwy 3B and south of 1 st Street
HIGHER-LEVEL PLAN(S): N/A	MAP REFERENCE NUMBER: 082F013

B. PROJECT DESCRIPTION		
OBJECTIVE:	PUBLIC SAFETY <input checked="" type="checkbox"/>	RANGE IMPROVEMENT <input type="checkbox"/>
	ECOSYSTEM RESTORATION <input type="checkbox"/>	RECREATION <input type="checkbox"/>
	WILDLIFE HABITAT <input type="checkbox"/>	<input checked="" type="checkbox"/> OTHER: Public Education
	Fuel Management Objective: <ul style="list-style-type: none"> • Manage surface fire intensity in 90th percentile fire weather conditions to the lower of <2,000 kW/m or below Critical Surface Fire Intensity threshold. • Implement fuel modification strategies that mimic natural forest disturbances. • Improve firefighter safety, public safety, and suppression efforts. • Protect community values, surrounding private property, and egress routes. • Protect and manage for other values within the treatment area including, critical habitat area, ungulate winter range, visual quality objectives, cultural heritage resources, and wildlife habitat. • Create a demonstration educational site to encourage FireSmart activities within the community. 	
STRATEGIES:	Modify stand structure to reduce surface and ladder fuel loads to reduce the risk of wildfire spread and crown fire initiation. The following treatment regime's will be implemented to achieve fuel management objectives: <ul style="list-style-type: none"> • Pruning to 3 m • Managing surface fuel to below: <ul style="list-style-type: none"> -<0.3 kg/m² for fine fuels <7 cm diameter -<0.5 kg/m² for coarse fuels >7 cm diameter -<50 pieces of CWD >20 cm diameter • Retain live L1 deciduous & conifers to a minimum-inter-tree-distance (bole to bole) of 5 m • Preference to retain L1/L2 high-tolerance wildfire resistant species over low-tolerance species: <ul style="list-style-type: none"> -High-tolerance: Douglas-fir, ponderosa pine -Medium-tolerance: paper birch -Low-tolerance: western cedar, western hemlock • Space L2-4 deciduous & conifers 3 m off L1 tree drip-line up to 100 sph. • Remove dead deciduous shrubs/trees • Brush deciduous shrubs within 3 m of retained conifers to achieve a 2-3 m vertical fuel gap 	
METHODS: This prescription is appropriate for the ICHxw variant and intends to mimic historical natural disturbance regimes (NTD4). Methods include Hand treatment, pruning, thinning, surface fuel management, and pile burning. See TREATMENT SPECIFICATIONS SUMMARY TU-A for more details.		
TREATMENT SPECIFICATION RATIONALE		
This 3.3 ha parcel of municipal land was selected as a demonstration fuel treatment for residents of forested properties to show how to achieve a safer, more wildfire resilient forests on their properties. Education and promotion of FireSmart in the community is a key objective of this prescription. The treatment will reduce fire risk and improve firefighter access for surrounding private property, with Hwy 3B along the eastern boundary. A hand treatment, pruning, understory thinning, and chipping and removal of fuels is recommended. The predominant wildfire threat is from the ladder fuels of understory deciduous tree and shrub mortality. This treatment emulates a stand maintaining low-severity wildfire which is the predominant natural disturbance regime in this NDT:4 ecosystem.		



TREATMENT SPECIFICATIONS SUMMARY TU-A	
MANAGEMENT CONSIDERATIONS	<p>HAND TREATMENT</p> <p>Be aware of powerlines between Hwy 3B and the eastern boundary when falling within striking distance or moving equipment along the proposed access structure.</p> <p>Slopes throughout treatment average 15-30%, with some areas of 30-70%.</p> <p>Crews should be aware of cliffs (mapped) and other potential terrain features that may be unmapped.</p> <p>Thinning cuts must be flat to the ground - 15° from parallel to the ground is the maximum acceptable offset. Stump heights must all be less than 30cm from the ground with average stump height below 15cm.</p>
DECIDUOUS TREE/ SHRUB	<p>Remove all dead deciduous trees & shrub stems.</p> <p>Retain living L1 deciduous trees to a MITD (bole to bole) of 5 m.</p> <p>Retain living deciduous shrubs >3 m in height outside of L1 drip-line to a spacing of 3 m.</p> <p>Brush low growing deciduous shrubs within 5 m of retained conifers to achieve a 2-3 m vertical fuel gap.</p> <p>Create openings in deciduous understory to facilitate mechanical treatment.</p> <ul style="list-style-type: none"> - Openings will be 4-6 m in width and 4-8 m in length.
L1 MERCH: >17.5 CM DBH SUBMERCH: >12.5-17.5	<p>Retain 200 to 250 SPH live L1</p> <ul style="list-style-type: none"> • Retain live L1 > 17.5 cm dbh • Space live L1 submerch Douglas-fir to inter-canopy spacing of 3 m • Space remaining species L1 submerch conifers 5 m from L1 deciduous and Douglas-fir drip-lines • Retain high-value wildlife trees <p>Remove all dead L1 conifers and deciduous that are not high-value wildlife trees ~ 150 to 200 SPH</p>
L2-L4 L2: >7.5 CM – 12.5 CM L3: >1.3M (HEIGHT) – 7.5 CM (DBH) L4: <1.3 M	<p>Remove 475 to 525 SPH live L2-4</p> <ul style="list-style-type: none"> • L2-L4 conifers that are within L1 drip-line • Space L2-L4 conifers to a minimum inter-bole distance of 3 m; select healthy trees for retention, with preference given to wildfire resilient species: Douglas-fir & Paper Birch • Remove all deciduous shrubs & trees <3 m height • Remove all dead conifer and deciduous stems <p>Retain 25 to 75 SPH live L2-4</p> <ul style="list-style-type: none"> • Isolated L2-L4 Fd and deciduous stems may be retained if spaced >5 m from L1 dripline
PRUNING	<p>Prune retained L1 & L2 to 3 m</p> <p>Do not remove more than 1/3 of a tree’s live branches, < 3 m is acceptable for trees < 9 m in height</p> <p>No pruning L3-L4</p> <p>Prune heights must be measured from the lowest tip of the branch on the upslope side</p> <p>Pruning cuts are to be clean and within 2 cm of the bole and flush with the branch collar</p>
SURFACE FUEL	<p>Surface fuel created by crew & existing jackpots to be removed to meet target levels:</p> <p><0.3 kg/m² for fine fuels (<7 cm diameter), and</p> <p><0.5 kg/m² for coarse fuels (>7 cm diameter)</p>
COARSE WOODY DEBRIS (CWD)	<p>Best Management Practices</p> <ul style="list-style-type: none"> • Decay class 4-5 should be retained as ‘ghost’ pieces (up to 20 pieces/ha) • Target: <50 pieces/ha of class 1-3 <p>Existing and created CWD should be:</p> <ul style="list-style-type: none"> • Limbed, bucked to lie flat to the ground, and cut so logs do not overlap or touch • Preferred piece size: >3 m in length and >12 cm in diameter
WILDLIFE TREE MANAGEMENT	<p>Target: 5-10 wildlife trees throughout treatment area</p> <p>Retain all safe wildlife trees > 25 cm diameter; if no work zones are established the total area of NWZ should be <5% of total project area.</p> <p>High-value wildlife trees have been marked with a single orange/black candy stripe “wildlife tree” ribbon and mapped, however, the contractor must be able to identify any potential high-value wildlife trees that are not marked or mapped.</p>
DEBRIS MANAGEMENT	<p>Pile burning is the primary surface fuel management method. Approval from the Village of Fruitvale has been obtained to burn debris piles.</p> <p>If pile burning is approved by the Village, venting restrictions of <i>Open Burning and Smoke Control Regulation (OBSCR) for High Smoke Sensitivity Zone</i> apply.</p>



RIPARIAN MANAGEMENT AREAS (RMAS)	No riparian areas exist within the treatment area.
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C. TREATMENT UNIT SUMMARY							
TU	GROSS AREA (ha)	LEAVE AREAS (ha)	ACCESS STRUCTURE (ha)	NP (ha)	NET AREA (ha)	TREATMENT REGIME	GENERAL DESCRIPTION
A	3.3	N/A	0.2	N/A	3.3	HTR, TFB, UT, SFR, P, PB	Young-seral broadleaf stand dominated by 200 stems/hectare of living Paper Birch (Ep) and Douglas-fir (Fd), with small amounts of Red Cedar (Cw) and an additional 200 stems/ha of dead standing trees. Understory consists of dense deciduous trees and shrubs at 700 stems/ha of living shrubs, and 800 stems/ha of dead shrubs. Fuel type M-2 (Mixedwood – 75% deciduous, 25% conifer), NTD 4, Site Series 101/104. Crown height of mature trees averages at 5 m. Ladder fuels consist mainly of dead, out-competed shrubs and suspended light woody debris. Fine surface fuels consist of small branches and dead deciduous shrubs. Coarse woody debris is scattered with frequent jackpots throughout. Large coarse woody debris is low at ~20 m ³ /ha of varied decay class Ep and Pl. Terrain is southeast facing with slopes averaging 20-30, reaching 70%, and occasional rock outcrops. Forest health includes historic pine and fir beetle (grey attack), Dwarf Mistletoe on Fd, and drought stress. The dense shrub layer consists of Bitter Cherry, Mallow Ninebark, Oregon Grape, Saskatoon, Birchleaf Spirea, Ocean Spray, Hawthorne, Alder, Douglas-Maple, young Paper Birch, and Willow. The dense herb layer consists of Wild Sarsaparilla, Prince's Pine, Showy Aster, Hooker's Fairybells, Pinegrass, Heart-leaf Arnica, Twinflower, Queen's Cup, Oak Fern, along with moss and lichens.
TOTAL	3.3	N/A	0.2	N/A	3.3		

Treatment Type Key: HTR = Hazard tree removal, TFB = Thin from below, UT = Understory Thin

Debris Management & Disposal Key: SFR = Surface Fuel Removal, P = Prune, PB = Pile and Burn

FIELD MARKING:	
Treatment / Use	Ribbon Description
Exterior Block Boundary (Treatment Area)	1 Orange "FireSmart"
Plot	2 Yellow
Wildlife Tree	1 Orange and Black Candy Stripe "Wildlife Tree"
Station	2 Yellow plus double representative ribbon type

D. SITE CHARACTERISTICS							
TU	CFFBPS FUEL TYPE	TIMBER TYPE	BGC SUBZONE, VARIANT & SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE	ASPECT
A	M-2 (75% deciduous, 25% conifer)	Ep6Fd1(Cw)	ICHxw – 101/104	620-705	Middle	0-70 Avg: 20%	SE
FUEL TYPE DETERMINATION		Fuel type was determined based on ground-truthing and stand measurement data while referencing the British Columbia Wildfire Fuel Typing and Fuel Type Layer Descriptions.					

E. SOIL CHARACTERISTICS							
SU - Site Series	SOIL TEXTURE	DUFF DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	SOIL HAZARD RATING		
					Compaction	Erosion	Displacement
A - 104	SIL	2	80	10%	L	H	H
B - 101	SIL	3	30	10%	H	H	L



F. VALUES – FOREST AND RANGE PRACTICES ACT			
The following values at risk were identified through a combination of field verification, iMap BC, and drilldowns of the treatment unit areas with a 100 m buffer of applicable database of Data BC layers. All data was retrieved on 03 July 2023.			
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	<u>No</u>	N/A. There are no classified streams, lakes, wetlands, or NCD's within or adjacent to the treatment area.
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	<u>No</u>	N/A. There are no temperature sensitive streams or direct tributaries to temperature sensitive streams within or adjacent to the treatment area.
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	<u>No</u>	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	<u>No</u>	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?	<u>Yes</u>	<u>No</u>	N/A. There are no riparian features within or adjacent to the treatment unit boundaries.
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	<u>No</u>	N/A. There are no water sources that are diverted for human consumption within the treatment area.
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	<u>No</u>	N/A. There are no licensed waterworks within 200 m of the treatment area.
FISHERIES SENSITIVE WATERSHED - GAR section 14, FPPR section 8.1			
Are any activities proposed within a fisheries sensitive watershed?	Yes	<u>No</u>	N/A. There are no fisheries sensitive watersheds within the treatment area.
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	<u>No</u>	N/A. The treatment area does not occur within a community watershed. Community watershed lies 500-1000 m upslope from the treatment area. Low site disturbance and downslope placement of project area creates no risk to watershed.



Will this project require road construction or deactivation within a community watershed?	Yes	<u>No</u>	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	<u>No</u>	N/A. No overlap with areas with significant watershed sensitivity.	
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 or Temporary Access Structures (%)	Comments
A	10%	25%	9%	Note: there is no applicable regulation for soil disturbance for this private parcel. Recommend defaulting to FPPR standards where practicable.
Do the proposed Permanent Access Structures exceed 7% of the total area?	Yes	<u>No</u>	N/A.	
LANDSLIDES AND TERRAIN STABILITY – FPPR section 37				
Does the proposed treatment area include areas where terrain stability is a concern?	Yes	<u>No</u>	N/A. Steep slopes, however, there are no signs of instability noted in the field, and there is no overlap with terrain classes 4 or 5. Terrain features that may pose a hazard to crews and limit machine operation, such as rock drops or slopes >70%, were identified on the prescription map. Overstory removal is not planned for this project which will limit impacts to terrain stability. Burning activities should be avoided on steep areas > 40% to minimize soil disturbance and sediment delivery.	
SUITABLE SECONDARY STRUCTURE – FPPR section 43.1				
Does the proposed treatment area include a “targeted pine leading stand”?	Yes	<u>No</u>	N/A. Post treatment stand type will not be a pine leading stand. The treatment area is a mixed stand of Ep6Fd4(Cw).	
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?	<u>Yes</u>	No	Ungulate Winter Range Order u-4-001 overlaps the treatment area but does not apply to private land parcels, or deciduous-leading stands. Forest structure will not be affected by this treatment, and targets will be upheld.	
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. There is no WHA overlap with the treatment area. However, frequent Black Bear sign was observed and is suspected to have Black Bear habitat within the prescription area. Contractors should be able to identify bear dens in the event one is discovered during implementation.	
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?	<u>Yes</u>	No	Critical Habitat Areas — Treatment overlaps 3.9 ha of identified critical habitat areas for Woodland Caribou (Southern Mountain Population) [CHA ID 21281]. The prescription will follow the suggested practices for enhancing habitat through: <ul style="list-style-type: none"> • Maintaining old growth stems through retention of overstory • Maintaining 70% basal area retention 	



			<ul style="list-style-type: none"> Maintaining pre-treatment species composition Thinning of understory will increase visibility and forage. Stand-level connectivity will be maintained through the clearing and removing of forest floor debris and understory thinning <p>Ungulate Winter Range — There is overlap with U-4-001 See UNGULATE WINTER RANGE - GAR section 12, FRPA sections 180 and 181, FPPR section 69 for details and GWMs.</p> <ul style="list-style-type: none"> Objectives will be met as treatment will maintain pre-treatment species composition, forest cover, and crown closure. As this treatment will primarily impact understory stand structure, objectives for UWR will be achieved. Migratory Bird Convention Act — The treatment area is located within the A2 Environment Canada Nesting Zone. Regional nesting periods for migratory birds in this zone are from April 1st – August 15th. If treatments are to occur during the regional nesting period for migratory birds, a nesting bird survey must be completed by a qualified professional prior to the commencement of treatments. <p>CDC was contacted 14 July 2023 and there is no concern.</p>
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	N/A. Private land. Section 9 of FPPR does not apply (objectives set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests).
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?	<u>Yes</u>	No	<p>This treatment is designed to maintain the natural stand-level diversity already present by maintaining a variety of stand structure, species composition, and seral stages.</p> <ul style="list-style-type: none"> Targets retention of 100% of all high-value wildlife trees Target <50 pieces/ha of sound coarse woody debris (CWD), and an additional <20 pieces/ha of decay class 4 & 5 CWD. Retention of fire-resistant/deciduous tree and shrub species <p>For more details see BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS.</p> <p>CWD targets are based on Chief Forester's Guidance on Coarse Woody Debris Management Wildfire Mitigation Treatments.</p>
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	<u>No</u>	<p>N/A. There are no recreation features within or adjacent to the treatment area.</p> <p>Historic trails exist throughout the treatment area. These trails may be utilized for the purpose of operations and may be rehabilitated prior to treatments to be used as recreation trails.</p>
VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2			
Is the proposed treatment within a scenic area?	<u>Yes</u>	No	<p>Project has a 2.8 ha overlap with visual quality polygon [VLI 108884] with an existing visual condition (EVC) of Retention. The visual quality objective (VQO) is Preservation</p> <p>Project has a 1.1 ha overlap with visual quality polygon [VLI 108884] with an existing visual condition (EVC) of Modification. The visual quality objective (VQO) is Partial Retention</p> <p>Treatment specifications will meet the VQO and a visual impact assessment is not required as little to no overstory removal is prescribed.</p>



ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10			
<p>Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?</p>	<p>Yes</p>	<p><u>No</u></p>	<p>N/A. There are no known archaeological sites that are important to First Nations within the treatment area.</p> <p>The treatment area was referred to the MFLNRORD Archaeology branch on 24 July 2023. A response was received from Erin Partridge on 25 July 2023 indicating that there are no known archaeological sites are recorded in the treatment area.</p> <p>If during treatment activities any archaeological materials, features, or artifacts are found, all work must cease within 30 m until the contractor contacts the following First Nations organizations, and the Archaeological branch, and a qualified professional archaeologist is consulted to develop alternative work practices.</p> <ul style="list-style-type: none"> • Okanagan Nation Alliance • Adams Lake Indian Band • Lower Similkameen Indian Band • Penticton Indian Band • Upper Nicola Band • Okanagan Indian Band • Osoyoos Indian Band • Shuswap Band • Ktunaxa Nation Council
INVASIVE PLANTS - FRPA section 47 and FPPR section 17			
<p>Is the introduction and spread of invasive plants likely as a result of the proposed treatment?</p>	<p><u>Yes</u></p>	<p>No</p>	<p>The following invasive plant species were noted during prescription development, as well as determined through a search of the IAPP web mapping application on July 9th, 2023:</p> <ul style="list-style-type: none"> • Hoary alyssum • Spotted Knapweed • Yellow Hawkweed • Common Tansy • Oxeye Daisy • Canada Thistle • St. John’s Wort • Sulphur Cinquefoil <p>To limit the introduction and spread the following measures should be implemented:</p> <ul style="list-style-type: none"> • Implementation crews should be able to identify invasive plants and seeds/propagules of concern in the prescription area. • All equipment / vehicles, particularly ATV’s, footwear, and clothing which may have encountered invasive plants must be cleaned. • All invasive plant materials and debris, including soil, seeds, and propagules, arising from these operations must be disposed of appropriately. • Avoid parking or driving through areas infested with invasive plants. • Report new occurrences of invasive plants using “Report Invasives” App through Invasives BC. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/reporting-invasive-species <p>To mitigate against invasive plant establishment post disturbance, the following BMPs should be implemented:</p> <ul style="list-style-type: none"> • Minimize soil disturbance and seed any bare mineral soils as soon as growing conditions allow with an erosion control mix (no legumes). <p><u>Follow up monitoring for 1 and 3 years post implementation and restoration treatments as required complete.</u></p>
NATURAL RANGE BARRIERS — FRPA section 48, FPPR section 18			
<p>Are there natural range barriers within the proposed treatment area that are likely to be removed or rendered ineffective?</p>	<p>Yes</p>	<p><u>No</u></p>	<p>N/A. There are no natural range barriers within or adjacent to the treatment area. There is no overlapping range tenure or existing cattle use.</p>



LAND USE OBJECTIVES (Higher Level Plans and objectives set by Government under the <i>Land Act</i>)			
Are there land use objectives (higher level plans or objectives under the <i>Land Act</i>) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area?	Yes	<u>No</u>	N/A. Higher level plans do not apply to private land, however, best management practices will be incorporated into the prescription.
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the <i>Land Act</i>)?	Yes	<u>No</u>	N/A. Higher level plans do not apply to private land, however, best management practices will be incorporated into the prescription.

G. OTHER CONSIDERATIONS AND REQUIREMENTS

FIRST NATIONS

First Nations information sharing complete?	Yes	<u>No</u>	<p>Referral letters were sent to the following First Nations on August 23rd, 2024:</p> <ul style="list-style-type: none"> • Okanagan Nation Alliance • Adams Lake Indian Band • Lower Similkameen Indian Band • Penticton Indian Band • Upper Nicola Band • Okanagan Indian Band • Osoyoos Indian Band • Shuswap Band • Ktunaxa Nation Council <p>Ktunaxa Nation Council has expressed interest in the implementation of this prescription.</p> <p>Dan McMaster from Osoyoos Indian Band has been in contact during the planning phase and will attend the community engagement site visit.</p>
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GENERAL CONSULTATION

BC Hydro referred - 21sept2023 – No Concern

EXISTING TENURE HOLDERS (Forest, Range, Guide Outfitters, Trappers)

Tenure Holder	Concerns		Measures proposed to address licensee’s concerns
Range	Yes	<u>No</u>	N/A. No range tenure overlap
Trapper - TR0408T003 Jeff Cromarty	Yes	<u>No</u>	N/A. Tenure holders need not be referred on municipal-owned land treatments, however, referral letters will be sent for the purpose of stakeholder engagement.

PRIVATE PROPERTY

Does private property border the proposed treatment area?	<u>Yes</u>	No	The treatment area is bordered by private property. Boundaries were traversed with sub-meter GPS units and buffered 5-10 m 5-10 m from spatial property lines.
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SMOKE MANAGEMENT

	<u>Yes</u>	No	<p>The prescribed treatment is for community wildfire risk reduction and therefore any pile and prescribed burning will need to occur in accordance with Open Burning Smoke Control Regulation (OBSCR) Division 2: Plans for Community Wildfire Risk Reduction. The treatment area is within a <u>High Smoke Sensitivity Zone</u>. The following relevant regulations apply:</p> <ul style="list-style-type: none"> • No later than 24 hours in advance of starting the open burning, all reasonable efforts are made to give notification of the location of the open burning to the occupants of all residences, businesses, schools, hospitals, and community care facilities within 150 m of the open burning, including by giving notification to
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<p>Does a smoke management plan exist for the proposed treatment area?</p>			<p>the persons who manage the school, hospital, or community care facility, as applicable.</p> <ul style="list-style-type: none"> • The open burning is at least: <ul style="list-style-type: none"> (i) 50 m from all neighboring buildings that: <ul style="list-style-type: none"> (A) Are residences, or (B) Contain businesses in which persons carry on the business during regular business hours, and (ii) 100 m from the nearest property line of all schools, hospitals, and community care facilities. • The following is met with respect to the general area in which the open burning is located: <ul style="list-style-type: none"> (i) That: <ul style="list-style-type: none"> (A) A ventilation forecast for that area is obtained on the day, but before, the open burning starts, or (B) A custom ventilation forecast for that area is obtained on the day before or on the day, but before, the open burning starts; (ii) The forecast obtained under subparagraph (i) (A) or (B) is "GOOD" or "FAIR" for the day the open burning starts. • The open burning starts not earlier than one hour after sunrise. <p style="margin-left: 40px;">The open burning ends by 4 p.m. or two hours before sunset, whichever is later, on the same day the open burning starts.</p>
<p>SAFETY</p>			
<p>Have any specific safety concerns been identified in or adjacent to the proposed treatment area?</p>	<p style="text-align: center;"><u>Yes</u></p>	<p style="text-align: center;">No</p>	<ul style="list-style-type: none"> • Historic mine infrastructure noted: shallow prospecting cave (See map). This indicates a potential risk of other mine infrastructure such as mineshafts. Implementation crews should use caution moving through dense understory. • Danger trees are to be identified and assessed for safety. No Work Zones are to be established if necessary. Retain all medium- & high-value wildlife trees. • Hydro/phone lines and roads are adjacent to treatment units. See best management practices for UTILITIES, ACCESS CONTROL, and TRAFFIC CONTROL. • Steep terrain/rock drops will require extra attention during implementation with hand treatment strategies (mapped).
<p>UTILITIES</p>			
<p>Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.</p>	<p style="text-align: center;"><u>Yes</u></p>	<p style="text-align: center;">No</p>	<p>The following utilities were noted adjacent to treatment units: powerlines, or telephone lines adjacent to the southeast boundary.</p> <p>Utility lines adjacent to the southeastern boundary must be measured prior to moving equipment below them.</p> <p>Powerlines — Occupational Health and Safety Regulation: Part 19, and Part 26</p> <ul style="list-style-type: none"> • Inspection of the worksite by a qualified person is required prior to commencement of falling within striking distance of high voltage overhead conductors (OSHR Part 19.3) • Notification of BC hydro is required prior to commencement of prescription activities. • Trees within striking distance of powerlines or < 6 m are not to be felled unless: <ul style="list-style-type: none"> (a) a certified utility arborist or a qualified electrical worker is present at the site and directing the work, and (b) at least one additional qualified person, trained in appropriate emergency rescue procedures, is present. • Retained trees within striking distance of powerlines should be windfirm species that are adapted to damaging winds (i.e., select to retain trees with deep roots; those without signs of root rot; a smaller, open crown; height to diameter ratio of <60, etc.)



ACCESS CONTROL			
Are there any foreseen issues with access and access control during and post treatment?	<u>Yes</u>	No	<p>No recreation trails exist in or adjacent to the treatment unit, however due to the treatments adjacency to Hwy 3B, this increases the risk for public who may come into the area. Appropriate signage must be utilized when activities are occurring within 2 tree lengths of the highway.</p> <p>Access to treatment units is limited due to private property from the northeast, southwest, and northwest sides.</p>
TRAFFIC CONTROL			
Is traffic control required at any point during operations?	<u>Yes</u>	No	<p>Traffic control and/or signage is required when falling within striking distance of a road (Hwy 3B).</p> <p>Highway 3B is adjacent to the project area on the southeastern boundary.</p>
OTHER			
<p>The project is immediately adjacent (20 - 40 m) to residential structures and is surrounded on 3 sides with forested private property. Falling of mature stems within a tree-length of these properties must not cross into private land. Highway 3B is located on the southeastern boundary, with utility lines running between the project and the highway. This road is a major transport route connecting many towns throughout the Kootenay's and is used as egress in the event of an emergency.</p>			

H. STAND AND STOCK TABLE

Stand and Stock values are approximate and represent the average. Refer to Treatment Specification Summary for cutting specs											
TU A— Stand and Stock Table											
Species	Average CBH (m)	Average Tree Height (m)	Stems Per Hectare (sph)			Volume (m ³ /ha)			Ha	Total Volume	Total Stems
			Existing	Cut	Leave	Existing	Cut	Leave		Cut	Cut
Layer 1 (>17.5 cm dbh)											
Cw (western red cedar)	7.8	21	17	0	17						
Ep (paper birch)			79	0	79						
Fd (Douglas-fir)			68	0	68						
Total Living Conifers			85	0	85						
Total Live			164	0	164	44	0	44	3.30	146	0
Total Dead			162	154	8	44	42	2	3.30	144	508
Total - Live and Dead	326	154	172	88	42	46	3.30	290	508		
Layer 1 (12.5 – 17.5 cm dbh)											
Bg (grand fir)	2.1	11.5	13	3	10						
Ep			13	0	13						
Fd			38	8	30						
Total Living Conifers			51	10	41						
Total Live			64	10	54	4	1	4	3.30	2	34
Total Dead			13	13	0	1	1	0	3.30	1	43
Total - Live and Dead	77	23	54	5	2	4	3.30	5	77		
Total Layer 1											
Total Living Conifers			136	10	126	24	1	23	3.3	2	34
Total L1 - Live			228	10	218	49	1	48	3.30	2	34
Total L1 - Dead			175	167	8	45	42	2	3.30	140	551
Total L1 - Live and Dead			403	177	226	93	43	50	3.30	142	584
Layer 2 (≥ 7.5 – 12.5 cm dbh)											
Ep	7	9	13	1	12						
Fd			38	38	0						
Vb (Bitter Cherry)			13	1	12						
Total Living Conifers			38	2	36						
Total Live			64	40	24						
Total Dead			50	50	0						
Total L2 - Live and Dead	114	90	24								
Layer 3 (≥ 1.3 m height - 7.5 cm dbh)											
Cw	0.5	4.2	50	50	0						
Ep			13	6	7						
Fd			138	124	14						
Total Living Conifers			188	174	14						
Total Dead			225	225	0						
Total L3 - Live and Dead			426	405	21						
Layer 4 (<1.3 cm dbh)											
Fd	1.2		13	13	0						
Total L4 - Live and Dead			13	13	0						



I. TREATMENT SPECIFICATIONS

SURFACE FUEL LOADING

H.2 SURFACE FUEL LOADING (kg/m ²)					
Size Class (cm)	Existing (kg/m ²)	Existing Distribution	Target (kg/m ²)	Target Distribution	Methodology Used
Fine Woody Debris (<=7cm)	0.57	Evenly distributed	0.3	Evenly dispersed. Avoid accumulations within dripline of conifers where possible.	Line transect method, ocular estimates from microplots
Large Diameter Woody Debris (>7cm - <= 20cm)	0.72	Evenly distributed with some pile build-up	0.5		
Coarse Woody Debris (CWD) (20cm+)	1.29	Patchy with jackpots	1.0		

Method used to measure: Pre-treatment measurements conducted using the transect methods described in the Handbook for Inventorying Downed Woody Material (Brown 1974), 30 m Line Transect Method along with ocular fuel estimates were used throughout the treatment unit. Plot data was averaged across the whole project area to determine the average weight of fine woody debris (<7 cm), large woody debris (7-20 cm), and coarse woody debris (>20 cm).

Rationale: Surface fuel loading and pruning heights were developed using BCWS Critical Surface Intensity Worksheet to determine critical surface intensity (CSI) and wildfire intensity (WI). Inputs utilized were 95% foliar moisture content, 90th percentile weather station data for build up index (BUI) and initial spread index (ISI), and Rates of spread (ROS) from the field guide to the Canadian Forest Fire Behavior Prediction System for a M-2 Fuel type.

Limitations to using Pendoreille weather station data include different slope positions and lake effect vs dry valley climate. However, Fruitvale shares similarities to the Pendoreille weather station in that they share similar elevation, aspect, BEC and geographical proximity as Pendoreille is located only one valley to the southeast at 12.3 kilometers from the project. The secondary weather station (Nancy Greene) did not share enough climatic weather variables to be considered.

Treatment outcome:
 Fuel loading target of fine fuels <7 cm (0.3 kg/m²) is estimated to create a surface fire intensity of 720.0 kW/m during 90th percentile conditions and assuming an 8 m/min ROS.
 Pruning to 3 m live crown base height, and clearing understory from the conifer dripline, with a foliar moisture content of 95% **requires** a critical surface intensity (CSI) of 824.1 kW/m for crown fire initiation.
 The estimated wildfire intensity is lower than CSI threshold post-treatment.

Weather Station(s) PENDOREILLE (402) 10 – year average	Post Treatment CFFBPS Fuel Type M-2 (80% deciduous 20% conifer)	Current Surface Fuel Load: (<7 cm) 0.57 kg/m ²	Pre-Treatment = WI 1368 CSI 158.6
Mean BUI 167.73	ROS 8 m/min	Surface Fuel Load Target (<7 cm): 0.3 kg/m ²	Post-Treatment = WI 720 CSI 824.1
Mean ISI 15.71	Prune height: 3 m		

The anticipated post treatment wildfire intensity is below the 2000 kW/m objective, and critical surface intensity is lower than wildfire intensity. This meets targets outlined by BC Wildfire Service.

CROWN CLOSURE

TU	Existing: Living & Dead %	Existing: Dead %	Target: %
A	60-80	15-25	60-80

BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS

<p>COARSE WOODY DEBRIS (CWD) RETENTION TARGET - sph and Distribution</p>	<p>An average ocular estimate of 20-60 m³/ha of sound CWD (decay class 1-3) was observed in these TU's. Coarse woody debris removal is necessary to reduce future fire risk but is also an important habitat for several species. To successfully balance these trade-offs, an even distribution of CWD will be retained at a maximum of 50 pieces/ha or <10 m³/ha.</p> <p>In general, only sound (decay class 1-3) will contribute to fire behavior therefore decayed CWD Decay class 4-5 may be retained at an additional 20 pieces per hectare.</p> <p>Existing and created CWD should be:</p> <ul style="list-style-type: none"> limbed and bucked to lie flat to the ground cut so logs do not overlap or touch Target piece size: >3 m in length and >12 cm in diameter
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WILDLIFE TREE RETENTION TARGET	<p>The target wildlife tree retention is 100% of all medium- & high-value wildlife trees, however due to limited high-value wildlife trees available in the stand, the target is <u>1-2 trees/ha, or 6-8 trees total</u>:</p> <ul style="list-style-type: none"> • Wildlife trees and stubs >25 cm dbh are preferred • Alternative work practices should be sought over the creation of No Work Zones (NWZ) <p>NWZ's should not comprise >5% of the total treatment area</p> <p>High-value wildlife trees are defined as (DTA 2020):</p> <ol style="list-style-type: none"> 1) A tree that has at least two (chosed one for medium-value wildlife trees) of the following characteristics: <ol style="list-style-type: none"> a) Internal decay (heart rot or natural/excavated cavities present) b) Crevices present (loose bark or cracks suitable for bats) c) Large brooms present d) Active or recent wildlife use (feeding, nesting, denning) e) Tree structure suitable for wildlife use (suitable for large nest, hunting perch sites, bear den, etc.) f) Largest trees for site (height and/or diameter) and veteran trees g) Locally important wildlife tree species 2) And, where possible is within the upper 10-15% of the diameter range distribution.
FOREST HEALTH	<p>The following forest health factors were observed during field verification of treatment units:</p> <ul style="list-style-type: none"> • IBD – Douglas-fir Beetle - Grey attack – 50% mortality - high-severity • IBD – Douglas-fir Beetle – Green attack – 10% occurrence - mod-severity • DRA - Armillaria Root Rot – 2% mortality – All Spp. – patches - low-severity • ND - Drought stress - 10% mortality – All Spp. - low-severity • NW - Windthrow – 2% mortality – All Spp. – low-severity • DM – Dwarf Mistletoe – 5% occurrence – Fd - low-severity <p>Prescription specification and targets have been designed in consideration of these forest health factors.</p>

J. TREATMENT DESCRIPTION
STAND MODIFICATION TREATMENTS
<p>MERCHANTABLE TIMBER UTILIZATION: Was commercial timber harvest considered? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>The removal of volume required to support a commercial timber harvest was not required to meet fire behavior objectives, nor was there suitable species or volume required to consider commercial harvest.</p>
<p>BRUSHING: Healthy deciduous trees and shrubs >3 m height should be retained. However, high competition has caused heavy shrub mortality, so brushing of dead stalks in the shrub understory will be required.</p> <p>Retain living deciduous shrubs >3 m in height outside of L1 drip-line to a spacing of 3 m.</p> <p>Brush deciduous shrubs within 5 m of retained conifers to achieve a 2-3 m vertical fuel gap.</p>
<p>PRUNING: Pruning to 3 m is prescribed and will occur as outlined in TREATMENT SPECIFICATIONS SUMMARY TU-A. Pruning cuts are to be clean and within 2 cm of the bole and flush with the branch collar. Scarring of live cambium layer is not acceptable; scarring of live bark is actively discouraged and must be kept to a minimum. Crown base height is to be measured from the lowest dropping point of a live branch or a dead branch with sufficient volume to act as a ladder fuel.</p>
<p>THINNING: Thinning is prescribed and will occur as outlined in TREATMENT SPECIFICATIONS SUMMARY TU-A. Thinning cuts must be flat to the ground - 15° from parallel to the ground is the maximum acceptable offset. Stump heights must all be less than 30cm from the ground with average stump height below 15cm.</p>
<p>PILE BURNING: Pile burning may occur to manage surface fuels. Permission has been granted by Fruitvale Council for burning activities [Fruitvale Bylaw Policy 3.06].</p> <p>Burn pile specifications:</p> <ul style="list-style-type: none"> • Must be located >10 m away from access structures. • Strategically placed as not to cause heat damage and/or scorching to retained trees. • Must not be located on sensitive soils, or on steep slopes. • May occur concurrently with thinning using the hot-fed technique to minimize the number of piles required. • Must be conducted in compliance with applicable burning regulations bylaws, the BC Wildfire Act and Wildfire Regulation and the Environmental Management Act Open Burning Smoke Control Regulations (OBSCR). There are specific permitting and timing requirements that field crews must be aware of; these are listed in OBSCR. Division 2 of OBSCR will apply to this project.
<p>MULCHING: No mulching is to occur for this prescription.</p>
<p>MASTICATION: No mastication is prescribed for this project.</p>
<p>GRINDING: No grinding is prescribed for this project.</p>
<p>PRESCRIBED FIRE: Prescribed fire is not prescribed.</p>



PLANTING: No planting is prescribed for this project.
OTHER: N/A
AUTHORIZATION AND TIMBER TENURE
FRPA Section 52: N/A
Park Use Permit: N/A
Road Permit or Road Use Permit: N/A
Other (i.e. local government, utilities, etc.): Falling within distance of power lines will require coordination with the local utility company.
K. POST TREATMENT
EXPECTED VEGETATION RESPONSE: Overstory layer will only be minorly affected by treatment by the removal of dead standing trees. Through understory and shrub thinning, increased light availability will cause an increase in the food producing shrub and herb layer which will help sustain the foraging population of ungulates in the area. Herbaceous herbs, grasses, and deciduous shrubs are expected to regenerate, which will have minimal impacts on the future efficacy of the fuel treatment. Invasive species are a threat to the revegetation of the stand. Proper care must be used when moving through the site, as well as follow-up monitoring to ensure the invasive population does not out-compete the natural vegetation of the stand.
ADDITIONAL TREATMENTS OR MAINTENANCE: Follow-up monitoring for invasives 1 and 3 years post-treatment is recommended to ensure that herb and shrub structure has been maintained. Fuel treatment monitoring should occur, and a follow-up fuel treatment may be necessary after 5-10 years.
SILVICULTURE OBLIGATIONS: Do silvicultural obligations apply to the treatment area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
PLANTING: Is planting a treatment identified in this prescription or required as a legislative obligation? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
STOCKING STANDARDS: Stocking standards do not apply to municipal land, and sufficient stocking will be maintained through retention of overstory stems to replicate the natural disturbance type, while maintaining wildlife values, forest cover, and crown closure.
L. OUTSTANDING WORKS
Community Engagement event and incorporation of considerations. Fortis referral sent – awaiting response



M. ADMINISTRATION			
PREPARATION			
Prepared by: Carmyn Elvidge SAS			
FOREST PROFESSIONAL NAME (<i>Printed</i>)		FOREST PROFESSIONAL SIGNATURE	
Kyle A. Broome, RPF			
MEMBER NUMBER: 4672			
DATE: November 20, 2023			
N. ATTACHMENTS			
MAPS :	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	FIELD DATA CARDS:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
WUI WTA Plots and Photos:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CRUISE DATA:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
AIR PHOTOS/IMAGERY:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	BURN PLAN:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
MODELING/DATA ANALYSIS:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	OTHER: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
TERRAIN STABILITY ASSESSMENT	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	VISUAL IMPACT ASSESSMENT	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Completed By:		Completed By:	
Date:		Date:	
ARCHAEOLOGY IMPACT ASSESSMENT	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	BIOLOGIST ASSESSMENT	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Completed By:		Completed By:	
Date:		Date:	
ADDITIONAL COMMENTS:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

APPENDIX B: PLOT PHOTOS

Plot 1



Plot 1



Plot 2



Plot 2 Fuels



Plot 3



Plot 3



Plot 4



Plot 4 Fuel



Plot 5



Plot 5 Canopy



Plot 6



Plot 6 Vegetation



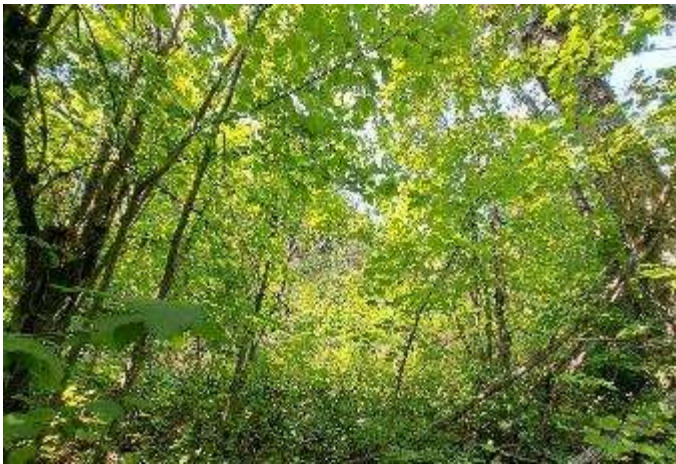
Plot 7



Plot 7 Canopy



Plot 8



Plot 8 Fuel



Manmade Prospecting Cave



Marked Wildlife Tree – Wildlife Tree Class 6

