Cowichan Valley Regional District
Soil Deposit Bylaw No. 4236

Type "C" Permit Application

for

1800 Sooke Lake Road, Shawnigan Lake, BC

Prepared for:
Allterra Construction Ltd.

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1.0 GENERAL

Allterra Construction Ltd. (Allterra), acting as Agent and Operator for the Applicant and Property Owner, 0746199 BC Ltd., has submitted this Type "C" Permit Application in accordance with Soil Deposit Bylaw No. 4236 that regulates the deposit of soil on lands within Cowichan Valley Regional District {CVRD) Electoral Areas. Aquaparian Environmental Consulting Ltd was retained by Allterra to review and provide input to this application to identify environmental setbacks and potential environmental impacts for the site. In addition, Ryzuk Geotechnical Engineering and Materials Testing has provided recommendations for slope stability.

Type "C" Permits are required for depositing when soil volume exceeds 1,000 m^3 per calendar year.

2.0 SOIL DEPOSIT SITE LOCATION

The soil deposit site is located within 1800 Sooke Lake Road in Shawnigan Lake, BC in the Cowichan Valley Regional District {CVRD).

The legal description of the property is Lot LCP2, Plan EPS618, District Lot 2. The current zoning of the subject parcel is F-1 Primary Forestry. The parcel is not within the Agricultural Land Reserve.

The property is bounded by Sooke Lake Road to the northwest. One house has been constructed on the subject lands. The parcel on the west side has been developed with one single family residence. To the south and east are undeveloped forest lands that have been logged in the past. The site location and proposed fill area are shown in Figure 1.

A portion of the main channel and two tributaries of Shawnigan Creek traverses the subject parcel. A review of Google Earth shows the subject parcel was logged in 2005 leaving a strip of riparian vegetation along the stream channels. The proposed soil deposit location is within the central - southwest portion of the property between the main channel and the western tributary of Shawnigan Creek that was previously logged. The soil deposit location is approximately 3.07 ha in area.

3.0 ROLES AND RESPONSIBILITIES

3.1 Agent (Operator)

Allterra Construction Ltd.
2158 Millstream Road
Victoria, BC V9B 6H4
Phone: (250)-658-3772

Site Contact: Gary Isacson, Operations Manager, Cell: (250) 883-5302
Email: gary@allterrac.ca

Office Contact: Raymond Lam, General Manager, Cell: (250) 508-0726
Email: raymond@allterra.ca

3.2 Applicant (Property Owner)

0746199 BC Ltd.
1775 Sooke Lake Road
Shawnigan Lake, BC V0R 2W3

Contact: Dale Erb, Cell: (250) 812-7722, Email: dalelerb@shaw.ca

4.0 SOIL ASSESSMENT and DEPOSIT PLAN

4.1 Proposed Location and Final Contours (0.5 metres) of the Soil Deposit Site

A Survey of the parcel has been included with this report as Appendix A which indicates the following:

a) Legal boundaries of the parcel, the proposed soil deposit area boundaries, and any easements, rights-of-way, and covenant areas.

b) Location of all structures and private infrastructure on the property.

c) Location of all public infrastructure within 20 metres of the property.

d) Location of all streams, watercourses, wetlands, drainage courses, septic systems, andwells on the parcel and within 30 metres of the proposed fill site.

e) Topographic survey with 0.5 metre intervals showing the pre-deposit topography of the parcel and within 20 metres of the parcel; and

f) All existing and proposed accesses to the parcel and soil deposit site.

4.2 Proposed Volume of Soil to be Deposited, Including Calculations, Cross-Sections,and Other Pertinent Information Used in Calculating Soil Deposit Volumes

The calculation of soil volumes has been included as Appendix B – 1800 Sooke Lake Road Volume Calculation.

4.3 Estimated Schedule and Phasing of the Soil Deposit Activity

The estimated schedule and phasing of the soil deposit activity is dictated by active projects. A steady volume of soil deposit activity is anticipated year-round, with typical seasonal decreases through the winter months.

It is estimated that the soil deposit site will have the capacity to accept soil as per CVRD Bylaw No. 4236:

13.0 Deposit Permit Expiry and Renewals
13.1 Every permit issued under this bylaw expires upon the earlier of:

a) The deposit of the total amount of soil authorized to be deposited by the permit has occurred; (for the purposes of this deposit 156,000 cu.m)
b) The expiry date expressly stated in the permit.
d) for type "C" Soil Deposit Permits, five (5) years after date of permit issuance (for the purposes of this deposit 2026)

4.4 Description of Procedures for Controlling Access to the Site

The soil deposit site is predominantly for the exclusive use of Allterra Construction Ltd., controlling the access to the site by restricting multiple users.

The soil deposit site is accessed off Sooke Lake Road through a single entrance that is controlled with a lockable gate.

No person shall engage in the deposit of soil on a Sunday or Holiday, or before 7:00 a.m. or after 7:00 p.m. on any other day.

A CVRD Soil Deposit Permit sign will be posted at the soil deposit site entrance to notify the public that access to the soil deposit site must be in accordance with the Soil Deposit Bylaw.

4.5 Description of Procedures for Documenting the Origins and Composition of Soil to be Deposited, Including Preliminary Fill Source Assessments, Soil Source Site Profiles and Declarations, and Truck Tracking Receipts

In accordance with Section 17.2 of the Soil Deposit Bylaw, a daily record Soil Deposit Logbookof all soil deposited on the permit site will be kept containing the following information:

a) the date, time, and origin of each delivery of soil.

b) the contact information (name and phone number) for each project site or property where the soil originated from.

c) the total quantity of soil deposited.

d) the company that delivered the soil and the name of the truck driver.

e) the license plate numbers of the truck that delivered the soil to the property; and

f) the name of the person entering the Logbook information.

A Clean Fill Declaration will be completed by the soil source representative to deposit soil at the soil deposit site.

Before the bylaw, the soil load counts, type of material hauled for deposit, and the origin of the materials hauled were tracked.

4.6 Description of Process for Monitoring Soil Placement so that the Approximate Location of Deposited Soil can be Matched with Truck Tracking Receipts

The soil deposit site is delineated into sections and labelled for monitoring soil placement so that the approximate location of deposited soil can be matched with truck tracking receipts.

The section label will be documented in the daily record Soil Deposit Logbook for all soil deposited on the permit site.

4.7 Certification that the Proposed Soil Deposit will not Create a Danger from Flooding, Erosion or Landslide

Soil will be deposited at the soil deposit site in compliance with Section 16 of the Soil Deposit Bylaw to mitigate dangers from flooding, erosion, or landslide.

The soil deposit requirements include, but are not limited to:

a) the slope of any exposed face of deposited soil must not be greater than the angle of repose necessary for stability of the deposited material. For any slope face within 10 metres of a property boundary or a riparian assessment area boundary, the maximum final slope grade will be 4: 1 (4 horizontal to 1 vertical).

b) the deposited soil must be graded so that positive gravity drainage is assured, and a drainage system of sufficient capacity and extent must be installed to ensure that runoff onto adjacent lands will be no greater than prior to commencement of the soil deposit.

c) all streams, watercourses, wetlands, and drainage facilities must be kept free of silt, clay, sand, debris, and other material attributable to the soil deposit activity, which couldobstruct, impair, or impede drainage facilities and watercourses; and

d) deposited soil and related activities must not encroach upon, undermine, damage, orendanger any adjacent property.

Environmental Consultants have been retained to assist with the assessment of possible impacts of soil deposition disturbance and vegetation disturbance and to provide environmental mitigation and restoration measures to be implemented as required. The proposed fill area was previously logged and is sparsely vegetated with invasive scotch broom and pioneering ground cover species.

Due to the proximity of watercourses on site, the toe of the fill slope is not to extend within 40m of the top of bank of Shawnigan Creek of its tributary steam. Measures are to be implemented to prevent any sediment from migrating into the 30m Riparian Assessment Area of the creek(s).

Best management practices will be followed to ensure that the soil deposit will not create a danger from flooding, erosion, or landslide either during active soil deposit or following final a site completion and deactivation.

5.0 ENVIRONMENTAL PROTECTION PLAN

5.1 Measures for Controlling Erosion and Sedimentation and for Maintaining Erosion and Sediment Control Infrastructure

Deposit of soils will be placed in phases starting at the crest of fill moving in an East to West sequence. Weather forecasts will be routinely monitored in consideration of planned activities at the soil deposit site and work will be halted during heavy precipitation events if there is any risk of sediment migrating toward the riparian

setbacks of the streams.

Sediment controls will be installed prior to soil deposition to prevent sediment migration. Silt fencing, straw bales and possibly large poly sheeting are to be located on site if additional measures are required due to heavy precipitation.

Recommendations intended to control / reduce erosion where applicable include:

a) redirecting surface flows of stormwater away from the fill slope to prevent erosion of the fill slope and rilling/slope failure. Horizontal tracking is also recommended to prevent stormwater from forming small channels within the upslope work area.

b) a compacted soil berm will first be constructed around the downslope perimeter of the proposed fill site no closer than 40m away from the two streams to create a physical barrier and a 10 m buffer from the 30 m Riparian Assessment Area. The berm is to be seeded with West Coast Seed Mix to prevent surface erosion of the berm material.

c) final grading the fill slope to at least 2H:1V (or less to meet the angle of repose) to improve slope stability and prevent slumping.

d) installing a top layer of good soil over the newly graded fill slope and seeding the fill slope and soil berm with West Coast Seed Mix and cover with a layer of straw.

e) leaving the surface of the slope rough to reduce surface erosion.

f) if logs or stumps are available, placing them randomly over the slope in a horizontal alignment and push them into the slope; and

g) re-vegetate the slope with tree seedlings, add red alder see to the seed mix if available and allow riparian vegetation to naturally infill the impacted areas.

On-going monitoring and maintenance of erosion control measures will be conducted throughout the duration of soil deposit activity and until they are no longer required.

5.2 Measures for Protecting Riparian Assessment Areas, Watercourses and Sensitive Environmental Features

The main channel and two tributaries of Shawinigan Creek are located within the subject parcel. This is a fish bearing watercourse and Shawnigan Lake is a source of drinking water for the community. These streams have a 30 m Development Permit Area defined by the provincial Riparian Areas Protection Regulation. No impact to this RAA is to occur.

The 30 m Riparian Assessment Area (RAA) is to be surveyed and flagged to visually demarcate the 30 m setback to prevent encroachment. A compacted soil berm is to be constructed 40m away from the stream banks allowing a 10m buffer and to prevent sedimentation migration into the RAA. Additional measures may be warranted by extreme weather conditions within the 10m buffer area. Additional stormwater drainage management is identified in Section 5.5.

West Coast Seed Mix and straw mulch is to be installed over the soil berms and on the final slope of exposed soils to regenerate and allow vegetation to naturally infill the area as grades are complete.

All heavy equipment should be clean and free of leaks and to have a fully stocked spill kit on board.

5.3 Measures for Minimizing the Tracking of Soil onto Public Roadways and for Cleaning Roads

In accordance with Section 16 of the Soil Deposit Bylaw, all dirt, mud, or debris tracked onto public roads or deposited into road-side ditches from the soil deposit activity must be removed daily.

The access road into the soil deposit site is gravel and therefore track-out is expected to be limited. If necessary, a tire wash will be constructed near the entrance to the deposit site. If track-out onto Sooke Lake Road occurs, it will be swept off as required.

5.4 Measures for Minimizing Dust

Water will be applied to the access road and haul roads throughout the soil deposit site as required to minimize dust.

A maximum speed limit of 20km/hr. will be enforced at the soil deposit site to minimize dust.

5.5 Measures for Managing On-Site Drainage for the Duration of the Soil Deposit Activity and for Ensuring that Watercourses and Adjacent Properties will not be Negatively Impacted from Storm Water Run-Off from the Soil Deposit Site

In accordance with Section 16 of the Soil Deposit Bylaw, all streams, watercourses, wetlands, and drainage facilities will be kept free of silt, clay, sand, debris, and other material attributable to the soil deposit activity, which could obstruct, impair, or impededrainage facilities and watercourses.

Control of site drainage and runoff may be necessary to prevent migration of fines if a heavy rain event occurs.

Measures may include temporarily covering the exposed soils with sheets of poly and weighing it down to prevent it blowing off, containing or redirecting/diversion of runoff with ditching or sandbags (or similar), placement of additional berms, silt fencing or straw bales between work areas and riparian areas, or temporary work stoppages.

Temporary stormwater pond(s) will be constructed during the deposit of soil to manage runoff from soil deposit areas as required. Pond slope(s) will be constructed with a gradual or terraced slope to prevent wildlife entrapment, with a depth between 1 m and 1.5 m deep and a length to width ratio of at least 5:1. The flow of water from the pond will be controlled with a check dam, or other suitable device, at the outlet of the pond and sediments will be monitored and removed as required. Temporary ditching will be constructed at the toe of the proposed fill area to direct runoff towards the temporary stormwater ponds as required. All temporary measures for managing on-site drainage for the duration of the soil deposit activity will be removed and reclaimed with West Coast Seed Mix and tree seedling plantings to allow native vegetation to naturally infill the area.

5.6 Measures for Controlling Noxious Weeds and Invasive Species.

Noxious weeds and invasive species are strictly prohibited from being deposited at the soil deposit site.

A Clean Fill Declaration will be completed by the soil source representative to confirm there are no noxious weeds and invasive species contained in the soil to be deposited at the soil deposit site.

In the event noxious weeds or invasive species are found at the soil deposit site, they will be immediately removed and disposed of at a proper disposal facility.

6.0 SITE REMEDIATION PLAN

6.1 Reclamation measures to stabilize, landscape and restore the land upon completion of the Soil Deposit Activity

Reclamation measures to stabilize, landscape and restore the fill deposit site will be ongoing throughout the duration of the soil deposit activity.

Once the soil deposit activity has stopped coming to the soil deposit site, the slopes will be contoured and stabilized with West Coast Seed Mix, straw, and tree seedling plantings to allow native vegetation to naturally infill the area. If available, alder seed will be added to the seed mix and broadcast over the slopes.

The slope contouring and stabilization will occur as soon as each area is finished to minimize exposed soils as far as possible.

The surface of the final fill slope will be left rough to reduce surface erosion and if logs are available, they will be placed randomly over the fill slope in a horizontal alignment and pushed into the slope.

Restoration areas will be identified as no-go areas for future activities at the soil deposit site until slopes have been stabilized to prevent erosion and sedimentation.

6.2 Measures for Permanent Drainage and Storm Water Management

Existing drainage and storm water management systems constructed and maintained throughout the duration of the soil deposit activity will become the permanent drainage and storm water management systems of the reclaimed soil deposit site.

The deposited soil will be graded so that positive gravity drainage is assured. Ditches will be redirected away from the fill slope and to let fan out through adjacent clear-cut shrub and groundcover vegetation areas.

For clarification, the measures for permanent drainage and storm water management will include:

a) final graded fill slopes of at least 2H:1V providing slope stability and preventing slumping.

b) surface of the graded fill slopes left rough reducing surface erosion.

c) top layer of good soil installed over the graded fill slopes and seeded with West Coast Seed Mix**.**

d) logs and/or stumps placed randomly over the graded fill slopes in a horizontal alignment and pushed into the graded fill slopes; and

e) graded fill slopes re-vegetated with tree seedlings naturally infilling the native vegetation of the impacted areas.

6.3 Measures for Managing Noxious Weeds and Invasive Species on an Ongoing Basis

Prevention will be the primary weed management strategy implemented for the soil deposit site to protect native plant communities from the negative impact of noxious weeds and invasive species. The critical action to prevent noxious weeds and invasive species from spreading and becoming established at the soil deposit site will be to strictly prohibit the deposit of all incoming soil suspected of containing noxious weeds

and invasive species.

A Clean Fill Declaration will be completed by the soil source representative to confirm there are no noxious weeds and invasive species contained in the soil to be deposited at the soil deposit site.

Completed areas of the soil deposit site will be reclaimed as soon as possible to prevent noxious weeds and invasive species from invading the bare soil as noxious weeds and invasive species can germinate earlier than other plants and often germinate under poor growing conditions. A healthy plant community will be allowed to naturally infill the soil deposit site to resist noxious weeds and invasive species.

All machinery and vehicles will be kept clean to prevent the transportation of weeds and mud that may contain weed seeds.

The fill deposit site will be monitored regularly to ensure that no noxious weeds and invasive species are present. Observations about noxious weeds and invasive species, if found at the fill deposit site, will be recorded to capture type of noxious weeds and invasive species, locations in specific areas, and size and abundance of infestations.

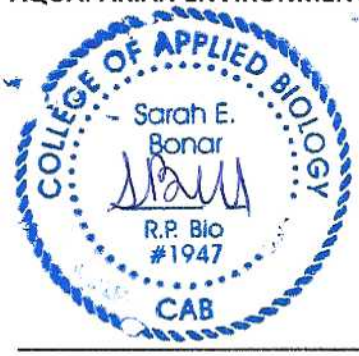
In the event noxious weeds or invasive species are found at the soil deposit site, they will be immediately removed and disposed of at a proper disposal facility.

7.0 GROUNDWATER IMPACT ASSESSMENT

A Groundwater Impact Assessment has been prepared by Spoke Environmental Advisory Ltd. Allterra acknowledges that we will follow all recommendations as outlined in the assessment.

REVIEWED/ REVISED BY:

AQUAPARIAN ENVIRONMENTAL CONSULTING LTD.



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