



# Alberni-Clayoquot Regional District

## ALBERNI VALLEY COMMITTEE MEETING

JUNE 12 , 2012, 1:30 pm

Regional District Board Room, 3008 Fifth Avenue, Port Alberni, BC

### AGENDA

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|                                                                                                                                                                                                                            | PAGE # |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1. <b><u>CALL TO ORDER</u></b>                                                                                                                                                                                             |        |
| 2. <b><u>ADOPTION OF MINUTES</u></b>                                                                                                                                                                                       |        |
| 3. <b><u>PETITIONS, DELEGATIONS &amp; PRESENTATIONS</u></b>                                                                                                                                                                |        |
| 4. <b><u>CORRESPONDENCE FOR ACTION/INFORMATION</u></b>                                                                                                                                                                     |        |
| 5. <b><u>REQUEST FOR DECISIONS &amp; BYLAWS</u></b>                                                                                                                                                                        |        |
| a. <b>REQUEST FOR DECISION</b>                                                                                                                                                                                             | 1-5    |
| Request for Endorsement of the Landfill Design, Operations and Closure Reports for the Alberni Valley Landfill.                                                                                                            |        |
| <i>THAT the Alberni Valley Committee endorse the Alberni Valley Landfill Design, Operations and Closure Reports dated December 2010 and updated in February 2012, prepared by McGill &amp; Associates Engineering Ltd.</i> |        |
| b. <b>ADMINISTRATIVE MEMO</b>                                                                                                                                                                                              | 6      |
| Alberni Flying Club – Fly In Event.                                                                                                                                                                                        |        |
| <i>THAT this correspondence be received.</i>                                                                                                                                                                               |        |
| 6. <b><u>REPORTS</u></b>                                                                                                                                                                                                   |        |
| 6. <b><u>NEW BUSINESS</u></b>                                                                                                                                                                                              |        |
| <i>(requires 2/3 majority vote)</i>                                                                                                                                                                                        |        |
| 7. <b><u>ADJOURN</u></b>                                                                                                                                                                                                   |        |





## REQUEST FOR DECISION

**To:** Board of Directors

**From:** Andy Daniel, Manager of Environmental Services

**Meeting Date:** May 23, 2012

**Subject:** Request for Endorsement of the Landfill Design, Operations and Closure Reports for the Alberni Valley and the West Coast Landfills.

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**Recommendation:**

That the Board of Directors of the Alberni-Clayoquot Regional District endorse the Alberni Valley and West Coast Landfill Design, Operations and Closure Reports dated December 2010 and updated in February 2012, prepared by McGill & Associates Engineering Ltd.

**Background:**

A closure plan is required to meet the requirements of Section 2.4 of the Operational Certificate and the Landfill Criteria for Municipal Solid Waste, published by the BC Ministry of Environment. In addition it meets the requirements of the Auditor to ensure funds are set aside to implement the closure plans. The plans were updated in 2011 and have been reviewed by ACRD staff and McGill Engineering. The Alberni Valley Landfill plan was presented to the Tseshaht Council in April of 2012. Copies of the Executive Summaries of the reports are attached. A resolution of endorsement is required by the ACRD Board of Directors prior to providing them to the Ministry of Environment for their review.

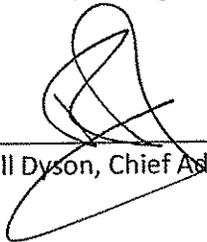
**Financial:**

The plans develop the required financial contribution to reserve for the ultimate closure costs. The ACRD Auditor has previously noted the need for this in past audits.

Submitted by:

  
\_\_\_\_\_  
Andy Daniel, Manager of Environmental Services

Approved by:

  
\_\_\_\_\_  
Russell Dyson, Chief Administrative Officer



**ALBERNI VALLEY LANDFILL  
DESIGN, OPERATIONS AND CLOSURE REPORT**

**DRAFT**

**Submitted To:** British Columbia Ministry of Environment  
**Prepared By:** McGill & Associates Engineering Ltd. (File #1756-2010)  
On behalf of the Alberni-Clayoquot Regional District  
**Date:** December 2010 (Updated February 2012)

## Executive Summary

The Alberni-Clayoquot Regional District (ACRD) operates the Alberni Valley Landfill (AVL) under Operational Certificate Number MR-524, issued June 29, 2004. The AVL is a municipal solid waste landfill that accepts waste from the City of Port Alberni, ACRD Electoral Areas within the Alberni Valley and Bamfield and First Nations Communities Tseshah, Hupacasath, Huu-ay-aht and Uchucklesaht.

This report was developed to meet the operations, closure and post-closure plans required by Section 2.4 of the Operational Certificate and the *Landfill Criteria for Municipal Solid Waste*, published by the British Columbia Ministry of Environment (MoE) in 1993.

The AVL is currently operated by Berry & Vale Contracting Ltd., who have been under contract with the ACRD since 1980. The AVL is open seven days per week and regulates tipping fees under Bylaw R1006-4. The weigh scale and building are located at the only public entrance to the landfill. Recycling materials and white goods are accepted and stored near the entrance for subsequent removal. Recycling materials and compost are removed by private companies.

The weigh scale was installed at the AVL in 1994. Records have been maintained since 1995 and annual weights have ranged from about 13,500 tonnes to 22,900 tonnes. It has been estimated that 50% of the solid waste is from residential sources and the additional 50% originates from industrial, commercial and institutional sources.

Landfilling activities at the AVL began in the 1970's. It was constructed on a natural bedrock basin, lined with a clay layer. Investigations have described the base as massive basaltic rock with very low primary porosity and few fractures and the average hydraulic conductivity of the rock mass is interpreted to be  $10^{-8}$  m/s. Surficial sediments of varying depth are located above the bedrock basin, comprised of low permeability clayey silt and glacial till and high permeability sand and gravels. There are no apparent signs of historical slope instability, and a seismic assessment was conducted to evaluate landfill stability.

A leachate collection system has been constructed of impermeable berms, drain pipes, pumps and ditches. The potentially leachate contaminated water is directed to a flow equalization pond at the east boundary, where it is then piped to the City of Port Alberni municipal sewage lagoon for treatment. In the past 5 years, the volume of leachate generated and treated ranges from 362,880 m<sup>3</sup> to 627,320 m<sup>3</sup>.

The AVL is in the process of acquiring ownership or long term tenure of the AVL property. The property line buffers are 30 m on the north, 15 m on the east and south and 50 m on the west. Surrounding land use on the north, west and east is forested, while the property to the south is a logging road adjacent to additional forested land. The nearest residence is approximately 500 m northeast of the AVL while the Tseshah First Nation reserve is located approximately 700 m north of the AVL.



Two creeks are located within 100 m of the landfill boundary. Various engineered controls have been constructed to change the flow patterns to direct runoff and groundwater towards a flow equalization pond.

A quarterly water quality monitoring program collects samples for surface water, bedrock and groundwater wells, and leachate to monitor contaminant levels at and surrounding the landfill. The landfill is currently containing all leachate as monitoring wells at the boundaries are showing concentrations less than the associated standards.

The landfill is located at an elevation of approximately 80m and well beyond the limits of the 200 year floodplain. It is also above the tsunami flood risk area.

Landfill gas generation assessments were conducted by Cameron Advisory Services Ltd. in 2003 and 2008. Both reports indicated that less than 150 tonnes of non-methane organic compounds was being generated at the AVL, therefore no landfill gas collection system has been designed and installed. In order to meet the new landfill gas regulation effective January 1, 2009, a landfill gas generation report was prepared by McGill & Associates Engineering Ltd. The results indicated that approximately 932 tonnes of methane was generated in 2009 and that approximately 955 tonnes were generated in 2010. It was estimated that the landfill will produce greater than 1,000 tonnes of methane in 2012, thereby initiating the design and installation of a landfill gas collection system.

The filling plan utilizes a series of cells that are to be filled sequentially. The first layer of cells (A through D) will cover the entire landfill footprint of about 21.8 hectares and will be raised to an elevation of 88m. Filling will continue at a slope of 3 horizontal to 1 vertical, to maximize the filled volume and maintain structural stability. A second layer of cells (E through H) will be constructed on top of the first level, thereby bringing the final landfill to an elevation of 106 m. Using the proposed design criteria, there is an estimated 2,995,000 m<sup>3</sup> of remaining capacity at the AVL.

Historic filling densities have varied, with the last density found to be 0.66 tonnes/m<sup>3</sup>. The average annual solid waste tonnage from the last five years is 21,000 tonnes. Using the average tonnage and filling density, it is estimated that the AVL will reach full capacity 94 years from now, in the year 2104.

At closure the landfill will be capped with several layers including an impermeable liner to prevent rainfall infiltration into the landfill. A surface water drainage plan will be developed to re-direct runoff into a separate equalization pond.

After landfill closure, water quality monitoring, landfill gas monitoring and regular inspection and maintenance will continue at the AVL. The post-closure monitoring will likely continue for a minimum of 25 years.



Annual contributions to a closure and post-closure fund has begun. Preliminary cost estimates indicate that over \$11,500,000 will be needed in the closure and post-closure fund to pay for closure activities. In order to provide financial security for the AVL, it is recommended that the ACRD contribute approximately \$115,000 annually to this fund.



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## MEMORANDUM

**To:** AV Committee  
**From:** John Thomas  
**Date:** June 8, 2012  
**Subject:** Alberni Flying Club - Fly In Event

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The Alberni Flying Club would like to host a "fly in" event at the Alberni Valley Regional Airport (AVRA) on June 24<sup>th</sup>, 2012.

The Alberni Flying Club was established in March of 1948 and is located at the Alberni Valley Regional Airport. The club has traditionally held "fly in" annual events inviting the flying public to visit the Alberni Valley Regional Airport.

This year the Alberni Flying club would like to make the general public more aware of the AVRA facilities in conjunction with the City of Port Alberni Centennial year. The open house will be held on June 24 starting at 10:00 a.m. until 4:00 p.m. There will be static displays as well as possible participation from Comox, the Gliding Club, and Coulson Airplane. 150 people are anticipated to visit the airport and view the static displays.

The ACRD Underwriters, AON Parizeau Inc. has endorsed the ACRD's policy extending coverage for the upcoming event with no additional premium. The Alberni Flying Club has obtained \$2,000,000 liability of event insurance for the "fly in" event and individual plane owners have normal aircraft insurance.

This is not an "air show" but an "open house" intended to gain interest in the flying activities within the Alberni Valley.

