#### **Community Name, County / Municipal District, Region (as applicable)**

#### **Reserve name / location (as applicable)**

#### **Settlement name / location (as applicable)**

#### **Community Fireguard - Operational Plan**

#### <Draft / Final, Version>

#### <Day – Month – Year>

Plan prepared by: <Consultant organization>

#### 

Contents

[1. Introduction / Project Overview 2](#_Toc206629726)

[2. Technical Considerations 3](#_Toc206629727)

[2.1 Fireguard Location 3](#_Toc206629728)

[2.2 Fireguard Size 3](#_Toc206629729)

[2.3 Tactical Fireguard Considerations 4](#_Toc206629730)

[3. Construction Operations 4](#_Toc206629731)

[3.1 Regulatory and Permitting 4](#_Toc206629732)

[3.2 Clearing Operations 4](#_Toc206629733)

[3.3 Debris Disposal 5](#_Toc206629734)

[3.4 Smoke Management 5](#_Toc206629735)

[4. Construction Project Timeline 6](#_Toc206629736)

[5. Communications Plan 6](#_Toc206629737)

[6. Vegetation Maintenance Plan 6](#_Toc206629738)

[7. Revenue Generation or Cost Minimization 7](#_Toc206629739)

[8. Detailed Construction Budget 7](#_Toc206629740)

[9. Technical Design Map(s) 8](#_Toc206629741)

## Introduction / Project Overview

Describe the purpose of the community fireguard in general and for this specific community.

Include a brief description what other wildfire mitigation measures the community has undertaken (particularly for higher level planning, public education and fuel modification). Use this information to establish the need for a fireguard, community acceptance of the project and how the fireguard effectiveness will be reinforced by other FireSmart activities.

## Technical Considerations

#### Describe the technical design considerations made and reasons for the outcomes chosen.

#### Discuss how this plan incorporates strategic location, tactical size and an effective design for use in operations.

#### Alberta Wildfire technical review and approval of the fireguard design is required. Describe with whom and when discussions were held and the outcome.

### 2.1 Fireguard Location

#### Identify what is strategic about the selected location.

#### Describe the general fireguard location.

#### Describe the specific fireguard location relative to the community.

#### Describe the fireguard location / proximity relative to the values-at-risk.

#### Describe what the values-at-risk are in this community.

#### Describe how the fireguard design minimizes the hazardous fuels between the fireguard and the built environment.

#### Describe the reinforcing landscape features (rivers, lakes, ridges, slopes, etc.) that the fireguard ties into.

#### Describe the reinforcing non-fuel features (road, powerline, pipeline ROW, active gravel pits, grazing/farming areas, etc.) that the fireguard ties into.

#### Describe the prevailing / seasonal winds in terms of locating the fireguard.

#### Describe any work incorporated from fire behavior modeling and risk assessments that further demonstrate the fireguard’s effectiveness.

1. Describe the fireguard’s location in terms of alignment with community values and land-use priorities.

### 2.2 Fireguard Size

#### Identify how tactical operations will be able to be conducted from this fireguard due to its size.

#### Describe the fireguard size and how this improves the fireguard effectiveness.

#### If variable or segmented, describe what is being done, where and why. What considerations were made and why were the selected option(s) chosen.

#### Identify the lengths (km), widths (m) and total area (ha).

#### This project expects 100m wide minimum if tied into existing grazing or other cleared rights-of-way (ROW). The target should be 300-500m, and as large as 1000m.

#### Describe the planned fireguard treatments (harvest, mulch, thin/prune in riparian areas, seeding, grazing, etc.)

#### Describe how the planned size creates economies of scale for clearing (harvest), significant impact through substantial fuel removal, appropriate and accessible grazing areas for livestock, etc.

### 2.3 Tactical Fireguard Considerations

#### Describe how the fireguard design permits or increases the ability to backfire or use as a wetline. Describe any other tactical considerations.

#### Describe completed and planned FireSmart treatments adjacent to the fireguard and/or between the fireguard and the built environment that reinforce the fireguard design.

#### If the guard spans riparian areas, identify if and how the area will be treated or left undisturbed. How will they remain windfirm? How will adjoining segments of the guard be accessed for clearing, and for debris disposal? How will the riparian treatment impact the effectiveness of the fireguard?

## Construction Operations

### 3.1 Regulatory and Permitting

#### Describe the land access and clearing authority, include “ownership identification” – municipal, provincial Crown, provincial Parks, Reserve, Settlement etc.

#### Create a table. (Land type, “owner”, authorization needed, status of agreement)

#### If unoccupied provincial Crown land will be incorporated into your fireguard, you will likely need a VCE. Describe the status of this application and all required components.

#### If a TFA will be sought for “early access”, confirm this with Public Lands and describe the status.

#### Describe ACO Consultation status (if obtaining a TFA / VCE on Crown land, may be for Parks).

#### Create a summary table. (Identify the Indigenous community, contact information, status of agreement)

#### Describe FMA (forest management area) land withdrawal agreements to be acquired (if obtaining a VCE on unoccupied Crown land).

#### Create a summary table. (Identify the company, contact information, status of agreement, expected TDA fees)

1. Describe when wildlife sweeps will be conducted, by whom.
2. Will the Migratory Bird Act impact your construction timing?
3. Will stream crossing timing restrictions be an issue?

### 3.2 Clearing Operations

#### Describe your construction considerations including terrain, seasonality, future maintenance, costs, etc.

#### Describe how clearing operability was determined, including how wet areas and slopes will be addressed for clearing as well as for future vegetation maintenance.

#### Identify if frozen ground conditions are required during construction.

#### Describe the proposed construction equipment, which could include clearing or partial thinning by feller buncher, mulcher, other.

#### Determine if the timber mill or community will supply these resources or if contract services will be used.

#### If equipment will be contracted, ensure cost-effectiveness or consider alternative timing in terms of mill availability. Document the options considered and the reasons for the preferred option

#### Describe if and where temporary access roads will be built to allow clearing and construction.

#### Describe watercourse crossings to be developed. Can they be avoided by using alternative access points?

#### Create a summary table. (Location, stream classification, is water act approval required?, status of permits)

#### Describe third-party infrastructure (pipelines, powerlines) crossings to be developed.

#### Create a summary table. (Identify the disposition number, owner, company contact information, status of agreements)

#### Describe third-party road use agreements to be acquired.

#### Create a summary table. (Identify the disposition number, owner, company contact information, status of agreements, fees)

#### Consider if any new rail line crossings will be required for construction or hauling access. These typically take a year to acquire approval and are recommended to avoid.

#### Describe the timber types (coniferous and deciduous) and volumes (m3) being removed / salvaged.

#### Create a summary table.

#### Describe the planned installations (dugouts for watering livestock or firefighting, fencing, gates, livestock staging areas).

#### Consider if recreational trails or firefighting access roads will be maintained, built or left in place following construction. Address this with community members, create an operational safety plan for during construction and plan on a trail clean-up process.

### 3.3 Debris Disposal

Describe the debris disposal methods planned.

#### What considerations were made? Why were the planned methods were selected?

#### What other options were considered and why were they not selected?

#### Discuss how implications of the chosen methods have been planned for (e.g. logging on steep slopes, log truck loading areas and new access roads, watercourse crossings, pipeline / powerline crossings, required ground / seasonal conditions for heavy machinery, seasonality for debris burning, including logging debris disposal and non-merchantable debris disposal).

### 3.4 Smoke Management

#### Discuss how smoke from debris burning will be addressed, and minimized in an economical way.

1. Debris left to cure (dry) over a summer will burn hotter and cleaner (less smoke) the following fall.
2. Piles should be built on mineral soil, not peat or organics.
3. Pile sizes can be adjusted to control burning. Small piles can be manually tended (those developed from hand thin/prune).
4. Equipment (dozer or excavator) can be used to keep debris in piles tight and hot.
5. Scanning and stirring may be needed to ensure extinguishment.
6. Burning without a permit can typically occur November 1 – February 28, with light snow cover.
7. Burn prior to snow cover becoming too deep which can extinguish piles, create more smoke or make smaller piles impossible to find.

## Construction Project Timeline

Detail timelines, milestones, dependencies and start and end dates for the planned / required regulatory permitting and construction activities.

1. Describe how the status of regulatory approvals will impact your planned construction timing and project duration.
2. When will clearing operations occur?
3. When will log haul occur?
4. When will debris disposal occur? Allow a summer season to cure and burn once wildfire season closes and with early, light snowfall.
5. Create a Gantt chart.

## Communications Plan

#### Outline your communications plan.

1. Describe how the community and stakeholders (including government entities in the community) will be updated during the development of the construction project.
2. Describe the methods and communication milestones to keep the community informed about construction objectives, plans, timelines (sequence, and duration of related activities).
3. What tools and formats will be used? When? Who will prepare and share the comms? (Open house, town hall, website, social media, mailouts, bulletin / message boards, mailbox area sandwich boards?)
4. Describe how community feedback from the planning stage was incorporated into this operational plan and how the plan reflects community values.
5. Describe how you will communicate the smoke management plan with the community.

## Vegetation Maintenance Plan

#### Develop a vegetation maintenance plan for future vegetation management.

#### Describe how the site will be prepared to accommodate or facilitate the maintenance option selected.

#### Options could include: grazing, mowing, mulching, burning etc.

#### If grazing will be used, describe the type of livestock, the number of head and the suitability assessment as per an agrologist and/or the public lands review. (Do not select mulching for debris disposal. Site preparation may include stumping / grubbing, seeding and fencing. Seeding will need a forestry approved, range suitable, fire-resistant, grass seed.)

#### Public Lands technical review and approval of a grazing suitability assessment, if grazing is planned is required. Describe with whom and when discussions were held and the outcome.

#### Indicate if mowing or mulching, if the equipment is already owned by the community.

#### If burning is being consider, ensure appropriate considerations are made for debris disposal, (e.g. not mulching) and size (to allow backfiring if needed).

#### Describe how maintenance will be monitored, managed and paid for. Address the budget, timelines, methods etc.

#### These future costs are expected to be addressed by the community, so develop an appropriate clearing and debris disposal plan, as well as tactical design.

## Revenue Generation or Cost Minimization

#### Describe the value of revenue generation through timber harvest conversations with local timber mills.

#### Describe the value of cost minimization options considered for fibre removal and debris disposal conversations with biomass facilities.

#### Describe how the least cost options were selected.

#### If the cost of logging and hauling far exceeds the debris disposal cost of piling and burning, make the cost-effective choice.

#### If debris disposal costs are reduced by hauling biomass to a facility, make the cost-effective choice.

#### If there is no fibre market for mature aspen, consider the volume expected to be removed and if removal is the best choice.

#### Projects that involve harvesting of merchantable timber or biomass may only claim incremental costs of harvesting activities. Revenue generated from the sale of timber or biomass must be returned to offset the project budget.

#### Describe how the merchantable fibre will be sold or allocated (to which mill or location, rates ($/m3 by conifer or deciduous) and contract terms like roadside or delivered fibre).

#### Include documentation on the salvage timber rates and commitments from timber mills.

## Detailed Construction Budget

#### Provide detailed cost estimate and budget breakdown.

#### Include clearing, debris disposal, site preparation/seeding for grazing, installations like fencing or dugouts etc. costs.

#### Show cost reductions or revenue returned to the project due to salvage timber or biomass sales (indicate the volume (m3) by type (coniferous, deciduous, chipped biomass) being sold, the rate being received ($/m3) and the total revenue being received.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Unit Quantity** | **Unit Type** | **Unit Price** | **Total** |
| boundary layout | x.x | hour | $ x.x | $ x.x |
| vegetation removal (harvesting) | x.x | hectare | $ x.x | $ x.x |
| vegetation removal (mulching) | x.x | hectare | $ x.x | $ x.x |
| vegetation removal (thinning, i.e. riparian area) | x.x | hectare | $ x.x | $ x.x |
| debris disposal (pile and burn) | x.x | contract | $ x.x | $ x.x |
| debris disposal (mulch piles) | x.x | contract | $ x.x | $ x.x |
| debris disposal (chip and haul) | x.x | contract | $ x.x | $ x.x |
| site preparation - stumping/grubbing | x.x | hectare | $ x.x | $ x.x |
| water dugouts | x.x | each | $ x.x | $ x.x |
| livestock staging area development | x.x | each | $ x.x | $ x.x |
| fencing installation | x.x | Each or hour | $ x.x | $ x.x |
| gate/cattle guard installation | x.x | each | $ x.x | $ x.x |
| range seed spreading | x.x | hectare | $ x.x | $ x.x |
| access / approach development | x.x | each | $ x.x | $ x.x |
| gate / cattle guard materials | x.x | each | $ x.x | $ x.x |
| fencing materials | x.x | each | $ x.x | $ x.x |
| Forestry approved, range suitable, fire-resistant seed mix | x.x | kg | $ x.x | $ x.x |
| project management (if contracted) | x.x | hour | $ x.x | $ x.x |
| **Sub-total** |  |  |  | **$ x.x** |
|  |  |  |  |  |
| Expected revenue from sale of merchantable timber (revenue returned to project budget) conifer ($/m3) | x.x | M3 | $ x.x | $ x.x |
| Expected revenue from sale of merchantable timber (revenue returned to project budget) deciduous ($/m3) | x.x | M3 | $ x.x | $ x.x |
| Expected revenue from sale of biomass ($/ton revenue returned to project budget) | x.x | ton | $ x.x | $ x.x |
| **Sub-total** |  |  |  | **$ x.x** |
| **Total Project Budget** |  |  |  | **$ x.x** |

## Technical Design Map(s)

#### Demonstrate:

#### boundary of the proposed fireguard clearing

#### indicate length(s), width(s) and total area (ha)

#### delineate treatment types (harvest, mulch, thin/prune in riparian areas, grazing)

#### planned installations (dugouts, fencing)

#### timber types (coniferous / deciduous) and volumes (m3) being removed, from where on the fireguard

#### indicate temporary access roads or crossings to be developed

#### show natural features (rivers, lakes, ridges, slopes)

#### show non-fuel features (road, powerline, pipeline ROW, active gravel pits, grazing/farming areas)

#### completed and planned FireSmart treatments

#### previously cleared fireguards

#### existing water sources adjacent or within the fireguard boundary

#### location and type of the values-at-risk

#### land authority (municipal, provincial Crown, Forest Management Area, Parks, Reserve, Settlement)

#### demonstrate an absence of hazardous fuels in the zone between the fireguard and the built environment;

#### legible scale, i.e. 1:10,000 (use multiple pages up to tabloid size)

#### show arial imagery (internet information is adequate)