

Provincial Agricultural Land Commission - Applicant Submission

Application ID: 62419

Application Status: Under LG Review

Applicant: Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Agent: 543077 Alberta Ltd.

Local Government: Peace River Regional District

Local Government Date of Receipt: 02/18/2021

ALC Date of Receipt: This application has not been submitted to ALC yet.

Proposal Type: Non-Farm Use (Removal of Soil)

Proposal: Currently, the the land is forested and not used for agricultural purposes. The purpose of the proposal is the removal of sandy soils from dune ridges that encroach within ALR polygons.

The applicant has obtained a License of Occupation (Disposition No. 938165) and has applied for a Notice of Work to the Ministry of Energy and Mines for a Frac Sand (Silica) Mine. The mine plan targets silica sand that is located within dune features. Several dunes extend onto ALR polygons. The removal of sand will involve grading the dune ridges so that they are at a similar elevation to the surrounding area.

The climatic class of the site is 5GF. Thus, the agricultural capability of the land is limited forage crops or native grazing by climatic factors including insufficient heat units during the growing season and freezing temperatures.

Soil moisture deficits also limit the agricultural capability of the land. The available water storage capacity (AWSC) of the upper 50 cm of soil is limited by the soil texture and climate. Pre-disturbance soils have been assessed and mapped. A map showing the pre-disturbance soils and the assessment data are attached. Within the area overlapped by the ALR polygon, eluviated brunisols, gleyed eluviated brunisols, gleyed brunisols, gleysols and grey luvisols were identified. The upper 50 cm of the eluviated brunisols, gleyed eluviated brunisols, gleyed brunisols and gleysols consisted entirely of loamy sand textured soils. The soil moisture deficit (SMD) of these areas was calculated as 253 mm; therefore, the best unimproved rating these lands could receive is Class 4. The upper 50 cm of the grey luvisols consisted entirely of clay loam textured soils. The soil moisture deficit (SMD) of these areas was calculated as 203 mm; therefore, the best unimproved rating these lands could receive is also Class 4. Thermal climatic restrictions are more severe than moisture restrictions, so improvement from irrigation is not considered practical.

The mining plan involves grading sand dunes which range in slope from 5 to 31%. A map showing the pre-disturbance slopes is attached. The topography of these slopes is currently limiting the agricultural capability of the land. The agricultural capability rating of these dunes, considering soil moisture deficits as well, is Class 4 to 7

This proposal will increase the agricultural capability of these ALR polygons by improving topography. The steep slopes of the dunes will be graded so they are level to nearly level (<5%). Prior to the removal of sand, topsoil and LFH will be salvaged and conserved for use in reclamation. This will ensure that topsoil texture of the reclaimed land will be consistent with pre-disturbance conditions. As a result, the agricultural capability of the reclaimed land will still be limited by soil moisture deficits due to soil texture and climate; however, the topographic constraints to agricultural capability will be removed. Therefore, the reclaimed agricultural land capability is expected to be Class 4, which is equivalent or better compared to the pre-disturbance agricultural land capability which ranges from Class 4 to 7.

Applicant: Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Agent Information

Agent: 543077 Alberta Ltd.

Mailing Address:



Primary Phone: [Redacted]

Mobile Phone: [Redacted]

Email: [Redacted]

Parcel Information

Parcel(s) Under Application

1. **Ownership Type:** Crown Lands

Parcel Identifier:

Legal Description: Section 9, Township 27, Peace River District

Parcel Area: 0.2 ha

Civic Address:

Date of Purchase:

Farm Classification: No

Owners

1. **Name:** Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Address:

100 10003 110 Ave

Fort St. John, BC

V1J 6M7

Canada

Phone: [Redacted]

Email: [Redacted]

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2. **Ownership Type:** Crown Lands

Parcel Identifier:

Legal Description: Section 10, Township 27, Peace River District

Parcel Area: 11.7 ha

Civic Address:

Date of Purchase:

Farm Classification: No

Owners

1. **Name:** Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Address:

100 10003 110 Ave

Fort St. John, BC

V1J 6M7

Canada

Phone: [Redacted]

Email: [Redacted]

-
3. **Ownership Type:** Crown Lands

Parcel Identifier:

Legal Description: Section 3, Township 27, Peace River District

Parcel Area: 0.9 ha

Civic Address:

Applicant: Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Date of Purchase:

Farm Classification: No

Owners

1. **Name:** Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Address:

100 10003 110 Ave

Fort St. John, BC

V1J 6M7

Canada

Phone: [REDACTED]

Email: [REDACTED]

Ownership or Interest in Other Lands Within This Community

1. **Ownership Type:** Crown Lands

Parcel Identifier:

Owner with Parcel Interest: Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Parcel Area: 1520 ha

Land Use Type: Industrial

Interest Type: Unregistered Lease

Current Use of Parcels Under Application

1. **Quantify and describe in detail all agriculture that currently takes place on the parcel(s).**

No agriculture. The lands are forested and undeveloped.

2. **Quantify and describe in detail all agricultural improvements made to the parcel(s).**

There are no agricultural improvements on the parcels. The lands are forested and undeveloped.

3. **Quantify and describe all non-agricultural uses that currently take place on the parcel(s).**

Historic logging - some older and recent cut-blocks (replanted)

Historic oil/gas exploration & development - old cutlines, partially re-grown

Traditional first nations land uses

Adjacent Land Uses

North

Land Use Type: Agricultural/Farm

Specify Activity: Bison ranching

East

Land Use Type: Unused

Specify Activity: Forested crown land

South

Land Use Type: Unused

Applicant: Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Specify Activity: Forested crown land

West

Land Use Type: Unused

Specify Activity: Forested crown land

Proposal

1. Have you submitted a Notice of Work to the Ministry of Energy and Mines?

Yes

Notice of Work Tracking/Reference Number

NoW#1642018-202001

2. Are you submitting this application as a follow-up to a Notice of Intent (NOI)?

No

3. What is the purpose of the proposal? Describe any benefits to agriculture that the proposal provides.

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The climatic class of the site is 5GF. Thus, the agricultural capability of the land is limited forage crops or native grazing by climatic factors including insufficient heat units during the growing season and freezing temperatures.

Soil moisture deficits also limit the agricultural capability of the land. The available water storage capacity (AWSC) of the upper 50 cm of soil is limited by the soil texture and climate. Pre-disturbance soils have been assessed and mapped. A map showing the pre-disturbance soils and the assessment data are attached. Within the area overlapped by the ALR polygon, eluviated brunisols, gleyed eluviated brunisols, gleyed brunisols, gleysols and grey luvisols were identified. The upper 50 cm of the eluviated brunisols, gleyed eluviated brunisols, gleyed brunisols and gleysols consisted entirely of loamy sand textured soils. The soil moisture deficit (SMD) of these areas was calculated as 253 mm; therefore, the best unimproved rating these lands could receive is Class 4. The upper 50 cm of the grey luvisols consisted entirely of clay loam textured soils. The soil moisture deficit (SMD) of these areas was calculated as 203 mm; therefore, the best unimproved rating these lands could receive is also Class 4. Thermal climatic restrictions are more severe than moisture restrictions, so improvement from irrigation is not considered practical.

The mining plan involves grading sand dunes which range in slope from 5 to 31%. A map showing the pre-disturbance slopes is attached. The topography of these slopes is currently limiting the agricultural capability of the land. The agricultural capability rating of these dunes, considering soil moisture deficits as well, is Class 4 to 7

This proposal will increase the agricultural capability of these ALR polygons by improving topography. The steep slopes of the dunes will be graded so they are level to nearly level (<5%). Prior to the removal of sand, topsoil and LFH will be salvaged and conserved for use in reclamation. This will ensure that topsoil texture of the reclaimed land will be consistent with pre-disturbance conditions. As a result, the agricultural capability of the reclaimed land will still be limited by soil moisture deficits due to soil texture and climate; however, the topographic constraints to agricultural capability will be removed.

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Therefore, the reclaimed agricultural land capability is expected to be Class 4, which is equivalent or better compared to the pre-disturbance agricultural land capability which ranges from Class 4 to 7.

4. Proposal dimensions

Total material removal area (0.01 ha is 100 m²) *12.78 ha*

Maximum depth of material to be removed *7.6 m*

Volume of material to be removed *107460 m³*

Estimated duration of the project *12 Years*

5. Has a Professional Agrologist reviewed the project and provided a written report? If yes, please attach the Professional Agrologist report in the "Upload Attachments" section.

No

6. Describe the type of material proposed to be removed.

Sand, specifically silica sand, will be removed. Topsoil and LFH will be salvaged prior to sand removal and conserved for use in reclamation.

7. Describe the type of equipment to be used to remove material. If applicable, describe any processing to take place on the parcel(s) and the equipment to be used.

Sandy soils that are removed will be hauled to an off-site processing location. Dozers, motor scrapers and/or rock trucks will be used to remove the sandy soils.

8. What steps will be taken to reduce potential negative impacts on surrounding agricultural lands?

The areas of proposed soil removal are primarily surrounded by forested crown land, with the exception of the area that is bordered by private land within the N1/2, Section 9, Township 27, Peace River District which is currently being used for bison pasture.

To reduce potential negative impacts on the bison pasture, the integrity of the fence along the south edge of the N1/2, Section 9, Township 27, Peace River District will be maintained during soil removal. Following soil removal, the land will be reclaimed as soon as possible using progressive mining techniques. Revegetation will be monitored to ensure the suitable establishment of vegetation and any weeds and undesirable species that are noted will be controlled.

9. Describe all proposed reclamation measures. If a reclamation plan from a qualified professional is required, please summarize the reclamation and attach the full plan in the "Upload Attachments" section.

See the attached Restoration and Reclamation Plan. The land will be reclaimed to an equivalent or greater land capability than pre-disturbance conditions. The end land use of this site is forested land. Forested land was selected in an effort to return the site to pre-disturbance conditions and comply with the desires and expectations of first nations communities that were consulted during the creation of the mining and reclamation plan. Although agricultural end land uses have not been contemplated within the areas of ALR overlap, the land will be capable for agricultural use should there be a desire to utilize the land for agricultural purposes in the future.

The land will be recontoured to conform to the surrounding landscape and create level to nearly level slopes. The reclaimed topography will be capable of supporting agriculture in the future, if such a use is contemplated on the land. Agricultural use in the surrounding area is predominately natural grazing for domestic livestock and perennial forage production. Landscape characteristics following reclamation will be suitable for such uses. Specifically, the steep slopes that currently exist on-site will be graded to achieve gentler contours capable of supporting the operation of agricultural equipment and traffic associated with grazing and forage crop management. Maximum slopes will be 6:1, with average grades closer to 5%.

Topsoil and LFH from subsequent cuts will be salvaged and directly placed onto the areas of the mine

plan that overlap ALR polygons. This will eliminate the need to stockpile the soil and will ensure the disturbed areas of the ALR are reclaimed as soon as practicable. The soil will be replaced evenly across the area to a depth at least 80% of that which existed prior to disturbance. Soil replacement will take place under suitable soil conditions and will be suspended under excessively wet or windy conditions to prevent degradation of soil quality and loss of soils.

The direct placement of soil will result in the retention of viable native seed and vegetative propagules. As such, natural revegetation is expected to sufficiently achieve the revegetation goal of returning the site to forested vegetation. The land currently overlapped by ALR polygons will not be seeded to agronomic species; however, the land will be capable of supporting agricultural uses in the future if desired. At this time, it is not practical or desirable to revegetate the areas to agronomic species because the land is not being utilized nor managed for agricultural use and first nations communities have indicated a desire to return the land to a forested end land use.

Throughout operation and following reclamation, the site will be monitored for erosion and the establishment of invasive species. If identified, mitigation and contingency plans will be implemented.

Applicant Attachments

- Agent Agreement-543077 Alberta Ltd.
- Other correspondence or file information-Mine plan map
- Other correspondence or file information-Mine plan cross sections
- Site Plan / Cross Section-62419
- Professional Report-Restoration and Reclamation Plan
- Proposal Sketch-62419
- Other correspondence or file information-Pre-Disturbance Slope Map
- Other correspondence or file information-Pre-Disturbance Assessment Data
- Other correspondence or file information-Pre-Disturbance Soil Map

ALC Attachments

None.

Decisions

None.