



Environmental Services

**SALT SPRING ISLAND LIQUID WASTE DISPOSAL LOCAL SERVICE COMMITTEE
ANNUAL GENERAL MEETING
OCTOBER 12, 2007
OPERATIONS REPORT**

The following is provided for information to residents and users of the Salt Spring Island Liquid Waste local service.

GENERAL

All Salt Spring Island septic tank waste and waste sewage sludge is accepted at the Burgoyne septage receiving station located off Burgoyne Bay Road. At the site the waste is batched in steel tanks and processed through a Fournier press, which reduces the liquid waste to a solid waste product and a liquid filtrate. The solid product at the present time is stored on site and then transferred by specially constructed bins to the regional landfill at Hartland Road on Vancouver Island. The liquid filtrate is treated through a membrane treatment process to a very high quality and discharged to a ground disposal bed.

FLOWS RECEIVED

The Burgoyne facility receives septage primarily from Salt Spring Island but also from other Southern Gulf Islands. The facility also receives waste secondary sewage sludge from the Capital Regional District (CRD) Ganges and Maliview wastewater treatment plants. The liquid is trucked to the site by private septage haulers. The haulers discharge at the receiving station which consists of a 100mm hose connection and piping. The flows pass through an electromagnetic flow meter, to measure the discharge volume, then through a bar screen, where larger solids and non-organic matter are manually raked out. The liquid then flows by gravity through a grit settlement tank, then to a lift station, where the flows are pumped to the equalization and mixing tanks. The Fournier press dewateres the material and the liquid filtrate is treated through the membrane treatment process. The solids are hauled to the Hartland Landfill and the liquid is disposed of to the ground disposal bed.

Total volume received at the facility from January to August 2007 is comparable to the volume received last year during the same period. Septage received January to August 2007 amounted to 389,785 imperial gallons (Igal), a slight increase from the 373,770 Igal received during the same period in 2006. Sludge received January to August 2007 amounted to 195,528 Igal, a slight decrease from the 198,527 Igal received during the same period in 2006.

An early projection of total volume to be received by year-end is around 820,000 Igal; 530,000 Igal of septage and 290,000 Igal of sludge. This volume indicates the service will obtain the anticipated revenue from the sale of septage and sludge as per the 2007 operating budget.

SOLIDS DISPOSAL

Solids produced by the dewatering press continue to be batched and transported to Vancouver Island for final disposal at the Hartland landfill. The solids produced from the press are stored in covered bins and transported sometimes weekly during summer peak periods and every other week during the winter. The cost of bin rental, landfill tipping fees, together with the cost of transport to Vancouver Island constitutes a large portion of the processing costs. In 2007, there have been considerable amendments made to the solids handling process after the material leaves the press, to increase dryness of the solids and reduce the number of hauls to the landfill.

Bin Rental & Hauling

Waste Management of Canada Corp. continues to provide the bins and hauling services for the facility. An increase in the hauling rates took effect in May this year. The contractor requested a rate increase due to increased ferry and fuel costs and the fact that the rate had remained unchanged since 2002. The haul rate per bin increased to \$408.43 from \$360.00. This translates to an annual increase of approximately \$3,000 for bin hauling; the bin rental rate did not change.

Solids Processing Improvements

The dewatering process was modified in a number of ways resulting in the production of a much drier cake. The modifications included the following:

- Press operation "tweaked" to allow further dewatering of material prior to discharge.
- Cake now discharges off the conveyor onto a bed of wood chips rather than directly into the transfer bins. Allowing the material to accumulate for a short period of time causes the cake to dewater further by gravity before being loaded by skid steer into the transfer bins. The liquid is collected in a drain system which discharges at the headworks.

The drier cake has resulted in lower disposal costs at Hartland and fewer hauls each month. August was the first full month where the results of the new process could be quantified. During August 2006, the facility received 350,744 litres (77,153 gallons) and trucked to disposal 76,950 kg of solids with four hauls. So, approximately 0.22 kg of solids was tipped for each litre of liquid received. During August 2007, the facility received 405,647 litres (89,230 gallons) and trucked to disposal 36,900 kg of solids with two hauls. So, approximately 0.09 kg of solids was tipped for each litre of liquid received, a significant reduction from 2006. With only two to four hauls per month, there is some material generated in one month and hauled the next, so the reduction rates we realized in August may vary.

OPERATIONS

Staff continue to make improvements to the facility to optimize the existing processes, reduce safety risks, and increase the reliability of the facility components. Staff also continue to be mindful of the potential impacts the operation has on the surrounding area with respect to noise, odour, traffic and dust. Work was also initiated this year, to develop a pilot biosolids composting facility on the site.

This year, the committee approved the expenditure of \$210,000 in funds for a project which included site electrical improvements, septage processing equipment improvements, design and construction of the pilot composting facility, and installation of a water well and distribution system. The project was funded by way of a five year borrowing agreement and included the following tasks.

Electrical Work

The electrical improvements completed to date as part of the project are: deadman switch installation on cake conveyor, electrical bonding of all structures, main site electrical feed maintenance and overhead line brush clearing. A new pump station electrical control kiosk is currently being assembled and will require installation at the site upon completion.

Septage Processing Equipment

The cake conveyor that transfers dewatered cake from the press failed completely and was replaced with a new stainless steel, hydraulically driven conveyor. Staff have made interim repairs to the receiving equipment, including the bar screen and flow meter, to maintain service, but is looking at a redesign of this part of the facility to further improve operational efficiency.

Water Well

A source of potable water was considered a requirement to permit more efficient operations and meet health requirements. A water well was drilled approximately 150 meters southwest of the facility under the direction of Thurber Engineering Ltd. The well drillers estimated that the well will produce 0.5 gallon per minute. This is less than anticipated, but will provide enough water for washroom facilities on the site. The installation of the water piping and electrical supply to the well and the water pressure distribution system are being completed.

Pilot Biosolids Composting Project

With tipping fees at Hartland increasing in 2008, the committee wanted to advance the work to develop a biosolids composting facility on the site. The desire for many years has been to develop a compost that would have beneficial use on the island and eliminate the need and expense of hauling the biosolids to the landfill. Staff worked with Transform Compost Systems, a consultant who has extensive experience in biosolids composting, to develop a strategy for the facility. It was determined that a pilot facility could be developed at low cost that satisfied the CRD composting facility bylaw. The facility is expected to produce Class A compost and can be operated as a pilot project for a maximum of two years. Staff are currently obtaining approvals from several agencies prior to beginning composting. Islands Trust has approved composting as a permitted accessory use of the site under the existing zoning but is currently reviewing an application for a Development Variance Permit for increased site coverage. The Agricultural Land Commission is currently reviewing the proposed change in process at the site and will hopefully allow composting under the existing resolution. The consultant has provided notification to the province to satisfy the *Organic Matter Recycling Regulation*. Once these approvals are in place, a Provisional Recyclers Licence will be obtained through the CRD Solid Waste division and composting can begin. Some site preparation work has started with the anticipation that composting could begin by the end of the year. If all material currently trucked to the Hartland landfill can be composted, the cost of trucking and tipping fees at the landfill, estimated to be \$100,000 annually, could be applied to the compost operation, while providing a much more beneficial use of the product.

ANNUAL BUDGET

The Salt Spring Island liquid waste budget funds all operations, maintenance, and some annual improvements for the processing and treatment facility.

The annual core operating budget for the facility for 2006 was set to \$315,136 and for 2007 the budget for core operations was set to \$332,260, an increase from the previous year. The budget increase was largely due to an increase in the contingency allowance, to fund the new five year borrowing that would take place in the fall. The additional revenue for the contingency (project funding) was generated with a parcel tax increase in 2007. The 2007 budget revenues are \$410,374 of which the parcel tax generates \$221,000 and the tipping fees are expected to generate \$182,500.

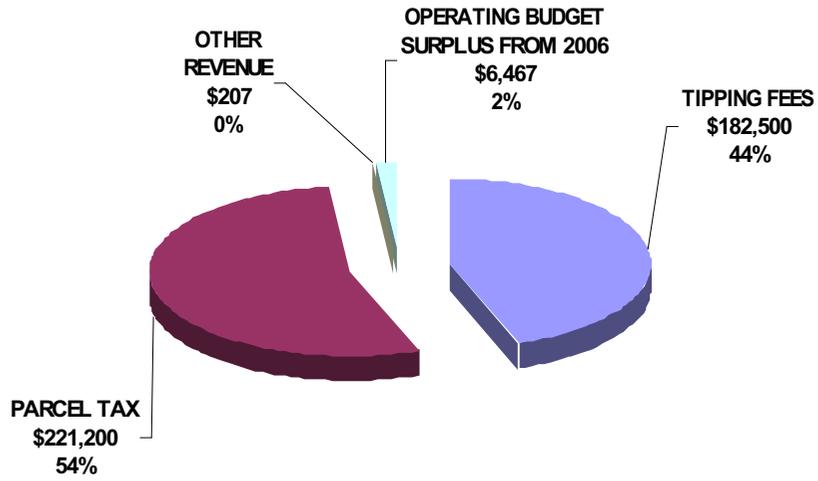
Budgeted debt payments for 2007 amounted to \$99,843, of which \$78,114 was for the existing five-year borrowing (2003-2008) and \$21,729 was for the new five year borrowing (2007-2012).

Tipping fees remained unchanged in 2007, but the parcel tax increased to \$42.10.

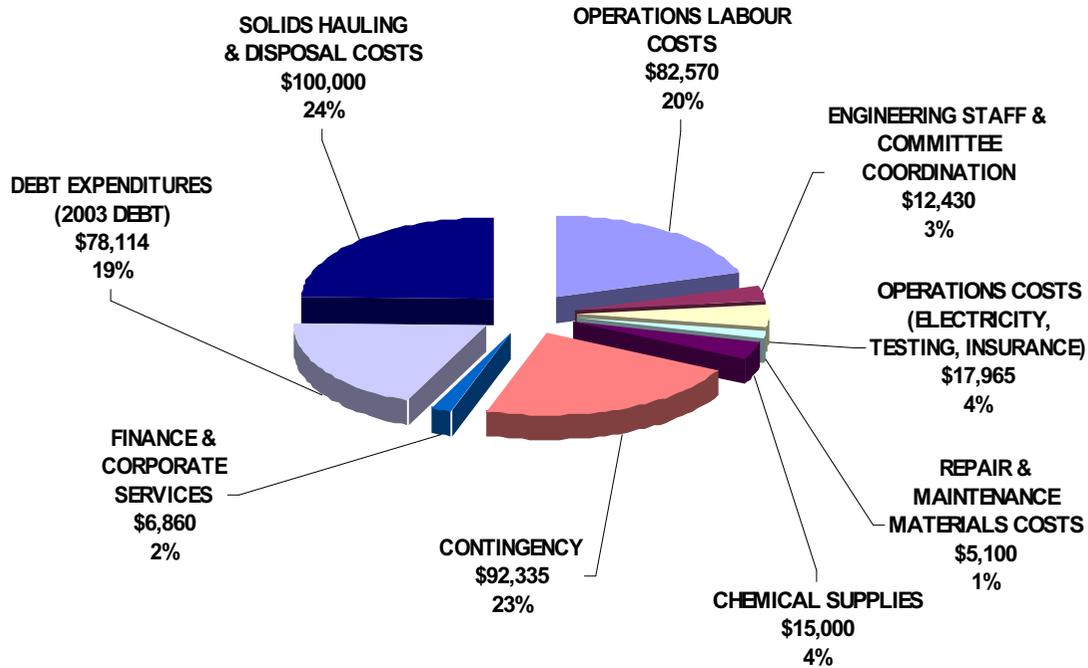
The following charts summarize the revenue and expenditure components, budget figures and budget percentages for the 2007 budget.

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2007 SSI LIQUID WASTE BUDGET REVENUE \$410,374



2007 SSI LIQUID WASTE BUDGET EXPENDITURES \$410,374



STATISTICS

The following are some additional statistics prepared for the Salt Spring Island Liquid Waste Disposal function.

Total Septage Processed in 2006	521,820 imperial gallons
Total Sewage Sludge Processed in 2006	287,095 imperial gallons
Tipping Fee – Septage (2007)	\$0.225 per imperial gallon
Tipping Fee – Sewage Sludge (2007)	\$0.225 per imperial gallon
Parcel Tax (2007)	\$42.10
Taxable Folios (2007)	5,530