Making a difference...together

**SALT SPRING ISLAND LIQUID WASTE DISPOSAL LOCAL SERVICE COMMITTEE**
**2008 ANNUAL GENERAL MEETING**
**OPERATIONS REPORT**
**NOVEMBER 24, 2008**

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.

## VOLUME OF MATERIAL 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 dewaters 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.

There has been a continuous growth in volume of materials received at the site:

- Total volume of material received for processing in 2006 was 3,677 $m^3$ (808,915 Imperial Gallons)
- Total volume of material received in 2007 was 3,909 $m^3$ (859,959 IG)
- For 2008 the volume of material received to September 30$^{th}$ was 3,444 $m^3$ (757,694 IG)
- Total volume for 2008 is projected to exceed 4,500 $m^3$ (990,000 IG), a 22% increase over 2006

## 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, the dewatered solids handling process was modified with the objective of increasing dryness of the solids and reducing the amount of material hauled to the landfill.

Waste Management of Canada Corp. provides bins and hauling services for transporting dewatered solids to the Hartland landfill near Victoria. The haul rate is currently $408.43 per bin, or $56 per tonne. The tipping fee at the Hartland Landfill is currently $100 per tonne, although an increase to $150 per tonne is likely to be imposed in 2009. In 2007, 600 tonnes of dewatered solids were trucked and disposed at Hartland, at a total cost of $93,715. On average, the volume of material disposed in 2007 was 15% of the volume received at the

facility. In 2008 to May 31, 261 tonnes were disposed at Hartland (12% of the volume received at the facility), at a cost of $40,736. The increase in dewatering performance resulted from improvements made in 2007 to press operation and dewatered solids handling facilities at the Burgoyne site.

## OPERATIONS

The facility has been operated and maintained for several years by making incremental improvements that optimize and sustain existing processes, minimize safety risks, and maintain the reliability of equipment without requiring long-term (15-year) borrowing of capital. Operation also aims to minimize potential impacts on the surrounding area with respect to noise, odour, traffic and dust.

In 2007 the committee approved the expenditure of $210,000 for electrical improvements, septage processing equipment improvements, design and construction of the pilot composting facility, and installation of a water well and distribution system. This work was funded by a five-year borrowing.

Despite these and earlier improvements, the system has suffered from diminishing performance and reliability of critical processes and equipment in 2008, including:

- Inadequate mixing in storage tanks for the increased volumes received
- Rapidly deteriorating performance of pressate filtration membranes
- Inadequate facilities for polymer preparation and storage
- Inadequate headworks facilities for separation of grit and debris
- Unsuitable facilities for protection of electrical and control systems

In June and November 2008, operating problems with critical components resulted in temporary shutdowns of the dewatering process and the requirement to haul untreated liquid waste to the regional liquid waste processing facility in Langford. The total unbudgeted cost of these two events is estimated to exceed $30,000. The operating budget has been increased for the next two years while major upgrades to the dewatering facility are in progress in order to accommodate the increasing cost of operating the existing facility. When the upgrades are completed, the cost of operating the facility is expected to decrease significantly.

### Pilot Biosolids Composting Project

The original 1993 mandate of the *Salt Spring Island Liquid Waste Disposal Local Service* included the production of a compost product that would have beneficial use on the island and eliminate the hauling of biosolids off the island. 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. With tipping fees at Hartland proposed to increase in 2008, the committee initiated plans in 2007 to develop a biosolids composting facility on the site.

Staff have worked with Transform Compost Systems, a consultant with extensive experience in biosolids composting in BC, to develop a strategy for the Burgoyne facility. It was determined that a full-scale pilot operation that satisfies the CRD composting bylaw could be cost-effectively implemented in order to assess the viability of composting biosolids on Salt Spring Island. The pilot would enable the CRD to verify the economic and environmental parameters of composting, and to ensure that composting has broad community support before developing a permanent facility.

The pilot process would be operated for a maximum of two years. Site preparation work progressed through 2008, and composting could commence as early as the spring of 2009. Before composting begins, the CRD will consult the public to ensure that the composting pilot is broadly understood and accepted by residents, and that their concerns are adequately addressed.

## MAJOR UPGRADE PROJECT

Recognizing that the existing Burgoyne facility is struggling to provide reliable and cost-effective service, the committee decided in July 2008 to begin planning a major upgrade. On November 15, 2008 the electors of Salt Spring Island voted 75% in favour of adopting CRD Bylaw No. 3564, which enables the CRD to borrow up to $2.1 million for the purpose of upgrading the Burgoyne facility.

The proposed upgrade will replace much of the existing facility with a permanent, fully enclosed dewatering facility. If a composting pilot is successful in the next two years, the upgrade will also include a permanent, fully enclosed composting facility. The proposed work includes the following major components:

| Proposed Work | Estimated Cost |
|---|---|
| Construct permanent process building, roughly 200m$^2$ with integral spill containment and odour control systems | $300,000 |
| Procure and install new receiving station, including aerated grit channel, auger screen, grit and screenings washing, card reader and magnetic flow meter for automated billing | $350,000 |
| Upgrade storage tanks to include mixing | $200,000 |
| Refurbish and relocate existing dewatering press, and procure and install additional press | $250,000 |
| Procure and install new membrane system for treatment of separated water | $160,000 |
| Upgrade electrical service to site | $50,000 |
| Construct permanent composting facility | $300,000 |
| Engineering, project management, regulatory approvals and contingency (30% of bare construction cost) | $490,000 |
| **Total Estimated Cost** | **$2,100,000** |

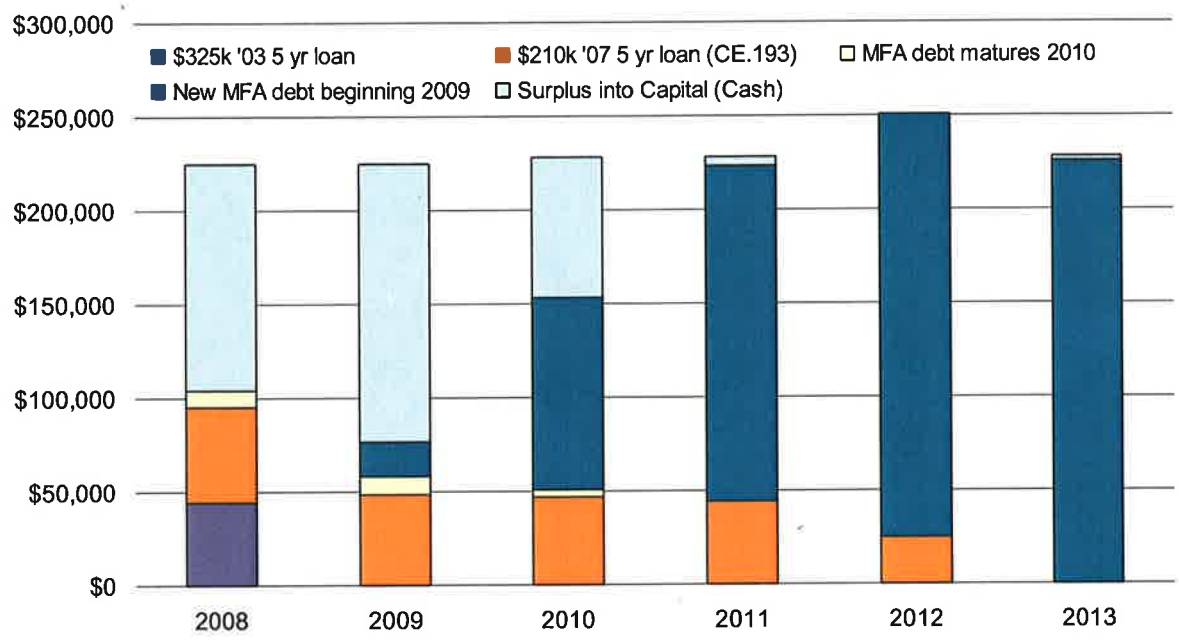
When the dewatering upgrade (all work except the permanent composting facility) is completed, the dewatering process will be enclosed in a new building that will contain noise, odours and runoff from processing operations. A truck bay will enable haulers discharge loads into the facility through a card-lock system similar to those used in commercial fuelling facilities. Dewatered biosolids will be conveyed to bins in for composting or transportation. Although some of the existing tanks and process equipment will be retained, much of the existing equipment will be hauled offsite for recycling. The completed facility will efficiently and cost-effectively dewater current and projected quantities of sludge, septage and grease trap waste in full compliance with BC regulations. The dewatering upgrade will be completed over a period of about two years between 2009 and early 2011.

Subject to successful pilot operation, it is anticipated that the permanent composting facility would be completed in 2011. The permanent composting facility would comprise an extension of the new process building, including odour and runoff containment systems, to enclose composting bins, mixing and handling equipment. The facility would produce a compost product suitable for a wide range of uses under the BC *Organic Matter Recycling Regulation*, fulfilling the original mandate of the Salt Spring Island liquid waste local service. The operation will meet the CRD requirements for in vessel compost facilities.

No increase in taxes in fees is expected to be necessary to finance the upgrade project. Although the CRD will need to borrow up to $2.1 million to complete the work, the entire cost of servicing a 15-year loan under the Municipal Finance Authority can be accommodated at current tax and fee levels for the Salt Spring Island liquid waste local service. The parcel tax rate of $42.11 is projected to remain unchanged for at least the next five years, and the tipping fee of $0.24 per UK gallon ($0.053/litre) is projected to increase only as required to offset price inflation in operating expenses (typically projected at 2% per year). A revenue increase is not

needed to finance the project because loans that were used to finance previous upgrades are coming to term in the next three years, making sufficient revenue available in the operating budget to service the new debt.

**USE OF PARCEL TAX REVENUE FOR UPGRADE PROJECT FINANCING**




## 2009 BUDGET

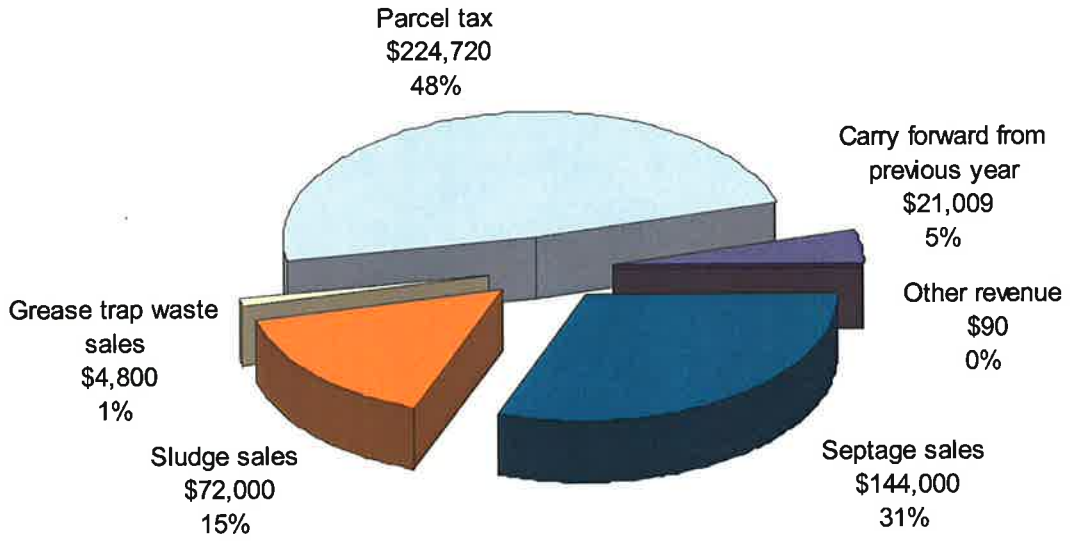
The Salt Spring Island liquid waste budget funds all operations, maintenance, and capital improvements for the Burgoyne processing facility.

The core operating budget for the service for 2008 is $348,359 and for 2009 the budget for core operations is $311,783, a decrease from the previous year. The decrease is largely due to the elimination of a contingency amount of $48,166 in the 2008 budget that was planned to be carried forward to finance capital works. The budget for operating labour was increased by 12% to $162,413 to reflect the additional labour needed to keep the existing facility in operation until upgrades are completed. The core operating budget is funded predominantly by tipping fees. The tipping fee was increased from $0.225 per imperial gallon to the Greater Victoria market rate of $0.240 per imperial gallon in September 2008, to reflect the increasing cost of operation.

The parcel tax remained unchanged in 2008 at $42.11, and is not projected to increase within the next five years. The parcel tax revenue, currently $224,720 based on 5,616 taxable folios, is used predominantly to finance capital expenditures. By 2013 the parcel tax will be almost fully committed to servicing the new MFA debt required for the major upgrade project.

The following charts summarize revenues and expenses budgeted for 2009.

## 2009 SSI LIQUID WASTE BUDGET REVENUE $466,619




## 2009 SSI LIQUID WASTE BUDGET EXPENSE $466,619