INFRASTRUCTURE SERVICES COMMITTEE

Thursday, February 11, 2021
Held Electronically in Accordance with Ministerial Order M192 and Transmitted via the SCRD Boardroom, 1975 Field Road, Sechelt, B.C.

AGENDA

CALL TO ORDER 9:30 a.m.

AGENDA

1. Adoption of Agenda

PRESENTATIONS AND DELEGATIONS

2. Rob Ringma, Senior Manager, Government Relations and Frank Arellano, Transit Planner, BC Transit — To follow
Regarding Terms of Reference Transit Future Action Plan

REPORTS

3. Terms of Reference Sunshine Coast Transit Future Action Plan — Annex A pp 1 - 11
Manager, Transit and Fleet
(Voting – B, D, E, F, Gibsons, Sechelt, SIGD)

4. 2021-2022 BC Transit AOA — Annex B pp 12 - 19
Manager, Transit and Fleet / Manager, Financial Services
(Voting – B, D, E, F, Gibsons, Sechelt, SIGD)

5. Sechelt Landfill and Pender Harbour Transfer Station Schedule Optimization — Annex C pp 20 - 27
Manager, Solid Waste Services / General Manager, Infrastructure Services
Regional Solid Waste (Voting – All)

6. Results of Sechelt Landfill Biocover Feasibility Study Phase 1 — Annex D pp 28 - 88
Water Sustainability Coordinator
Regional Solid Waste (Voting – All)

7. Landfill Re-Diversion of Waste Funding Options — Annex E pp 89 -95
Manager, Solid Waste Services
Regional Solid Waste (Voting – All)

8. Pender Harbour Transfer Station Food Waste Drop off Program Update — Annex F, pp 96 - 110
Manager, Solid Waste Services
Regional Solid Waste (Voting – All)

9. Eco-Fee Reserves — To follow
Manager, Solid Waste Services
Regional Solid Waste (Voting – All)

10. Truck, Driver and Bin Rental at Sechelt Landfill Contract Update — Annex G, pp 111-113
Superintendent, Solid Waste Operations
Regional Solid Waste (Voting – All)

11. Provincial Well Monitoring Network Agreement at Whispering Fir Park — Annex H, pp 114-118
Parks Planning Coordinator / GM, Infrastructure Services
(Voting – All)

12. Water Sampling Analysis Contract Term Extension — Annex I, pp 119-121
Manager, Utility Services
Regional Water (Voting – All)

13. Solid Waste Management Plan Monitoring Advisory Committee Meeting Minutes of January 19, 2021 — Annex J, pp 122-124
Regional Solid Waste (Voting – All)

14. Transportation Advisory Committee Meeting Minutes of January 21, 2021 — Annex K, pp 125-128
(Voting – All)

15. Water Supply Advisory Committee Meeting Minutes of February 1, 2021 — Annex L, pp 129-131
Regional Water (Voting – A, B, D, E, F and Sechelt)

COMMUNICATIONS

16. Jeri Patterson dated January 26, 2021 regarding SCRD garbage, recycling and green waste collection – reasonable expectation of privacy — Annex M, pp 132
(Voting – All)

17. Brian Anderson, Vice-President, BC Ferries dated February 1, 2021 regarding Moving Ahead Together on the Sunshine Coast project — Annex N, pp 133

NEW BUSINESS

IN CAMERA

ADJOURNMENT

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: James Walton, Manager Transit and Fleet

SUBJECT: **TERMS OF REFERENCE SUNSHINE COAST TRANSIT FUTURE ACTION PLAN**

RECOMMENDATION(S)

THAT the report titled Terms of Reference Sunshine Coast Transit Future Action Plan be received;

AND THAT the Terms of Reference for the Sunshine Coast Transit Future Action Plan be approved.

BACKGROUND

At its October 10, 2019 meeting the Board adopted the following recommendations related future service levels for the transit system on the Sunshine Coast:

244/19 **Recommendation No. 5** *2020-2021 Transit Expansion Memorandum of Understanding*

THAT the report titled 2020-2021 Transit Expansion Memorandum of Understanding be received;

AND THAT staff work with BC Transit to research options and resources required to implement service expansions in 2021-2022 and report back to the Board in Q1 2020;

AND FURTHER THAT staff work with BC Transit to develop a project plan to update the Transit Future Plan to guide future expansion decisions.

At the November 19, 2020 Infrastructure Services Committee meeting the Board asked staff to work with BC Transit to amend then presented draft Terms of Reference for a Sunshine Coast Transit Future Action plan to include:

a) A revised public engagement timeline to expand a broader time period;
b) To broaden the public engagement scope to more than just online surveys;
c) To expand the Stakeholder list and to include Stakeholders in the engagement process;
d) To provide a report detailing completed and incomplete actions from the 2014 Transit Future Plan; and,
e) Include a bus shelter program and exploration of funding sources through taxation, BC Transit and community donation.

The purpose of this report is to seek Board approval for the amended version of the Terms of Reference for a Transit Future Action Plan for the Sunshine Coast's transit systems.

DISCUSSION

Analysis

In 2014 the Transit Future Plan for the Sunshine Coast was adopted. This plan is the service specific strategic plan guiding the service levels, routes and infrastructure expansions of the custom and conventional transit system on the Sunshine Coast.

The Transit Future Action Plan (TFAP) will be an update to the 2014 plan and will address the impacts of the COVID-19 Pandemic on the transit service. Based on the feedback received from the Board staff worked with BC Transit to amend the draft Terms of Reference (TOR) for this plan. The updated version is included as an attachment to this report (Attachment A). A report detailing completed and incomplete actions from the 2014 Transit Future Plan will be presented as a stand-alone item very early in the TFAP process late Q1 or early Q2 2021.

The transit service and infrastructure priorities identified within the TFAP are based on a review of existing transit services, changing land uses and land use plans, and feedback from stakeholders and the general public. These priorities will be separated by timeline, with short (1-2 years), medium (3-4 years), and long-term (5+ years) options.

As directed by the Board (Recommendation 17, Resolution 242/19) staff will consider options for Park and Ride as part of the development of the TFAP.

The draft list of stakeholders that will be engaged in this process will be presented to the Board prior to being finalized by staff.

Operational and Intergovernmental Implications

The development of the TFAP will be led by BC Transit and supported by a project team that will include SCRD staff from several divisions. Staff will coordinate the publication participation with other such initiatives.

Timeline for next steps

If the TOR were to be approved, this project will commence in Q1 2021. Draft options will be presented to the Board and the Transportation Advisory Committee for endorsement before public feedback is sought. The final options and a public engagement summary will be presented to the Board for endorsement prior to inclusion in the Final TFAP. The TFAP will subsequently be presented to the Board for final adoption.

STRATEGIC PLAN AND RELATED POLICIES

N/A

CONCLUSION

The proposed Transportation Future Action Plan process will update the strategic plan on the service levels, routes and infrastructure expansions of the custom and conventional transit system on the Sunshine Coast. Such plan will include a COVID-19 Recovery Strategy.

Staff recommend the approval of the updated Terms of Reference for the Sunshine Coast Transit Future Action Plan.

Attachments:

A - Terms of Reference Sunshine Coast Transit Future Action Plan

Reviewed by:			
Manager		Finance	
GM	X – R. Rosenboom	Legislative	
CAO	X – D. McKinley	Other	

Sunshine Coast Transit Future Action Plan
Terms of Reference

1. INTRODUCTION

Completed in 2014, the Sunshine Coast Transit Future Plan provided a vision of the transit network on the Sunshine Coast over the next 25 years. This included establishing the goals of the transit system, identifying the future transit network, and outlining the detailed implementation priorities for service, infrastructure and investments needed to achieve those goals. Work completed since the adoption of the 2014 Transit Future Plan is detailed below:

Completed Works:
Increase transit service to West Sechelt
Increased frequency to West Sechelt with 30-minute frequency at peak times
Provide limited service to the Botanical Gardens
Serve Chatalech Secondary School

There are still multiple short-term service and infrastructure priorities within the Transit Future Plan that have not yet been implemented, including short, medium, and all longer-term priorities.

Six years after adoption, it is time for a review of Sunshine Coast Transit Future Plan (TFP) to reaffirm and reprioritize transit service and infrastructure proposals over the next 1 - 5 years. BC Transit refers to this review as the **Transit Future Action Plan (TFAP)**. This Terms of Reference (TOR) outlines the objectives, scope, deliverables, approach and timeline for completion. The TFAP will be developed in collaboration with the Sunshine Coast Regional District (SCRD) (subsequently referred to as the local government partners), and in consideration of the goals and directives of local and regional plans, as well as the impact that COVID-19 has had on the system.

COVID-19 has significantly impacted travel behaviours across the region, this TFAP will focus on scenario planning to help direct decision making over the next five years. This will include an evaluation of the system and route performance and provide targeted improvements and optimization strategies for service and infrastructure proposals to ensure that existing and future resources are used efficiently.

Restart Funding Contribution Agreement

In response to the significant financial impacts of COVID-19, BC Transit signed a Contribution Agreement in December 2020 with the Government of Canada and the Province of BC for $86 million of Safe Restart Funding. This funding is intended to support our local government partners in ensuring that essential service levels can be maintained and that fares remain stable and

affordable as the region recovers from the economic impacts of COVID-19. By accepting the funding allocated through the Annual Operating Agreement, our local government partners are agreeing to a limit on annual fare increases of 2.3%, and to maintaining targeted essential service levels (equal to the base service levels provided in the 2020/21 fiscal year) until March 31, 2024. Annual operating hours for the Sunshine Coast for 2021 are 31, 713 for conventional transit, and 3610 for custom transit.

2. PLAN PURPOSE

The TFAP is the next phase of the 2014 TFP work. The new plan will build on the vision, goals and targets of the previous plan, and will present updated transit service and infrastructure priorities for the Sunshine Coast A key goal of the TFAP is to revisit the annual investment targets originally established within the 2014 TFP, and confirm if those targets and investment trajectories still align with regional goals, particularly within the context of the COVID-19 pandemic, which has caused significant shifts in travel behaviour.

As with the TFP, the TFAP will uphold community goals and objectives to strengthen the link between transportation and land use in support of sustainable growth. The Plan will also serve to inform any future local or regional transportation plans.

3. PLAN OBJECTIVES

The objectives of the Sunshine Coast Transit Future Action Plan are as follows:

- **Itemize Transit Future Plan progress to date:**
  - Identify items completed in the 2014 Transit Future Plan, items underway, and items outstanding.
  - Review and identify relevant priorities to carry forward into the plan update.

- **Reaffirm mode share targets and associated annual investment**
  - The Transit Future Plan identified mode share and ridership targets for the Sunshine Coast region based on the Provincial Transit Plan. The TFAP will revisit these 25-year mode share and ridership targets and identify the investment required to achieve those targets.
  - In collaboration with the project working group and endorsement by the elected officials, this plan can adjust the transit mode share target, and the corresponding annual investment required to achieve this.

- **Develop a COVID-19 Recovery Strategy:**
  - Provide an overview of ridership trends since mid-March 2020, including shifting peak period travel and average daily ridership.
  - System and route level performance review including runtime analysis
  - Future service priorities will be viewed through the lens of COVID-19, acknowledging that previously established priorities carried through to the TFAP may require adjusted timelines to ensure they are reflective of community needs.

- **Identify transit service and infrastructure priorities:**
  - Short and medium-term service and infrastructure priorities (1-5 years) to assist in the development of local capital and operating budgets

- Transit service expansion, optimization and infrastructure (i.e. fleet and facility) changes required to support the priorities
- Identify longer-term service and infrastructure priorities, including recommendations for phasing.

- **Build on relevant transportation plans and policies:**
  - Ensure that transit priorities align with the Official Community Plans, Sunshine Coast Strategic Plan 2019-2023, Integrated Transportation Study (2011), Highway 101 Corridor Study, climate action plans, and other local planning initiatives.
  - Align with the *BC Transit Strategic Plan* (2020), including initiatives to increase integration with other sustainable modes of travel, grow ridership, influence land-use and development patterns, identify and develop transit priority corridors, increase our environmental, social and economic accountability, and enhance partnerships.

- **Ensure the planning process and the TFAP is consistent with provincial commitments to reconciliation:**
  - Undertake meaningful consultation with First Nation communities, involving the Sunshine Coast indigenous communities in the planning and development and delivery of transit service.

4. PROJECT WORKING GROUP

A project working group will be formed to assist with the development of the TFAP. The project working group will include staff from BC Transit, the Sunshine Coast Regional District. The following stakeholders will be invited to be part of the PWG: District of Sechelt, Town of Gibsons, Sechelt Indian Government District, Squamish Nation, Ministry of Transportation and Infrastructure.

Three project working group (PWG) meetings will be held as follows:

PWG Meeting 1: Project Initiation, workshop high level of objectives, confirm project time line, key stakeholders,

PWG Meeting 2: Project Planning Review system and route level performance, engagement data and proposed draft priorities and public engagement materials.

PWG Meeting 3: Project Execution and closure, includes a review of the public engagement including observations, impact and implications to draft service priorities. Prior to meeting three, the PWG will be provided a copy of the final draft TFAP including the service and infrastructure proposals, once endorsed by the PWG ,the final plan will be presented to the Sunshine Coast Regional District for their endorsement

5. ENGAGEMENT APPROACH

The resulting TFAP will show local government staff, decision makers, stakeholders and citizens how to most effectively improve transit services over the next five years. The engagement strategy will be reflective of community desires, and galvanize support and build knowledge about the

important role transit plays in the delivery of essential services and how transit improvements to grow ridership will help achieve the regions goals towards climate change objectives.

The TFAP Engagement Strategy for 2021 will use many virtual tools and has been structured to avoid in person out reach. COVID- 19 social distancing measures will make the typical open house approach unviable. Online Engagement will be facilitated through BC Transit's Engagement HQ (Bang the Table) to be launched in early 2021. The TFAP project page will be established once the TOR is endorsed and will seek registration from those interested in receiving project updates.

First Nations

The project area includes the indigenous community of the Sechelt and Squamish Nation that has direct jurisdiction over their respective lands. Leaders from these indigenous communities will be individually contacted to be made aware of the future transit project in their community and asked how they would like to be involved and consulted. These targeted conversations will help to develop the final engagement plan for the TFAP project.

Operator Consultation

Engagement with the front line operators will include separate online and /or paper surveys. BC Transit will display project materials at the maintenance facility in the District of Sechelt off Mason Rd. to promote participation and feedback from operators to understand existing issues, and to gather their feedback opportunities and challenge in developing service priorities over the next five years.

Local Government Partner & Key Stakeholder Consultation

The development of the plan will be collaborative, with extensive partner and key stakeholder input. The PWG, as discussed above, will assist with the development of the TFAP. BC Transit will work with the PWG to confirm key stakeholders and their contact information. Key stakeholder outreach will include:

- Emailed project updates
- Invitation to participate in public processes
- Opportunities for individual or group virtual workshop. The need for an online key stakeholder workshop will be determined through the PWG.

Upon request, information vetted through the PWG may be presented to elected officials as required. Information to other local government Councils including the **District of Sechelt and Town of Gibsons will be facilitated through the Sunshine Coast Regional District Board.**

Public Engagement: Public engagement will be undertaken in a two phased approach:

Phase 1: Intercept Surveys

Will take place in Spring of 2021 and comprise of onboard customer satisfaction surveys. Interviews with passengers are facilitated through Leger Marketing at various bus stops. The approach includes physical distancing measures and interviewers will be equipped with masks, face shields, and gloves (and other PPE as needed). Because of physical distancing, it will be difficult to interview onboard buses; however, with mandatory face masks on transit it may be considered.

Phase 2: Online Public Engagement

Will take place in the Spring/Summer of 2021, and will be directed to the wider public. BC Transit in collaboration with the PWG will design and develop content for social media and communications channels to help promote the virtual engagement platform

The online platform will use the suite of engagement tools available through Engagement HQ, including the surveys, forums and poll functions to gather feedback on the system, the ideas tools to gather feedback on routing and service improvements, the places tool to gather feedback on bus stop and route improvement suggestions.

- **Summarized Engagement Schedule**
  The following provides a summary of the engagement approach with opportunities for additional local government partner updates as required.

Event	Topic	Est. Timeframe *
Project working group meeting 1	Launch project website & discuss system priorities and progress on TFP goals to date, finalize engagement strategy	Spring 2021
Intercept survey, Front Line worker survey, Key Stakeholder outreach	Customer satisfaction, and operator issues, challenges, opportunities- inform draft priorities.	Spring 2021
Project working group workshop 2	Provide and present Background Working Paper and draft service change proposals confirm Public Engagement materials	Spring 2021
Online Public engagement	Host online engagement -present draft priorities and get user feedback.	Spring/Summer 2021
Project working group meeting 3	Review of Engagement Summary Report -finalization of service and infrastructure options for final TFAP	Fall 2021
Presentation to SCRD	Seek endorsement SUN TFAP 2021.	Fall 2021

6. SCOPE OF WORK

The Transit Future Action Plan will include the following components:

A. Project Launch: Set the stage to identify priorities for the Sunshine Coast Transit System. This includes:

- Project page established on Engagement HQ invite registrations for project updates.
- Review the 2014 TFP priorities, and determine which are to be carried forward
- Collect early input on priorities for the transit system
  - Gather input and feedback from the PWG on current transit planning issues and opportunities

- Gather input and feedback from operators and front line staff.

B. Existing Conditions: Review key aspects of the Sunshine Coast Transit System today:

- Analyze service and ridership trends since 2014, including ridership changes due to COVID-19, review customer surveys, front-line staff feedback
- Conduct ridership analysis, schedule adherence and service reliability (according to available data)
- Conduct an intercept survey gauging user satisfaction with the existing transit service
- Review issues and opportunities for transit operations, facilities, passenger amenities, and accessibility
- Review local plans to identify trends in land use, road network, population and employment etc. With information available, identify implications for local area service infrastructure and fleet

Deliverable: Existing conditions and intercept survey results will be documented and provided within a **Background Working Paper** for the project working group for review and comment. This information will support the final TFAP.

C. Draft Options: BC Transit, will prepare draft options to be included within the Background Working Paper including:

- Draft transit service priorities, route concepts and infrastructure improvement options for the short- and medium-term (1-5 years)
- Scenario planning options for the short-term, including system optimization due to COVID-19 impacts

Deliverable: Background Working Paper will be circulated to the PWG for review and comment. Feedback received will be considered in the refinement of the draft options. The endorsed draft service options will be used for public engagement. The Background Working Paper can be made available on the online project site.

D. Engagement: A public engagement process will be used to present draft transit priorities for input, feedback and prioritization. This process will include hosting virtual meetings/workshops, online and intercept surveys. Marketing and promotion for these events will take place in various formats, including online (project website), social media, local media, and on transit vehicles.

Deliverable: Engagement Summary Report. Feedback received during engagement will be compiled and documented within this report. This information will be available through the online project site and registered engagement participants and key stakeholders will receive updates.

E. Final Service and Infrastructure options: A final detailed service options and scenario planning technical report will be developed (informed by the Background Working Paper and the Engagement Summary Report). This document will contain detailed information which supports the service and infrastructure options for implementation. These elements will be summarized in the final report.

Deliverable: Future Service and Infrastructure Options Technical Report. This information is intended to be an internal BC Transit document to be used by transit scheduler's, service and

Infrastructure planners to inform the annual Transit Implementation Process (TIPS) and Infrastructure Capital Improvement Process (ICAP) for the implementation of future options.

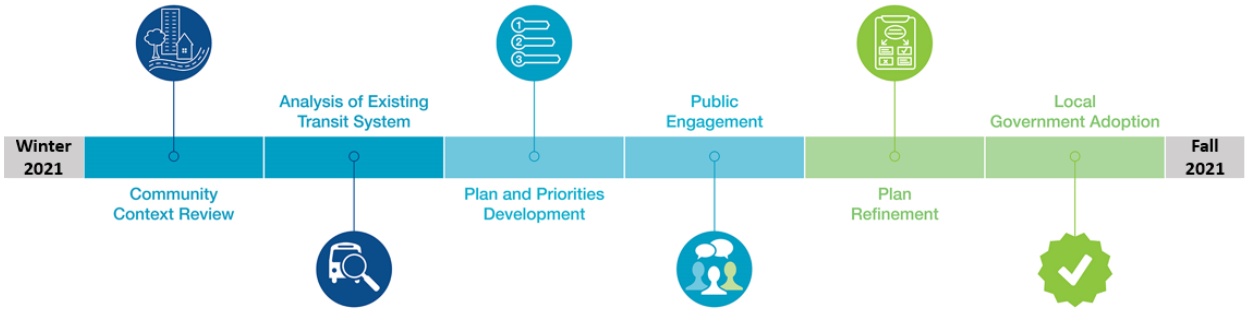
F. Final Report: A Draft final Sunshine Coast TFAP document with service and infrastructure options and scenario planning recommendations will be presented to the PWG for review and endorsement to proceed to the local government partners for their endorsement.

Deliverable: Sunshine Coast Transit Future Acton Plan 2021. Once endorsed a link to the final document will be published on the BC Transit and local government partner websites.

G. Implementation: Once the TFAP is approved, service change priorities will inform the development of future three-year Service and Financial Strategies and Annual Service Plans for the local governments' approval. These service expansions will be detailed in the annual TIPS memorandums distributed from BC Transit to the local partners.

7. Project Timeline

The following is a high-level summary of the estimated project timeline a detailed project schedule will be used with the PWG for communication and project development.



RECOMMENDATION AND SIGNOFF

That the Sunshine Coast Regional District agrees to the objectives, deliverables, scope of work and timelines of this Transit Future Action Plan and requests BC Transit to complete it within the noted timeline.

Sunshine Coast Regional District (SCRD)

Name: _____ Position: _____

Signature: _____ Date: _____

BC Transit

Name: *Rob Ringma* Position: *Senior Manager, Government Relations*

Signature: _____ Date: _____

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: James Walton, Manager, Transit and Fleet,
Brad Wing, Manager, Financial Services

SUBJECT: **2021-22 BC TRANSIT ANNUAL OPERATING AGREEMENT DRAFT BUDGET**

RECOMMENDATION(S)

THAT the report titled 2021-22 BC Transit Annual Operating Agreement Draft Budget be received;

AND THAT staff are directed to work with BC Transit to continue the current conventional transit schedule based on approximately 80% of the pre-pandemic budgeted amount of service hours until late-June 2021;

AND THAT staff are directed to work with BC Transit to implement the conventional transit schedule based on approximately 100% of the pre-pandemic budgeted amount of service hours from late-June 2021 onwards;

AND THAT the 2021-2025 Financial Plan be updated to reflect the draft Annual Operating Agreement budget values while utilizing COVID-19 Safe Restart funding to mitigate tax increases;

AND FURTHER THAT staff bring forward to 2021 Round 2 budget proposals associated with anticipated additional overtime and a driver recruitment campaign.

BACKGROUND

Each year BC Transit and the Sunshine Coast Regional District (SCRD) enter into an Annual Operating Agreement (AOA) which governs transit service costs and funding for the BC Transit fiscal year from April 1 to March 31.

In support of the AOA process, BC Transit provides a draft budget reflective of general industry trends, location-based operations and maintenance activities, and any specific initiatives planned for the transit system over the next three years. The draft budget becomes the basis for the AOA.

In response to the COVID-19 pandemic the SCRD and BC Transit implemented the following transit specific operational measures:

- Daily thorough cleaning of all buses requiring two additional staff positions
- Weekly disinfecting (fogging) of buses
- Procuring special disinfecting products and personal protective gear for staff

Since Mid-March 2020 the transit system has been operating at reduced service levels.

At its October 22, 2020 meeting the Board adopted the following recommendation:

350/20 **Recommendation No. 10** *Transit Schedule Options Winter and Spring 2021*

AND THAT staff are directed to work with BC Transit to continue the current conventional transit schedule based on approximately 80% of the originally budgeted amount of service hours until mid-May 2021.

At the January 11, 2021 Infrastructure Services Committee meeting the Board discussed the Safe Restart Funding the SCRD is receiving to offset the reduced revenue and additional operating expenses due to the COVID-19 pandemic. The Sunshine Coast Conventional Transit System has been allocated $793,496 and the Sunshine Coast Custom Transit System $21,118.

At its January 28, 2021 meeting the Board adopted the following recommendations:

026/21 **Recommendation No. 2** *Amended 2020-2021 BC Transit Annual Operating Agreement*

THAT the report titled Amended 2020-21 BC Transit Annual Operating Agreement be received;

AND THAT the Delegated Authorities be authorized to execute the Amended 2020-2021 BC Transit AOA;

AND THAT 100% of the BC Transit COVID-19 Safe Restart funding with unallocated amounts be placed into the Transit Operating Reserve [310];

AND FURTHER THAT staff report to the February 2021 Infrastructure Services Committee with the draft 2021/2022 BC Transit Annual Operating Agreement for inclusion into the 2021-2025 Financial Plan.

The purpose of this report is to highlight anticipated changes in the 2021-22 AOA based on the draft budget and the associated financial impact to the SCRD as a cost sharing partner.

DISCUSSION

The draft budget projections are prepared based on the most current information available; however, there is some risk associated with cost volatility. According to BC Transit, if there are material changes between the release of the draft budget and February 2021, these changes will be reflected in the final budget which accompanies the AOA in March.

As the SCRD budget process usually concludes prior to receipt of the final budget from BC Transit, it is not always possible to incorporate any changes into the annual SCRD Financial Plan. This can result in funding surpluses or shortfalls.

Staff will report on any discrepancies between 2021-22 draft and final AOA budget when the AOA is presented to the Board for approval in April/May.

The ensuing discussion provides a summary of 2020 year-end financial results for the service, ongoing operational and associated financial impacts associated with the pandemic and finally, financial implications associated with the 2021-22 draft AOA budget and 2021 budget proposals.

2020 Year-End Financial Results

The table below summarizes the preliminary year-end financial results for Transit service as compared to the adopted 2020 budget. Budget values are reflective of the original 2020-21 AOA as the financial plan was not amended for the 2020-21 AOA amendment in January.

It is also helpful to note here that the period covered by the AOA (Apr. 1 – Mar. 31) does not align with the SCRD fiscal year. All budget values shown reflect pro-rated allocations from the respective AOA's. For instance, the 2020 budget values are based on 3 months of the 2019-20 AOA and nine months of the 2020-21 AOA.

Preliminary Year End Financial Results			
	2020 Actual	**2020 Budget**	**Variance**
Revenue			
Tax Requisition	$ 2,757,641	$ 2,757,641	$ -
BC Transit Funding	1,728,218	1,796,654	(68,436)
COVID Safe Restart Funding	407,307	-	407,307
Fare and Ticket Sales	525,050	796,966	(271,916)
Other Revenue	56,939	3,611	53,328
Total Revenues	**5,475,155**	**5,354,872**	**120,283**
Expenses			
Support Services	474,766	474,766	-
Wages and Benefits	2,424,282	2,481,906	(57,624)
Operating	1,887,740	2,398,200	(510,460)
Total Expenses	**4,786,788**	**5,354,872**	**(568,084)**
Operating Surplus/(Deficit)	**$ 688,367**	**$ -**	**$ 688,367**

The preliminary year end surplus of $688,367 is a result of combined favorable and unfavorable variances as outlined below:

- Tax requisition amounts are established in March when the budget is adopted and cannot be changed regardless of subsequent amendments made to the AOA or budget. Taxation would have been up to $318,000 less based on the amended AOA values, assuming 100% utilization of COVID restart funding received in the period.

- COVID Safe Restart Funding totaling $814,614 was included in the amended 2020-21 AOA. Half of this funding has been received by the SCRD as of December 31, 2020 and recognized as revenue in 2020. The remaining half will be advanced over the final three months of the amended AOA from January to March and will be included in the 2021 SCRD budget.

- Fare and ticket sales were $271,916 less than budgeted. Budget values reflect normal pre-COVID estimates.

- Wages and benefits are $57,624 less than budgeted. Savings from reduced service levels were offset by incremental wages of approximately $135,000 for cleaning and $60,000 for additional overtime resulting from COVID impacts.

- Operating expenses were $510,460 less than budgeted. Approximately $277,000 of these savings were the result of the six month lease fee holiday implemented by BC Transit. The remaining savings were the result of lower fuel and maintenance costs due to reduced service levels. These savings were offset by higher expenses for cleaning supplies of around $10,000.

In accordance with the SCRD's Financial Sustainability Policy, the year-end surplus will be transferred to operating reserves at year end. Added to the current balance of $220,905, the projected year-end operating reserve balance is $909,272 of which $407,307 will be attributable to COVID Safe Restart funding received in 2020.

Ongoing Operation and Financial Pandemic Impacts

Increased operating costs as a result of safety requirements implemented under the Provincial Health Order are expected to continue throughout 2021.

Due to guidelines established from the Provincial Health Order, BC Transit and Worksafe BC, the SCRD forecasts an increase in operational costs for the procurement of disinfecting products and personal protective equipment of approximately $2,000 per month. Budget proposals 1 & 2 for 'COVID-19 Expenses – Materials and Supplies' and the 'COVID-19 Expenses – Wages' were presented at Round 1 budget and deferred to Round 2. These proposals are intended to cover the incremental costs associated with the cleaning of the busses and can be funded from Safe Restart Funding.

Furthermore, based on a 33% increase of overtime in 2020 compared to pre-pandemic operating years, the forecasted overtime for 2021 is estimated to be 30% to 40% higher than previous pre-pandemic operating years. Staff are, therefore, recommending to bring forward a new $80,000 budget proposal to Round 2 for a one-time increase for additional overtime to account for these anticipated expenditures. This one-time expenditure can be funded from COVID Safe Restart funds.

To offset the potential increase in operating costs associated with overtime, staff are working with BC Transit to develop a recruitment campaign for drivers. Staff are therefore recommending to bring forward a new $15,000 budget proposal to 2021 Round 2 in support of this recruitment campaign. This one-time expenditure can also be funded from COVID Safe Restart funds.

The current service levels from 80% of regular scheduled hours is able to support forecasted ridership until Mid-May 2021 as supported prior by the Board. Based on a discussion with BC Transit staff on the forecast for the summer months, staff recommend to increase the service levels back to 100% of the pre-pandemic scheduled hours from about June 28, 2021 onwards. This timeline would also allow time for staff to recruit drivers to limit the risk of substantial overtime associated with this service level increase.

In anticipation of significant part of the population being vaccinated by early fall, Staff and BC Transit staff are hopeful that the ridership will support maintaining the 100% of pre-pandemic service level into the fall and winter.

2021 Budget Proposal and 2021-22 Draft AOA Financial Implications

Staff have completed a detailed analysis of the draft 2021-22 AOA budget as well as 2022-23 and 2023-24 draft budget projections provided by BC Transit and aligned these with the SCRD fiscal year and budgets.

Budget Proposals presented at Round 1 as well as the two new Budget Proposals recommended in this report have been incorporated into the analysis to show a complete picture of the projected 2021 budget.

Lastly, COVID Safe Restart funding has been allocated in the budget analysis to mitigate tax increases that would otherwise be required to offset higher COVID related operating expenses, pending budget proposals and reduced fare revenue. Amounts included are suggested and can be adjusted as necessary to meet the Board's objectives.

Based on the suggested allocations, $469,600 of Safe Restart funding would be budgeted in 2021, $230,300 in 2022 and the remaining $114,714 in 2023 which would result in a 0% tax increase in 2021, 2% in 2022 and 2.5% in 2023 based on current estimates.

A summary of the projected 2021-2023 budgets is shown in the table below:

[310] Transit Service 2021-2023 Budget Projections (includes all 2021 budget proposals)			
	2021	**2022**	**2023**
Revenue			
Tax Requisition	$ 2,757,641	$ 2,812,794	$ 2,882,432
BC Transit Funding	1,733,083	1,855,763	1,892,783
COVID Safe Restart Funding	407,307	-	-
Fare and Ticket Sales	476,613	550,871	676,937
Other Revenue	3,611	3,613	3,612
Total Revenues	**5,378,254**	**5,223,041**	**5,455,764**
Expenses			
Support Services	487,362	497,109	507,051
Wages and Benefits	2,619,674	2,477,361	2,526,908
Operating	2,333,511	2,478,871	2,536,519
Total Expenses	**5,440,547**	**5,453,341**	**5,570,478**
Transfer to/(from) Operating Reserve			
COVID Safe Restart Funding	(62,293)	(230,300)	(114,714)
Financial Plan Surplus/(Deficit)	**$ -**	**$ -**	**$ -**
Taxation Increase Over Prior Year	**0.0%**	**2.0%**	**2.5%**
Fare Revenue as a % of Pre-Covid Budget	**59.8%**	**69.1%**	**84.9%**

The values presented above are estimates and subject to change throughout the remainder of the budget process. In addition, 2022 and 2023 budget values are likely to vary significantly from what has been presented as the draft budgets provided by BC Transit for future years tend to be less accurate.

Nevertheless, the 2020 budget surplus coupled with the existing operating reserve balance and remaining Safe Restart funding to be received in 2021 allow for flexibility in meeting the ongoing operational challenges and revenue shortfalls presented by the pandemic without having to increase taxation.

Furthermore, the projected operating reserve balance at the end of 2023 once all Safe Restart funding has been allocated is over $500,000 which provides additional flexibility if needed.

Refer to Attachment A at the end of this report for a consolidated summary of the 2020 year end results, 2021-2023 projected budgets and projected year end reserve balances.

Timeline for next steps or estimated completion date

Staff will continue to liaise with BC Transit to identify any potential material changes between the draft and final budgets and will report back, as necessary, through the budget process and upon receipt of the final AOA.

STRATEGIC PLAN AND RELATED POLICIES

N/A

CONCLUSION

Each year, BC Transit and the SCRD enter into an AOA that governs transit service costs and funding for the fiscal year from April 1 to March 31. In support of the AOA process, BC Transit provides a draft budget that becomes the basis for the AOA.

The 2020 year-end financial results currently project a $688,387 surplus as a result of budget variances resulting from changes to service levels due to the pandemic, a temporary lease fee holiday and COVID safe restart funding.

Additional expenses related to the pandemic are expected to continue into 2021 and have either been incorporated into the draft AOA budget or included in budget proposals for consideration.

A projected budget incorporating the draft AOA and all 2021 budget proposals has been presented to show a complete picture of the budget with COVID Safe Restart funding allocated through to 2023 to mitigate tax increases which would otherwise be required to fund additional costs and reduced revenue associated with the pandemic.

It’s recommended that staff work with BC Transit to return to 100% of the pre-pandemic service levels for the conventional transit system as of late June 2021.

Attachments:

Attachment A – 2021-2022 BC Transit AOA Draft Budget

Reviewed by:			
Manager	X – J. Walton	Finance	X – B. Wing
GM	X – R. Rosenboom	Legislative	
CAO	X – D. McKinley	Other	

[310] Transit Service Budget Projections

	2020 Actual	2020 Budget	Variance	2021 Budget	2022 Budget	2023 Budget
Revenue						
Tax Requisition	$ 2,757,641	$ 2,757,641	$ -	$ 2,757,641	$ 2,812,794	$ 2,882,432
BC Transit Funding	1,728,218	1,796,654	(68,436)	1,733,083	1,855,763	1,892,783
COVID Safe Restart Funding	407,307	-	407,307	407,307	-	-
Fare and Ticket Sales	525,050	796,966	(271,916)	476,613	550,871	676,937
Other Revenue	56,939	3,611	53,328	3,611	3,613	3,612
Total Revenues	**5,475,155**	**5,354,872**	**120,283**	**5,378,254**	**5,223,041**	**5,455,764**
Expenses						
Support Services	474,766	474,766	-	487,362	497,109	507,051
Wages and Benefits	2,424,282	2,481,906	(57,624)	2,619,674	2,477,361	2,526,908
Operating	1,887,740	2,398,200	(510,460)	2,333,511	2,478,871	2,536,519
Total Expenses	**4,786,788**	**5,354,872**	**(568,084)**	**5,440,547**	**5,453,341**	**5,570,478**
Transfer to/(from) Operating Reserve						
COVID Safe Restart Funding	407,307	-	407,307	(62,293)	(230,300)	(114,714)
General Operating Surplus	281,060	-	281,060	-	-	-
Financial Plan Surplus/(Deficit)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Operating Reserve Summary						
COVID Safe Restart Funding	$ 407,307			$ 345,014	$ 114,714	$ -
General Operating Reserve	501,965			$ 501,965	$ 501,965	$ 501,965
Estimated Year End Operating Reserve Balance	**$ 909,272**			**$ 846,979**	**$ 616,679**	**$ 501,965**

Taxation Increase Over Prior Year	**0.0%**	**2.0%**	**2.5%**
Budgeted Fare and Ticket Sales as a Percetage of Pre-Covid Budget	**59.8%**	**69.1%**	**84.9%**

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Remko Rosenboom, General Manager, Infrastructure Services

Robyn Cooper, Manager, Solid Waste Services

SUBJECT: **SECHELT LANDFILL AND PENDER HARBOUR TRANSFER STATION SCHEDULE OPTIMIZATION**

RECOMMENDATION(S)

THAT the report titled Sechelt Landfill and Pender Harbour Transfer Station Schedule Optimization be received.

BACKGROUND

At the June 11, 2020 Board Meeting, the following resolution was adopted:

235/20 **Recommendation No. 5** *Landfill Staffing as a Result of COVID-19*

THAT staff report to the July 2020 Corporate and Administrative Services Committee meeting regarding the optimization of Sechelt Landfill and Pender Harbour Transfer Station in terms of staff hours, service and demand.

In the July 23, 2020 Corporate and Administrative Services Committee report titled Regional Solid Waste Service Levels as a result of COVID-19, the report outlined the following: that a preliminary review of landfill and transfer station operations in terms of staff hours, service and demand showed that only minimal overall reduction in hours could be achieved without the risk of significant increased wait times for the public or exceeding the daily maximum capacities on each of the sites. The experience from earlier changes in opening hours is that any reduction in service would result in the requirement to bring in additional staffing resources on other days, thus negating any savings. However, this review highlighted the opportunity for optimization.

The purpose of this report is to provide further information regarding optimizing landfill and transfer station operating hours and staffing levels to help inform the 2021 Round 2 Budget deliberations.

DISCUSSION

Current Hours of Operation and Staffing Levels – Sechelt Landfill

The Sechelt Landfill has year-round operating hours with a Monday closure to the public since 2013. Tuesday to Saturday the landfill is open for 8.5 hours and Sundays for 5 hours with all days closing at 5:00 p.m. There is 1 Scale Attendant and 2 to 3 Site Attendants depending on the day of the week. However, the third Site Attendant is not there for the entire opening hours, and thus equates to 2.6 staff shifts when comparing hours worked to operating hours. Table 1 summarizes the current schedule.

A typical summer day has on average 170-230 customers and a typical winter day has on average 120-160 customers. The busiest summer days can result in 250 or more customers with the busiest day to date, in 2020, with 300 customers that day. Customer interactions occur while entering the site (inbound) and exiting the site (outbound), thus the customer counts are doubled in terms of interactions per day.

Table 1 – Current Sechelt Landfill Schedule

Sechelt Landfill – Current Schedule, Year-Round							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	12pm-5pm	closed	8:30am-5pm	8:30am-5pm	8:30am-5pm	8:30am-5pm	8:30am-5pm
# of Op Hrs	5 hrs	5 hrs commercial only	8.5 hrs	8.5 hrs	8.5 hrs	8.5 hrs	8.5 hrs
Staffing Levels (staff shifts)	Scale – 1 Site – 2.6	Scale – 0.5	Scale – 1 Site – 2.6	Scale – 1 Site – 2	Scale – 1 Site – 2	Scale – 1 Site – 2.6	Scale – 1 Site – 2.6

Current Hours of Operation and Staffing Levels – Pender Harbour Transfer Station

The Pender Harbour Transfer Station has a summer and winter schedule with Sundays open in the summer and closed in the winter. The summer and winter schedules are defined by the May and Labour Day long weekends. The site is closed year round on Tuesdays. Whereas the remaining days of the week are open the same 8 hours, from 8:30 a.m. to 4:30 p.m. There is 1 Scale Attendant and 1 Site Attendant, however, the Site Attendant is not there for the entire opening hours each operating day, and thus equates to 0.75 staff shifts when comparing hours worked to operating hours. Tables 2 and 3 summarize the summer and winter schedules respectively.

During the summer months, there is on average 115 to 190 customers per day, whereas during the winter months, there is on average 73 to 85 customers per day. Customer interactions occur while entering the site (inbound) and exiting the site (outbound), thus the customer counts are doubled in terms of interactions per day.

Table 2 – Current Pender Harbour Transfer Station Schedule, Summer

Pender Harbour Transfer Station – Current Schedule, Summer (Summer – Sunday of May long weekend to Sunday of Labour Day long weekend inclusive)							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	8:30am-4:30pm	8:30am-4:30pm	closed	8:30am-4:30pm	8:30am-4:30pm	8:30am-4:30pm	8:30am-4:30pm
# of Op Hrs	8 hrs	8 hrs	0	8 hrs	8 hrs	8 hrs	8 hrs
Staffing Levels (staff shifts)	Scale – 1 Site – 1	Scale – 1 Site – 0.75	n/a	Scale – 1 Site – 0.75	Scale – 1 Site – 0.75	Scale – 1 Site – 1	Scale – 1 Site – 1

Table 3 – Current Pender Harbour Transfer Station Schedule, Winter

Pender Harbour Transfer Station – Current Hours of Operation, Winter (Winter – First Sunday after Labour Day to Sunday before May long weekend)							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	closed	8:30am-4:30pm	closed	8:30am-4:30pm	8:30am-4:30pm	8:30am-4:30pm	8:30am-4:30pm
# of Op Hrs	0	8 hrs	0	8 hrs	8 hrs	8 hrs	8 hrs
Staffing Levels (staff shifts)	n/a	Scale – 1 Site – 0.75	n/a	Scale – 1 Site – 0.75	Scale – 1 Site – 0.75	Scale – 1 Site – 1	Scale – 1 Site – 1

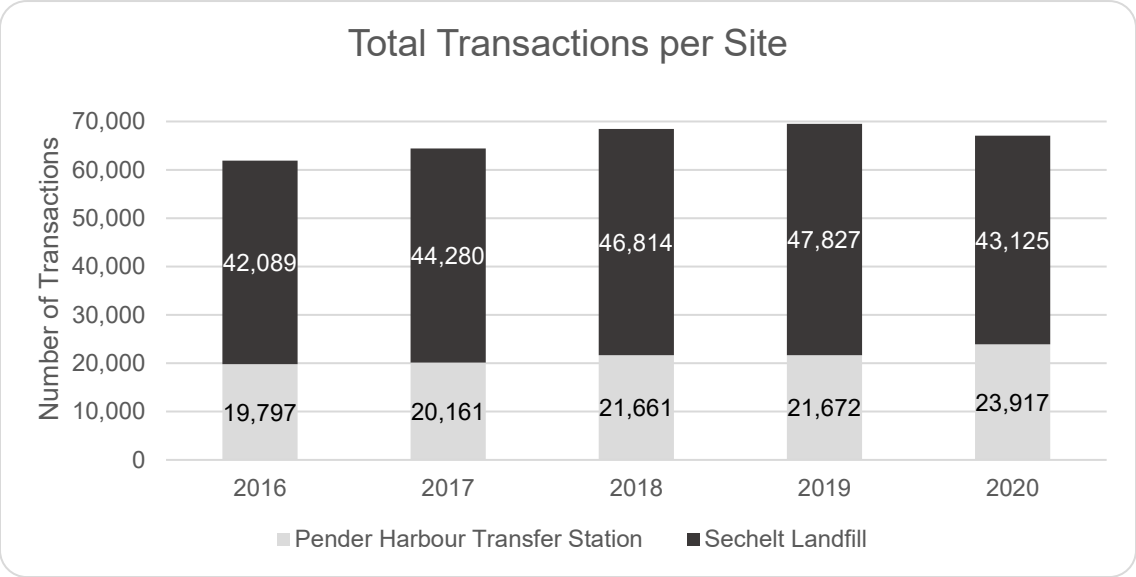
Opportunities for Optimization & Pressures

Overall, the Pender Harbour Transfer Station is the least busy site of the two. Although wait times are present in the summer months on Saturdays and Sundays, they are typically less than fifteen minutes. As well, an analyses of traffic patterns indicate that a later opening or earlier closing, would not negatively impact wait times, especially in the winter months.

For Sechelt Landfill, wait times on Tuesdays and weekends used to be in excess of thirty minutes. Due to the current reduced size of the drop-off area wait times on those days can be in excess of forty-five minutes. The traffic pattern analyses indicates that a slightly later opening would not negatively impact wait times. Closing the site earlier during weekdays would not accommodate the curbside collection trucks who typically arrive at or near the 5:00 p.m. closing and is therefore not suggested. Overall, the biggest pressure points in terms of wait times are generally on Sundays (due to shorter hours of operation) and Tuesdays (day after Monday closure) and lunch times on the remaining days. Tuesdays are so busy, that Site Attendant staffing levels were increased in 2013 shortly after the Monday closure was implemented.

Figure 1 below depicts numbers of transactions per year at the Pender Harbour Transfer Station and Sechelt Landfill over the last several years. Over five years, the number of customers served (data shown as number of transactions) ranged from 61,900 in 2016 to 67,000 in 2020. The highest was 69,500 in 2019. It should be noted that each transaction requires an inbound and outbound interaction with the Scale Attendant, thus the total number of interactions per site per year is double the number of transactions presented.

Figure 1 – Total Transactions per Year per Site



The data shows a continued upwards trend in transactions at both sites, with 2020 being an anomaly at the Sechelt Landfill, potentially due to the impacts of COVID on the local community. Since the introduction of the Green Bin program in October 2020 staff noticed a slight increase in transactions related to garbage during weeks with no curbside collection.

Given the ongoing growth and development of the Sunshine Coast community, the overall upward trend in transactions is expected to continue.

Options and Analysis

The goal of optimization is to balance service levels with the required staffing levels for safety and successful waste screening.

For service levels, this includes considering traffic patterns, wait times and daily maximum capacities on each of the sites.

For staffing, for Sechelt Landfill, it's recommended this includes increasing staffing levels to ensure three Site Attendants are present during all operating hours. For Pender Harbour Transfer Station, it's recommended to have one Site Attendant present during all operating hours.

The Site Attendant's primary role is waste screening and this is critical to the operations of the sites. For example, waste screening ensures only materials permitted at the sites are disposed and loads of drywall are screened to ensure the strict process for acceptance has been followed. As well, Site Attendants are instrumental in monitoring for compliance with current and future landfill disposal bans.

The optimized schedules presented below incorporates the 0.9 FTE brought forward to 2021 Round 1 Budget to achieve the aforementioned staffing levels.

For Sechelt Landfill, the proposed schedule incorporates a 9:00 a.m. opening and 5:00 p.m. closing each operating day. The site would be closed on Mondays for all customers. Overall, this results in a decrease in opening hours for commercial customers of 4.5 hours per week (due to Monday closure) and an overall increase of 0.5 hours for all other customers. However, this results in an increase of three hours on Sundays.

For Pender Harbour Transfer Station, the proposed schedule also incorporates a 9:00am opening each operating day with a 4:30 p.m. closure on Mondays, Wednesdays to Fridays and a 4:00 p.m. closure on Saturdays and Sundays. Overall this results in a decrease to opening hours per week of between 3 and 4 hours, depending on the season. As well, a clearer delineation of summer and winter hours for Pender Harbour Transfer Station is being proposed, with summer from May 1 to September 30 and winter from October 1 to April 30. This results in additional Sunday openings in early May and late September.

For statutory holidays, there are no changes being proposed – open statutory holidays May to September inclusive, closed the remaining statutory holidays.

Tables 4, 5 and 6 summarize the proposed optimized schedules for the Sechelt Landfill and Pender Harbour Transfer Station summer and winter respectively.

Table 4 – Proposed Optimized Sechelt Landfill Schedule

Sechelt Landfill – Proposed Schedule, Year-Round							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	9am-5pm	Closed	9am-5pm	9am-5pm	9am-5pm	9am-5pm	9am-5pm
# of Op Hrs	8 hrs	0	8 hrs	8 hrs	8 hrs	8 hrs	8 hrs
Staffing Levels (staff shifts)	Scale – 1 Site – 3	n/a	Scale – 1 Site – 3	Scale – 1 Site – 3	Scale – 1 Site – 3	Scale – 1 Site – 3	Scale – 1 Site – 3

Table 5 – Proposed Optimized Pender Harbour Transfer Station Schedule, Summer

Pender Harbour Transfer Station – Proposed Schedule, Summer (Summer – May 1 to September 30)							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	9am-4pm	9am-4:30pm	closed	9am-4:30pm	9am-4:30pm	9am-4:30pm	9am-4pm
# of Op Hrs	7 hrs	7.5 hrs	0	7.5 hrs	7.5 hrs	7.5 hrs	7 hrs
Staffing Levels (staff shifts)	Scale – 1 Site – 1	Scale – 1 Site – 1	n/a	Scale – 1 Site – 1	Scale – 1 Site – 1	Scale – 1 Site – 1	Scale – 1 Site – 1

Table 6 – Proposed Optimized Pender Harbour Transfer Station Schedule, Winter

Pender Harbour Transfer Station – Proposed Schedule, Winter (Summer – October 1 to April 30)							
Day of Week	**Sun**	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
Op Hrs	closed	9am-4:30pm	closed	9am-4:30pm	9am-4:30pm	9am-4:30pm	9am-4pm
# of Op Hrs	0	7.5 hrs	0	7.5 hrs	7.5 hrs	7.5 hrs	7 hrs
Staffing Levels (staff shifts)	n/a	Scale – 1 Site – 1	n/a	Scale – 1 Site – 1	Scale – 1 Site – 1	Scale – 1 Site – 1	Scale – 1 Site – 1

Other Service Levels and Required Staffing – Considerations

Should the Board desire to increase service levels beyond what is proposed, the following is a summary of the associated additional staffing levels required to do so:

- Open Sechelt Landfill on Mondays year-round - 0.9 FTE
  This option would allow for a more even spreading of the traffic and hence reduce wait times early in the week.

- Open Pender Harbour Transfer Station each operating day from 9:00 a.m. to 5:00 p.m. – 0.3 FTE
  This option would harmonize the hours of operation for both sites and would result in no change to total operating hours per week when compared to current schedule.

- Open Pender Harbour Transfer Station on Sundays year-round – 0.4 FTE
  This option would allow for weekend travelers to access disposal services on Sundays year-round.

Should the Board desire to decrease service levels below what is proposed, the following is a summary of the associated staffing implications.

- Closing Pender Harbour Transfer Station on Thursdays during the winter schedule – 0.37 FTE reduction
  This would increase traffic on other days but not to an unmanageable level. However, a second mid-week closure may negatively impact the commercial hauling contractors who service Pender Harbour residents and businesses. As well, the continued increase to the total number of transactions per year are also a consideration. Based on those reasons, staff do not recommend decreasing beyond the proposed.

Staff do not propose any decreases to service levels below what is proposed for the Sechelt Landfill as it is anticipated to result in traffic levels beyond a manageable level.

Organizational and Intergovernmental Implications

Any changes to hours of operation will result in impacts to Scale Attendant and Site Attendant staff and the hours they work. Some staff may see an increase to their weekly hours, whereas others may see a reduction.

None of the proposed options would impact the garbage curbside collection services provided by the SCRD or other local governments on the Coast.

Financial Implications

Scale Attendants and Site Attendants are funded from user fees (tipping fees) collected at the Pender Harbour Transfer Station and Sechelt Landfill when materials are disposed at the sites.

The proposed optimized schedule includes the 2021 Round 1 Budget Proposal of 0.9 FTE ($52,570 for 2021, $68,430 for 2022 and onwards) funded from user fees (tipping fees). Should this budget proposal not be approved, staff will bring forward a revised schedule for both sites based on current staffing levels but with a reduced waste screening at both sites.

Should the Board desire to increase staffing levels beyond the proposed optimized schedule, then additional FTE and budget would be required. A 2021 Round 2 Budget Proposal could be prepared with an increase to the FTE and budget value should the Board direct staff to do so. This increased value would also be proposed to be funded from user fees (tipping fees.)

Timeline for next steps

If the outcome from the 2021 budget process results in increased FTE and a new schedule is to be implemented, an anticipated start date would be late Q2 2021 or early Q3 2021.

Following implementation of a revised schedule staff will evaluate the impacts on traffic patterns and report back to the Board if additional revisions should be considered, for example to accommodate the ongoing increase of transactions.

Communications Strategy

If Board direction is received to alter the operating hours at both sites, a communications plan will be developed which will include information on website, social media, newspapers and updated signage at both sites.

STRATEGIC PLAN AND RELATED POLICIES

Supports the SCRD's Board's Strategic Plan's Strategic Focus Area of Asset Stewardship, Strategy of Achieve Sustainable Solid Waste Management and Tactic of implementing the landfill disposal ban of organics.

Support's the SCRD's Financial Sustainability Policy.

CONCLUSION

There is Board direction to optimize the schedule at the Pender Harbour Transfer Station and Sechelt Landfill.

The goal of optimization is to balance service levels with the required staffing levels for safety and successful waste screening.

For service levels, this includes considering traffic patterns, wait times and daily maximum capacities on each of the sites.

For staffing, for Sechelt Landfill, it's recommended this includes increasing staffing levels to ensure three Site Attendants are present during all operating hours. For Pender Harbour Transfer Station, it's recommended to have one Site Attendant is present during all operating hours.

To achieve this, Staff prepared an optimized schedule for both sites that incorporates the 2021 Round 1 Budget Proposal of 0.9 FTE ($52,570 for 2021) funded from user fees (tipping fees). Should this budget proposal not be approved, the current hours of operation and staffing levels would remain.

For the Sechelt Landfill, the proposed schedule results in a decrease in opening hours for commercial customers of 4.5 hours per week (due to Monday closure) and an overall increase of 0.5 hours for all other customers. However, this results in an increase of three hours on Sundays.

For the Pender Harbour Transfer Station, the proposed schedule results in a decrease to opening hours per week of between 3 and 4 hours, depending on the season. As well, a clearer delineation of summer and winter hours that results in additional Sunday openings in early May and late September.

Should the Board desire to increase staffing levels beyond the proposed optimized schedule, then additional FTE and budget would be required. A 2021 Round 2 Budget Proposal could be prepared with an increase to the FTE and budget value should the Board direct staff to do so. This increased value would also be proposed to be funded from user fees (tipping fees.)

Reviewed by:			
Manager		Finance	
GM		Legislative	
CAO	X – D. McKinley	Other	X – A. Kumar

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Raphael Shay, Water Sustainability Coordinator

SUBJECT: **RESULTS OF SECHELT LANDFILL BIOCOVER FEASIBILITY STUDY PHASE 1**

RECOMMENDATION(S)

THAT the report titled Results of Sechelt Landfill Biocover Feasibility Study Phase 1 be received.

BACKGROUND

A Sechelt Landfill Biocover Feasibility Study Phase 1 (Phase 1) was undertaken in 2020 as per Board resolution (004/20 Budget Proposal 7). XCG Consulting Limited (XCG), the SCRD's current contracted landfill engineering service provider, was retained to conduct the Phase 1 study. Phase 1 included a desktop study to evaluate the technical, financial, regulatory, and greenhouse gas emission implications of applying a biocover on the Final Closure area at the Sechelt Landfill.

A biocover is a type of landfill final cover that is designed to oxidize methane emissions into carbon dioxide. There are climate benefits to oxidizing methane since it has twenty-one times the global warming potential when compared to carbon dioxide. Biocovers are made of a methane degradation layer, such as compost or septage solids and a gas distribution layer, such as gravel.

The Design, Operation, and Closure Plan (DOCP) outlines what is allowed at a landfill. The Sechelt Landfill DOCP includes a traditional final cover designed with an impermeable low-density polyethylene geomembrane and drainage tubes. The DOCP does not currently allow for the use of a biocover.

The purpose on this report is to summarize the results of the Biocover Feasibility Study Phase 1 and to discuss the benefits and risks of pursuing a Biocover Feasibility Study Phase 2 Field Study.

DISCUSSION

The final report on Phase 1, prepared by XCG, is included as Attachment A of this report. To assist with the Board's decision making regarding next steps, staff have summarized and analyzed the results in this report and proposed options for next steps.

The most important considerations in assessing the feasibility of a biocover at the Sechelt Landfill are:

- Availability of biocover materials
- Logistics
- Climate impact
- Financial implications

- Regulatory framework

The feasibility assessment of these considerations is included in the following paragraphs.

Materials availability

Proximity of required materials to the landfill is an important driver for the financial feasibility of the installation of a biocover. If hauling over long distances is required, the transportation costs are anticipated to be such that they would reduce or eliminate the potential financial benefits of installing a biocover instead of a traditional cover.

In the case of the Sechelt Landfill, materials required for a biocover are readily available in sufficient quantity near the landfill. If a decision would be made to construct a biocover, a procurement process would be initiated for the sources of the required materials.

For the purpose of this feasibility study several potential material sources were considered that are available in close proximity to the landfill. The information on these material sources used in this project were provided by staff of the entities managing these material sources for the purpose of this project.

The District of Sechelt's Dusty Road facility is looking for disposal options for septage solids and this type of material helps the performance of a biocover. The SCRD is seeking a disposal option for the Chapman Creek Water Treatment Plant residuals and such materials could benefit the composition of a biocover. Compost, compost screenings and wood chips are all useful materials produced nearby from locally-based waste diversion programs. And finally, gravel could also be sourced from local suppliers.

Logistics

As mentioned, the proximity of sources to the landfill is essential for a biocover to be a feasible option.

Once all materials are brought together at one site, they then need to be mixed to create the biocover. This can be done at or near the landfill site and is required to be mixed under a shelter. Although there are space limitations at the landfill site and currently no shelter, other options could be explored further at a later stage of implementation planning. One such option is to contract the mixing service to a third party service provider.

Once the materials are mixed, they need to be delivered to the area of the landfill that would need to be covered.

Climate impact

With regards to greenhouse gas emissions, the Sechelt Landfill emitted 20,101 tonnes of carbon dioxide equivalent (CO_2e) in 2019. Table 1 summarizes estimated emissions by 2027 under different scenarios, including the implementation of a food waste disposal ban which was discussed at the January Infrastructure Service Committee meeting. Emissions will gradually decrease in the following years and decades as materials decompose.

Table 1: Estimated Sechelt Landfill CO_2e Emissions in 2027 (tonnes)

Business as usual	Organics ban for all sectors implemented in 2022	Organics ban and Biocover with 80% oxidation
22,251	20,049	4,000

For comparison, SCRD emissions reported under the Climate Action Revenue Incentive Program (CARIP) were 1,114 tonnes in 2019. These exclude the transit service and the Sechelt Landfill.

Although 80% is a conservative estimate for methane oxidation, previous work at the Sechelt Landfill found significant lateral migration due to the unlined bottom of the landfill. While, this may impact the estimated performance of a biocover, it is not expected to impact overall feasibility of a biocover from a climate mitigation perspective.

The one-time emissions from construction of a biocover or the geomembrane cover will be considered and compared in a potential follow-up project phase.

Financial implications

Financially, based on the information collected for Phase 1, there would be savings from constructing a biocover instead of the currently permitted final cover in the Final Closure Area. Should a third party do the mixing, savings could be as much as $1,000,000. This is based on preliminary design estimates and includes material mixing and storage by a third party.

Should the SCRD undertake the mixing and storage, savings could be approximately $1,400,000. More detailed financial analyses are recommended before a decision is made to apply a biocover as a final cover at the landfill.

The ultimate costs for the sourcing, transporting and mixing of the biocover materials will be dependent on the procurement processes that would be initiated for these materials should a biocover proceed.

Regulatory framework

Regulatory considerations were also reviewed. Currently, the Sechelt Landfill DOCP does not permit a biocover. An amendment would be needed if a biocover is selected as the preferred option for the Final Closure Area.

Staff expect that a DOCP amendment to construct a biocover in the Final Closure Area would be supported by the Provincial Ministry of Environment and Climate Change Strategy (MECCS). Their 2011 Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines explicitly identifies biocovers as a best management practices for reducing GHG emissions from municipal solid waste landfills in BC.

Next Steps

Based on the considerations outlined above, overall, a biocover was found to be feasible at the Sechelt Landfill. However, a biocover is not without effectiveness, operational and financial risks. As such, staff have prepared two options for the Board's consideration.

Option 1 – Conduct Phase 2 Study in 2021 (recommended)

A Biocover Feasibility Study Phase 2 would involves constructing a pilot biocover on a portion of the Sechelt Landfill. Preliminary desktop reviews in Phase 1 indicated that there would be no issues around leachate or slope stability with the use of a biocover at the Sechelt Landfill. However, this would be confirmed in Phase 2. Geotechnical analysis for slope stability and chemical analysis will be completed to evaluate technical performance and risks.

Effectiveness of methane oxidation will be measured over several months. The implications of having two final cover types interface will be studied. Finally, Phase 2 would provide more specific design and implementation considerations, allowing for a refined financial feasibility.

Given the benefits a biocover may provide, staff recommend Option 1 and a budget proposal to 2021 Round 1 Budget was prepared for consideration. The budget proposal value would be approximately $150,000 with funding from Taxation proposed.

Phase 2 Study could commence once 2021 Budget is approved and a contract is awarded. The study would continue into Q2 of 2022 and would be designed to avoid interfering with Stage H+ Closure. The final report from Phase 2 would be shared with the Board in Q3 2022. It would be at this point that the Board would decide whether or not to pursue the use of a biocover for the Final Closure Area.

Changes to the DOCP would not be required for the Phase 2 Study. However, the SCRD is required to update the DOCP every five years. The next update is scheduled for 2022. As such, a 2022 Budget proposal will be brought forward for an update of the Sechelt Landfill DOCP. This DOCP update could include the use of biocover should that be the Board direction.

Option 2 – Do not pursue further investigation of a biocover

The Phase 1 Feasibility Study was preliminary and there are risks that the outlined benefits of GHG reduction do not materialize. There are also operational risks associated with multiple final cover systems interfacing. Another risk is the final required thickness for an optimized biocover may increase both material and landfill space requirements, thus reducing the cost savings and reducing landfill life.

With approximately six years remaining of landfill life, the workload and financial costs of investigating the implications of these risks through a Phase 2 study could be deemed too high. Therefore, the Board could elect to not pursue further investigation of a biocover and instead rely upon a landfill organics ban for all sectors as the approach for GHG reduction at the Sechelt Landfill.

Financial Implications

There is currently not a budget for a Phase 2 Study, thus a 2021 Round 1 Budget Proposal was prepared for consideration. This Phase is estimated to cost $150,000.

It must also be noted that the Strategic Plan aims for carbon neutrality on corporate emissions at some point in the future and that a plan to establish this will be initiated in 2021. If a biocover is installed and successfully reduces emissions at the Sechelt Landfill, there will be many times the carbon credits needed to offset corporate emissions, eliminating the need to purchase offsets.

STRATEGIC PLAN AND RELATED POLICIES

A biocover at the Sechelt Landfill primarily supports the Community Resilience and Climate Change Adaptation pillar of the Strategic Plan. Specifically, it involves developing community partnerships to reduce community emissions. By leading this project, the SCRD could also claim carbon offsets to become carbon neutral.

Material sourcing for a biocover would support the Working Together pillar of the Strategic Plan by exploring opportunities for collaboration.

More broadly speaking, a biocover would support the strategy of achieving sustainable solid waste management by reducing the impacts of the Sechelt Landfill.

CONCLUSION

A Sechelt Landfill Biocover Feasibility Study Phase 1 was undertaken in 2020. Phase 1 concluded a biocover would provide technical and economic benefits to the SCRD and community. Significant reductions to greenhouse gas emissions are also possible.

Proceeding with Option 1 - Conduct Phase 2 study in 2021 is the recommended option. Phase 2 would involve a pilot study where a small portion of the landfill is covered with a biocover and monitored. Phase 2 is estimated to cost $150,000 and a 2021 Round 1 Budget Proposal was prepared with funding proposed from Taxation.

Should the Board desire to pursue a Phase 2 study, a 2021 Round 2 Budget Proposal could be prepared.

Attachments

Attachment A – XCG Consulting Limited. Biocover Evaluation – Phase One, Sechelt Landfill

Reviewed by:			
Manager	X – R. Cooper	Finance	X – T. Perreault
GM	X – R. Rosenboom	Legislative	
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XCG 30 Since 1990

XCG File No. 4-2111-01-76
January 8, 2021

BIOCOVER EVALUATION – PHASE ONE
SECHELT LANDFILL
SECHELT, BRITISH COLUMBIA

Prepared for:

SUNSHINE COAST REGIONAL DISTRICT (SCRD)
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APPENDIX

1. INTRODUCTION

1.1 Purpose and Use

XCG Consulting Limited (XCG) was retained by the Sunshine Coast Regional District (SCRD) to prepare a Biocover Evaluation (Evaluation) for the Sechelt Landfill (Site). The objective of this report is to provide a high-level evaluation of a biocover system for the Site to support the SCRD in the process of considering a biocover system. Phase One includes a feasibility study to investigate technical, financial, and regulatory uncertainties surrounding the biocover application and a cost benefits analysis to assess greenhouse (GHG) savings and GHG emissions avoided. At the conclusion of this phase of the Evaluation, the SCRD will use this report to determine if they wish to proceed to Phase Two. Phase Two will involve a field work program including a test biocover section on the landfill, periodic landfill gas monitoring, geotechnical evaluation of selected biocover materials, and an update to this Phase One report based on the field program.

The scope of this report is limited to the matters expressly covered. This report has been prepared for the sole benefit of Sunshine Coast Regional District and may not be relied upon by any other person or entity without the written authorization of XCG Consulting Limited. Any use or reuse of this document (or the findings and conclusions represented herein), by parties other than those listed above, is at the sole risk of those parties.

1.2 Background

In May of 2010, the SCRD adopted the *Our Coast, Our Climate – Sunshine Coast Community Energy and Emissions Plan* with the goal of reducing GHG emissions by 7% by 2031 and a target of 332,000 tonnes per year. This plan supports the goals outlined in the Intergovernmental Panel on Climate Change (IPCC) 2018 report on limiting climate change to 1.5ºC and a 45% reduction over 2010 levels by 2030 and net zero emissions by 2050. Based on the SCRD's 2010 inventory, solid waste accounted for 11% of the community's emissions which supported the need to tackle solid waste emissions.

The Environment and Climate Change Canada (the ECCC) requires annual calculation and reporting of carbon dioxide, methane, and nitrous oxide emissions produced at landfills if they exceed the threshold of 10,000 tonnes of CO2-e per year. In 2019, XCG conducted a GHG Emissions Assessment for the Site to report on these emissions which included emissions from stationary fuel combustion, on-site transportation, and waste. XCG determined that 797.878 tonnes of GHG emissions or 20,070 tonnes of CO2-e were produced at the Site which exceeded the ECCC threshold for GHG reporting of 10,000 tonnes of CO2-e per year. Most of the emissions came from methane produced by the organic material breaking down in the landfill. Only 0.002304 tonnes of emissions was produced from the on-site propane use (stationary fuel combustion) and construction equipment and vehicles (on-site transportation).

In 2012, XCG also conducted a Landfill Gas Utilization Feasibility Analysis to evaluate the installation of LFG collection system to capture and utilize LFG. The design and construction of the Sechelt Landfill including the lack of impermeable liners under it has resulted in a large amount of the gas migrating sideways or underground out of the Sechelt Landfill and not out of the top. The LFG pumping test of 2015 determined that only approximately 15% of the landfill gas could be captured. XCG determined it would not be feasible to install a LFG collection system due to the extremely high installation costs and the low amount of LFG that could be captured. The Site also generated less than 1,000 tonnes of methane per year which was not enough to install a flare or scrub and sell to Fortis British Columbia (BC).

In 2015, the District of Sechelt piloted a food and green waste curbside collection program for 500 homes. Over the past five years, the program is diverting, on average, approximately 205 tonnes of material per year. In 2021, The District of Sechelt plans to expand the program District-wide.

In 2018, the Town of Gibsons implemented a food waste curbside collection program and in 2019, the first full year, the Town of Gibsons diverted 185 tonnes of food waste.

In October 2020, the SCRD implemented a food waste curbside program in Electoral Areas B, D, E, and F which will divert approximately 650 tonnes of food waste per year.

If the SCRD were to implement a food waste drop-off at Pender Harbour Transfer Station and implement a food waste ban for both the residential and commercial sector, the SCRD would divert 2,300 tonnes of organics from landfill annually which is equivalent to a 2,300 CO2-e reduction. To further reduce GHG emissions, the SCRD has requested an evaluation of implementing a biocover system at the Site in hopes to further tackle GHG emissions from waste and reach their goal of 7% GHG emission reductions by 2031 (Infrastructure Services Committee Agenda Package, October 2019).

2. SITE DESCRIPTION

The Site is located at 4901 Dusty Road in Sechelt, BC approximately 6.5 kilometres northeast of the District of Sechelt. The Site is located on Crown Land under License of Occupation No. 237204. The legal description of the Site is Block C, District Lot 7613, Group 1, New Westminster District.

The Site property is bounded to the north, east, and west by Crown Land (DL 7613), and to the south by Northcote Properties (DL 2464). The landfill encompasses an area of approximately 7 hectares, within an overall Site area of approximately 9.5 hectares. A site location map is shown on Figure 1.

Lehigh Hanson Materials Limited owns the mineral rights and currently operates its Sechelt Mine on the land south and west of the Site, with future expansion options for the Crown Land east and north of the Site.

The Site operates under Operational Certificate No. 106060 and comprises a non-hazardous solid waste landfill that accepts municipal solid waste from the District of Sechelt, Town of Gibsons, Sechelt Indian Government District, and all of the electoral areas in the SCRD. In addition, as of July 20, 2015, waste received at the Pender Harbour Transfer Station is landfilled at the Site.

In 2013, the SCRD constructed approximately 13,500 square metres of closure as part of Stage B closure outlined in the September 2012 Interim Design, Operations and Closure Plan (IDOCP). The remaining two thirds of the Site has approximately six years remaining until full closure and includes Stage H (18,500 m^2) which will close in 2021 and the Final Closure (31,000 m^2) which will close in 2026.

3. REGULATORY SETTING

The following section provides an overview of the regulatory environment which governs final cover at the Site.

3.1 Provincial Regulations

The 2016 Landfill Criteria for Municipal Solid Waste (Landfill Criteria) published by the British Columbia Ministry of Environment and Climate Change Strategy (MOECC) regulates final cover at landfills. The Landfill Criteria applies to all landfills on public and private land in British Columbia that receive municipal solid waste and include all new landfills, lateral and/or vertical expansions of existing landfills, new landfill phases, and existing landfills. Key elements of the criteria which are applicable to this Evaluation include:

- The minimum final cover shall consist of a barrier layer (soil or geomembrane), providing a maximum hydraulic conductivity of 1 x 10^{-5} cm/sec for landfill sites located in arid and semi-arid regions and 1 x 10^{-7} cm/sec for landfill sites located in non-arid regions.
- The final cover soil barrier layer shall have a minimum compacted thickness of 0.6 metres measured perpendicular to the slope with a minimum 0.15 metre topsoil layer capable of establishment and sustained growth of the vegetative cover.
- The final cover system is to be designed to ensure the maximum allowable leachate generation rate is not exceeded but will allow for waste stabilization during the post-closure period. The final cover using geomembrane as the barrier layer shall have a geomembrane or geocomposite equivalent to 1 x 10^{-7} cm/sec, with a geotextile (or sand) protection layer, with a minimum 0.45 metre common fill layer and minimum 0.15 metre topsoil layer capable of establishment and sustained growth of the vegetative cover. The depth of the topsoil layer should be related to the type of vegetation proposed to accommodate to necessary rooting depth. Soils of higher permeability may be approved based on leachate generation potential at the landfill site.
- A completed final cover shall be seeded or hydroseeded at the first opportunity that will result in successful germination and sustainable growth. Trees and shrubs can be also used to establish a vegetative cover. The vegetal species should be selected to ensure that their root systems will not impact the performance of the low permeability layer.
- Alternative final cover design, such as an evapotranspiration cover, can be approved if it can be demonstrated that the alternative provides equivalent or better performance with respect to reduction in infiltration and other objectives, such as erosion resistance and LFG control.
- Each area of the landfill footprint that has achieved final contours shall be closed within 365 days to provide for progressive closure of the landfill site.
- Final contours of the landfill shall be constructed at grades not steeper than 3H:1V (33%). The recommended design criteria for the top plateau of the landfill is a

slope not less than 10H:1V (10%) for cover systems using a soil barrier layer. The grade for the top plateau can be reduced up to 25H:1V (4%) for cover systems using a durable geomembrane or composite barrier layer with an overlying drainage layer above the final landfill side slope.

The Organic Matter Recycling Regulation Reg. 18/2002 of BC (OMRRR of BC) governs the construction and operation of compost facilities, and the production, distribution, storage, sale and use of biosolids and compost. It provides guidance for local governments and compost and biosolids producers, on how to use organic material while protecting soil quality and drinking water sources. Key elements of the regulation which are applicable to this Evaluation include:

Part 4 – Storage and Land Application Requirements

Division 1 – Storage at a Land Application Site

Storage facility

18 A storage facility must

a) be of sufficient capacity to store all the managed organic matter to be used on the land application site for the period of time needed for its application as a fertilizer or soil conditioner,

b) be located at least 15 metres from any watercourse and 30 metres from any source of water for domestic purposes, and

c) be maintained in such a manner as to prevent the escape of managed organic matter.

Storage site

19 (1) Managed organic matter may only be stored at a storage site as follows:

a) for not more than 2 weeks if it is

(i) used within 2 weeks, and

(ii) stored in a manner that prevents the escape of managed organic matter;

b) for more than 2 weeks if it is

(iii) stored for no longer than 9 months,

(iv) located at least 30 metres from any watercourse or any source of water used for domestic purposes, and

(v) stored in a manner that prevents the escape of managed organic matter.

(2) Berms or other works must be constructed around the storage site if necessary, to prevent the escape of managed organic matter.

Rainy season storage using a storage site

20 (1) This section applies to

a) Vancouver Island,

b) the Fraser Valley, and

c) any other area of British Columbia that receives a total average precipitation greater than 600 mm (24 inches) during the months of October to March inclusive.

(2) Managed organic matter that

a) is to be applied to land under a land application plan,

b) is stored at the land application site,

c) is not stored in a storage facility, and

d) must be covered from October 1 to March 31 of the next year to prevent the escape of managed organic matter.

As stated in the 2017 XCG Design, Operations, and Closure Plan (DOCP), there is no planned major future use of the Site. The Site may continue to receive waste as a transfer station; however, the Site will likely need to be expanded to accommodate the additional bins and stockpiles needed for a waste transfer station. The northwest corner of the Site could be transitioned into a transfer station, while the remainder of the Site would be restricted to passive use, such as wildlife habitat area, community trails, or green space. The SCRD may also consider building a transfer station closer to Sechelt and limit use of the Site to passive use. The application of a biocover system composed of organic materials such as biosolids or sludge would not impact the proposed future use of the Site.

3.2 Landfill Operational Certificate

The landfill is currently approved to operate under Operational Certificate No. 106060 issued by the MOECC on July 8, 2014. Key elements of this approval with respect to final cover include the following:

- Soil meeting the commercial land use standard as set forth in the Contaminated Sites Regulation, may be utilized for berm construction, daily, intermediate, and final cover, top dressing and landscaping. Soil with any substance with a concentration exceeding the lowest applicable numerical soil standard commercial land may only be used for internal berms, or daily or intermediate cover.
- The operational certificate holder must, to the satisfaction of the Director, take measures to minimize leachate generation, including by not limits to, providing effective covering and surface water runoff.
- The operational certificate holder must apply final cover to any area of the landfill which will not receive any further waste. Final cover must be applied in accordance with the design and operating plan required and at a minimum must consist of a at least 1.0 metre of low permeability ($<1 \times 10^{-5}$ cm/s) compacted soil (or equivalent) cap plus a minimum of 0.15 metre of topsoil and suitable vegetative cover, or as approved by the Director.

A copy of the Operational Certificate is included as Appendix A

Should the SCRD decide to proceed with applying a biocover system, an amendment to the Sites DOCP would be required. The current DOCP is approved by the MOECC and does not allow for this form of final cover system.

3.3 Technologies & BMPs for Reducing GHG Emissions from Landfills

The MOECC's 2011 Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines is a guiding document for the selection of technologies and best management practices (BMPs) for reducing GHG emissions specifically from municipal solid waste landfills in BC. The document contains a BMP Decision tool to help determine which BMPs and technologies are most suitable and feasible for reducing LFG emissions based on landfill site condition criteria such as landfill stage, LFG generation, and LFG collection system as described below.

- Landfill stage – active: refers to sites that are currently accepting waste and have yet to undergo full closure, as well as sites that are transitioning towards closure.
- Estimated LFG Generation – no: Site is currently estimated to generate less than 1,000 tonnes of methane per year, based on the initial LFG Generation Assessment.
- LFG Collection System – no: a LFG collection system is not currently installed at the Site.

Based on the site condition criteria, one of the recommended BMPs is a biocover because the Site is active, produces less than 1,000 tonnes of CO2e, and does not have a landfill gas collection system.

4. BIOCOVER

4.1 Oxidation of Methane

According to the ECCC, emissions from Canadian landfills account for 20% of national methane emissions. Estimates have shown that approximately 27 million tonnes of CO2-e are generated annually from all Canadian landfills. Over the past couple of decades, the mitigation of LFG from landfill sites via LFG management systems has gained popularity. Typical approaches include the application of an active LFG collection system or improved landfill cover technologies and in some instances the integration of both.

One example of an improved landfill cover technology is a biocover system which has shown to increase the methanotrophic microorganism content in the intermediate or final cover materials and is typically implemented on top of a traditional cover layer to provide additional GHG emissions control. To do so, there needs to be an increase in the proportion of organic materials (e.g. biosolids, compost, compost screenings, and wood), which will result in increased methane oxidation and reduced GHG emissions.

Methane oxidation in landfill cover soil reduces GHG emissions from landfills and there are a number of published and peer reviewed scientific research papers that have reported methane oxidation rates of 22% to 55% through operational soil cover (Whalen et al., 1990; Chanton et al., 2009; Chanton et al., 2011). Methane oxidation can be further enhanced by using biocover systems composed of biosolids and other organic materials. In several different experiments and studies that optimize biocover properties, methane removal rates as high as 100% were achieved with an average rate of 80% to 100% (Kettunen et al., 2006, Berger et al. 2005, Humer and Lechner, 1999). Although oxidation rates ranging from 80% to 100% have been achieved the methane oxidation potential of a biocover is controlled by several factors, including soil temperature, moisture content, pH, and nutrient content. Material composition is also an important factor, as texture and grain size affect oxygen diffusion into the landfill cover. The thickness and moisture-holding capacity of the biocover affects the retention time of the transported methane within the cover and controls the amount of oxidation that occurs (Stern et al., 2007).

4.2 Materials

A biocover typically consists of a methane degradation layer (e.g. organic materials) on top of a gas distribution layer (e.g. gravel) of varying type, engineered properties, and depth. The methane degradation layer contains a higher proportion of methanotrophic microorganisms than conventional cover materials (e.g. clay soils), enabling it to oxidize larger volumes of methane, converting it to carbon dioxide gas, which is considered to have 21 times less global warming potential than methane gas. The gas distribution layer provides a mechanism for the gas to be evenly distributed throughout the biocover to provide optimal conditions for methane oxidation (MOECC Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines, 2011).

Typical materials used for the methane layer include a mixture of biosolids, compost, compost screenings, and wood. For the gas distribution layer, the most common and best suited material is a porous gravel to allow for gas to be evenly distributed throughout the biocover. All the materials required for a biocover system are available in the surrounding areas of the Site. The ideal biocover elements include (Huber-Humer et al., 2009):

- Bulk density 0.8-1.1 kg/L
- Moisture content 30-50%w/w
- Water holding capacity 50-130% DM
- Air filled pore volume >25% v/v
- Particle size distribution 0.063-2mm:20-30;2-6.3mm:ca.40; 6.3-20mm:20-40; >20mm:ca 10
- Conductivity <4 mS/cm
- pH value 6.5-8.5
- SO_4^{2-} >500 ppm DM
- NH_4^+-N <400 ppm DM
- NO_2^--N <0.1 ppm DM
- NO_3^--N No limit value
- P_{total} >0.3% DM
- N_{total} >0.5 % DM
- Organic content >15% DM
- TOC >7 % DM

The thickness of methane degradation layer used in this Evaluation is 0.65 metres and the gas distribution layer is 0.3 metres. Several studies recommend 1.2 metres and 0.5 metres for the methane degradation layer and gas distribution layer respectively but for the purpose of this Evaluation and to compare costs of permitted final cover to biocover, the lesser thicknesses were used (Kaur-Mikk Pehme et al., August 2020). If the SCRD decides to proceed with implementing a biocover system on the Final Closure area and for the purpose of obtaining maximum GHG reductions, the recommended thickness of 1.2 metres would instead be used.

The current final cover used at the Site is a composite final cover composed of the following elements:

- Mixed vegetation;
- 0.15 metres organic soil;
- 0.50 metres native soil;
- Lateral drainage layer, consisting of DRAINTUBETM (a collection system consisting of small collection tubes surrounded by geotextile);

- Low-density polyethylene (LDPE) geomembrane; and
- 0.30 metres sand (LFG collection layer).

The recommended biocover is composed of the following elements:

- Mixed vegetation;
- 0.65 metres Biosoil and compost screenings or 0.195 metres septage solids/dried sludge and 0.455 metres compost screenings; and
- 0.30 metres drain rock.

For this Evaluation, the following materials for a biocover were investigated:

- Chapman Creek Water Treatment Plant – sludge (after dewatering for one year);
- Dusty Road Facility (DRF) – septage solids or biosolids; and
- Salish Soils – Biosoils, compost screenings, wood chips, and drain rock.

It should be noted that the above materials are all locally available and in close proximity to the Sechelt Landfill.

The evaluation of the materials included phone conversations and/or emails with staff from each of the three material supply options. Staff confirmed material content, mixtures, and quantities which have been described in detail below.

The septage solids from the DRF have 50% volatiles, have more sand content, and are not overly strong in organic content which is more ideal for methane oxidation. More mature material oxidizes methane better than fresh material which can do the opposite.

The District of Sechelt currently has 1,700 tonnes of septage solids dewatering in Geotubes at the DRF. This amount of material is produced every two years which is more than adequate material for the application of a biocover on the Final Stage at the Site.

Chapman Creek Water Treatment Plant produces a sludge comprised of dewatered solids (2%) and backwash water (<0.1%) that will be sent for drying. This material could also be used in the biocover mixture.

Salish Soils is a composting facility on a 10-acre site located 4 kilometres from the Site. Approximately 9,175 cubic metres per year of compost material is produced at this facility. This amount of compost is on the lower end of what would be required to cover the Final Stage but the facility has the capability to stockpile and store compost material on-site until needed if they are given ample time to do so. The composting facility also currently has 1,529 to 2,294 cubic metres of compost screenings and wood that are ready for use. Salish Soils produce several different kinds of compost one of which contains biosolids from Sechelt District called Biosoil. The Biosoil product can be mixed at various concentrations ranging from 25% to 40% biosolids mixed normally with 60% to 75% sand but for the biocover it would instead be mixed with compost screenings and wood for better methane oxidation. For this Evaluation, 30% biosolids and 70% compost screenings and wood were chosen because it best meets the properties listed in Section 4.2, which allow for moisture concentrations up to 50%.

The second reason for the 30% mix choice is due to the increase in cost as the organic content increases.

If the SCRD decides to proceed with implementing a biocover on the Final Stage, a procurement process would have to be completed for sourcing the materials. The material supply options listed above are only potential material sources and may not be the ultimate sources of materials.

5. TECHNICAL FEASIBILITY

5.1 Material Supply Scenarios

For this Evaluation two different scenarios are presented, keeping in mind that if the SCRD were to proceed with either scenario, a procurement process would need to be completed. The first scenario has all materials delivered to and mixed at a third-party location and the second scenario has all materials delivered to and mixed at the Site.

5.2 Material Supply Scenario One (Third-Party)

Scenario One evaluates the mixture of Biosoils (30%) and compost screenings and wood (70%) for the methane degradation layer and drain rock for the gas distribution layer. All these materials would be mixed, where applicable, on-site at a third-party location and then delivered to the Site.

5.3 Material Supply Scenario Two (the Site)

Scenario Two will have the septage solids and/or the dried sludge, and compost screenings, wood, and drain rock delivered directly to the Site. The material would then be stored and mixed at the Site and used as needed. If material is stored at the Site, berms or other works and a shelter to cover the material would need to be constructed for the Site to comply with the OMRRR of BC.

5.4 Other Resources

The only additional resources that would be required are trucks to transport the material and equipment to mix, spread, and maintain the material. All these costs have been incorporated into the cost per metre squared which is provide in more detail in Section 6.

5.5 Pilot Scale Biocover System

If the SCRD were to proceed with Phase Two, feasibility of the biocover system would be investigated for implementation on the Final Closure area and include implementing a pilot scale biocover system on a portion of the tarped off area which currently does not have final cover. As per Section 4.2, the materials required to construct a pilot scale biocover on a portion of the tarped off area and to implement a biocover on the Final Stage of the Site are local and readily available. The 2017 DOCP outlines that Stage H will be closed in the spring of 2021 which will not align with the timeline for Phase Two of the Evaluation and as such will be excluded from this Evaluation. Additionally, an amendment to the existing DOCP would be required if the SCRD decides to proceed with implementing a biocover system on the Final Closure area as a permanent cover for the Sechelt Landfill. The DOCP would need to be submitted to the MOECC for approval prior to implementing the biocover system. An amendment would not be required for the pilot scale biocover if it is removed after the program is complete.

5.6 Operational Concerns

In discussions with the SCRD, concerns were raised about the negative impacts on the Site that could result from the implementation of a biocover system. The SCRD had specific concerns regarding leachate quantity and quality as well as slope stability and how a biocover would integrate/intersect with the geomembrane liner.

5.6.1 Leachate Quantity

The biocover can be designed in a manner to allow for moisture retention and evaporation, such as an evapotranspiration cover. The SCRD is in an area of moderate potential evapotranspiration. The existing final cover design for the landfill promotes runoff and reduces water retention in the cover materials. A biocover and evapotranspiration cover would still encourage runoff, however the materials would be chosen to retain water and allow it to evaporate.

Using the Hydraulic Evaluation of Landfill Performance Model (HELP Model), the original cover design estimated approximately 50% of the annual precipitation for the Site would be runoff to the surface water conveyance system. Of the remaining 50% of the precipitation approximately 3% (25 mm) would infiltrate through the final cover and be considered leachate. The remaining 47% would evaporate.

The biocover design would drastically decrease the amount of precipitation runoff. The HELP Model estimates approximately 5% of the annual precipitation would be runoff to the surface water conveyance system and approximately 75% of the annual precipitation would evaporate, leaving 20% (225 mm) of the annual precipitation to infiltrate the final cover and be considered leachate.

5.6.2 Leachate Quality

During Phase Two of the Evaluation XCG would collect samples of the proposed biocover materials and have them tested for Toxicity Characteristic Leaching Procedure (TCLP). The TCLP analysis provides an indication of the impacts a material that is being proposed for use in the final cover would have on the quality of the leachate in the landfill. In the past (February 2013) TCLP testing was conducted on biosolids being disposed of at the Site and the same process would be used for the proposed biocover materials. This testing would confirm if the implementation of a biocover will impact leachate quality.

5.6.3 Slope Stability

During Phase Two of the Evaluation XCG would conduct a geotechnical assessment of the proposed biocover materials. Currently, biocovers are being used across BC and North America with no known slope stability issues. As such, XCG does not anticipate any slope stability issues with the implementation of a biocover.

As part of the geotechnical assessment, XCG will evaluate the interface between the current final cover and the proposed biocover for stability issues. As stated above there are numerous sites across BC and North America with a similar interface between geomembrane covers and biocovers. As such, XCG does not anticipate and slope stability issues at the interface of the two cover systems.

6. FINANCIAL FEASIBILITY

6.1 Stage B Closure - 2013

The slope and impermeability of the current Stage B final cover system will likely limit the applicability of a biocover on this section. The SCRD has already invested a significant amount of money into the placement of the approved final cover and it would not be economically feasible to remove and replace the final cover with a biocover. For the purposes of this Evaluation, a biocover is only considered for the Final Stage of the Site (31,000 m^2) which will close at the end of 2026. For both scenarios presented below, labour and contractor costs have been included but neither one includes contract administration, engineering, mobilization, and demobilization.

6.2 Material Supply Scenario One (Third-Party) Costs

A detailed breakdown of the costs associated with Scenario One implementation for the Final Stage Closure is presented in Table 2. The cost associated with Scenario One for the Final Stage Closure $1,102,980. The total costs for implementing the Scenario One biocover is $1,093,370 less than the currently permitted final cover. These costs include all materials, transportation, placement, grading, and compaction.

6.3 Material Supply Scenario Two (the Site) Costs

A detailed breakdown of the costs associated with Scenario Two implementation for the Final Stage Closure is presented in Table 2. The cost associated with Scenario Two for the Final Closure $758,260. The total costs for implementing the Scenario Two biocover is $1,438,090 less than the currently permitted final cover. These costs include all materials, transportation, placement, grading, and compaction. The only additional costs, if the SCRD were to proceed with Scenario Two, would be for a 3.0 by 3.65 metre shelter and berms around the material to protect the material from the weather, prevent it from escaping the Site. The approximate cost to complete the Site improvements to comply with the OMRRR of BC is $15,000 to $20,000.

7. COST BENEFITS ANALYSIS

The cost benefits analysis assesses GHG savings and emissions avoided, as well as the cost to purchase carbon offsets.

7.1 Methane and CO2-e Production

As per the 2013 XCG Landfill Gas Management Summary, peak methane emission rates for 2009 through 2014 were less than 1,000 tonnes per year. As such, the Site was not regulated to install a LFG collection system.

The 2019 XCG GHG Emissions Assessment for the Site and determined that 804 tonnes of methane or 20,101 tonnes of CO2-e were produced at the Site which exceeded the ECCC threshold for GHG reporting of 10,000 tonnes of CO2-e per year. Based on this report, methane and CO2-e projections for 2027, after the landfill is closed, without a curbside organics diversion program or a food waste ban, will be 901 tonnes or 22,521 tonnes per year respectively.

According to the 2017 DOCP, the Final Stage will be able to accept 12,804 tonnes of waste. A food waste ban implemented at the beginning of 2022 could divert up to 2,300 tonnes of organics from this stage of the Sechelt Landfill. The food waste ban would reduce the methane produced annually by 24 tonnes annually beginning in 2023 from 854 tonnes (21,348 tonnes CO2-e) to 830 tonnes (20,753 tonnes CO2-e) and by 99 tonnes in 2027 (the first year after the Site is closed), from 901 tonnes (22,521 tonnes CO2-e) to 802 tonnes (20,049 tonnes CO2-e). By 2035, the CO2-e would be below the 10,000 tonne of CO2-e per year limit at 9,764 tonnes.

If a food waste ban were implemented along with a biocover on the Final Stage at 80% oxidation, the methane could be reduced by 642 tonnes in 2027 from 802 tonnes (20,049 tonnes CO2-e) to 160 tonnes (4,000 tones CO2-e) when the Sechelt Landfill is filled to capacity. Emissions would be below the 10,000 tonnes of CO2-e per year limit for reporting the year the biocover is constructed if 80% oxidation occurred on all the methane emitted.

A large amount of the LFG migrates sideways or underground out of the Sechelt Landfill and not out of the top. For methane to be oxidized it needs to filter out of the top of the Sechelt Landfill and pass through the gas distribution layer and finally the methane oxidation layer. Other mechanisms that help move LFG vertically out of landfills to maximize methane oxidation would be investigated in Phase Two.

The Site is exceeding the ECCC threshold for GHG reporting of 10,000 tonnes of CO2e per year and as such, the SCRD will need to continue with annual monitoring and reporting. The threshold is in place to ensure exceedances are monitored and reported and is not an indication of non-compliance. The Site will naturally produce less LFG over the years beginning in 2026 when no material is accepted. If no curbside organics diversion program or food waste ban and biocover system were implemented, methane emissions and CO2-e would be below regulatory thresholds beginning in 2036 at 395 tonnes and 9,872 tonnes respectively, which means annual monitoring and reporting would not longer be required.

7.2 Carbon Offsets

Implementing a food waste ban and biocover on the Final Stage of the Sechelt Landfill can significantly reduce the amount of methane produced by the Site if 80% of the methane produced is oxidized. Most of the methane produced is from the organics already landfilled at the Site which means that a biocover would be more effective in reducing methane emissions when compared to implementing a food waste ban. A detailed breakdown of the GHG's can be found in Table 3 Waste and Emissions Summary.

According to the 2019 Environment and Climate Change Canada Carbon Pollution Pricing: Options for a Federal Greenhouse Gas Offset System the cost to offset the excess emissions in 2019 was $20 per tonne with costs increasing annually by $10 per tonne. In 2023, 20,753 CO2-e tonnes will be produced with a food waste ban, and at $60 per tonne the total cost to purchase carbon offsets for the excess emissions would be $645,180.

8. SUMMARY

The proposed biocover design has potential for reducing methane emissions at the Site using elements of circular economy - instead of wasting natural soils and using expensive synthetic liners for the construction of an impermeable final cover layer, functional waste-derived materials can be used instead. There are several other benefits to implementing a biocover on the Final Stage of the Sechelt Landfill.

1. Potential GHG reductions of methane from 830 tonnes (20,753 tonnes CO2-e) to 166 tonnes (4,515 tonnes CO2-e) annually in 2023 with a food waste ban.
2. Potential GHG reductions of methane from 802 tonnes (20,049 tonnes CO2-e) to 160 tonnes (4,000 tonnes CO2-e) annually in 2027 with a food waste ban and biocover on the Final Stage with 80% oxidation of all the methane emitted.
3. A significant reduction in cost of final cover by using local materials that may otherwise landfilled. Cost differences range from $1,093,370 with material being mixed at a third-party location to $1,438,090 with material mixed at the Site. Although the savings are less with having the material mixed at a third-party location this option may be preferred due to the limited space at the Site for mixing and storing biocover material.
4. Using material from the DRF and/or Chapman Water Treatment Plant, that is currently being stockpiled and will eventually be landfilled, as a final cover instead. In turn, this frees up annual tonnage capacity at the Site to accept more waste from other sources.
5. A reduction in desiccation cracking of the cover, higher soil moisture retention, reduced runoff, and improved vegetation growth (MOECC Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines, 2011).

A large amount of the LFG migrates laterally or underground out of the Sechelt Landfill and not out of the top. This means that the amount of methane that could be oxidized is unknown. As part of Phase Two, a biocover system would need to be piloted and methane testing conducted before and after implementation to confirm oxidation rates. Additional and future costs such as biocover material testing and methane monitoring would be assessed in Phase Two of the Evaluation which includes a field work program described in more detail in the next section.

9. PHASE TWO EVALUATION

The actual amount of LFG that will move vertically out of the Sechelt Landfill and through the biocover system and the amount of methane that will be oxidized are unknown. These unknowns will be investigated in Phase Two which will involve the following tasks:

Task One (March/April 2021) – Slope Stability Analysis

XCG will conduct a Geotechnical Analysis of the proposed biocover materials. Along with the Geotechnical Analysis, XCG will complete the chemical analysis (including TCLP, organics content, and general chemistry) on the proposed biocover materials. If the biocover materials are found not stable XCG will not proceed to Task Two and will instead provide a summary letter explaining the results and reasons for not proceeding to Task Two. The approximate cost for Task One is $20,000.

Task Two (June/July 2021 to June/July 2022) - Biocover Pilot Program

XCG will test the effectiveness of oxidizing methane on a portion of the tarped off area over a one-year period to cover all seasons. Monthly methane gas readings will be taken along with soil moisture levels. At the time of the visit, weather conditions will be noted and the report will include the weather data from Environment Canada for the entire month. The approximate cost for Task Two, not including materials, is $69,000.

Task Three (September/October 2022) – Phase Two Biocover Evaluation Report

Based on the field program findings, a Phase Two Biocover Evaluation Report will be developed and include a summary of recommendations. There are other types of methane oxidation systems including, biofilters (passive and active), bio-windows, and bio-tarps which may be, depending on the biocover pilot program results, determined to be a better fit in place of the traditional biocover system. The approximate cost for Task Four is $12,000.

Task Four (October 2022) – Sechelt Landfill Operational Certificate Amendment

If the SCRD decides to proceed with implementing a biocover or another type of methane oxidation system on the Final Closure a detailed timeline with firmed up tasks and costs will be provided. XCG will update the DOCP to include the final cover material and thickness changes and submit it to the MOECC. Once the MOECC approves the DOCP, XCG will fill out the application to have the Sechelt Landfill Operational Certificate amended. An approximate response time of four to six months can be anticipated and will align with the next required DOCP submission in 2022. The approximate cost for Task Three is $4,000.

The total cost for Phase Two is approximately $105,000.

It should be noted that at any point during the Phase Two Evaluation if the XCG and the SCRD determines that a biocover will negatively impact the Sechelt Landfill, XCG will discontinue work on the Evaluation and a summary letter will be prepared in lieu of a full report.

10. REFERENCES

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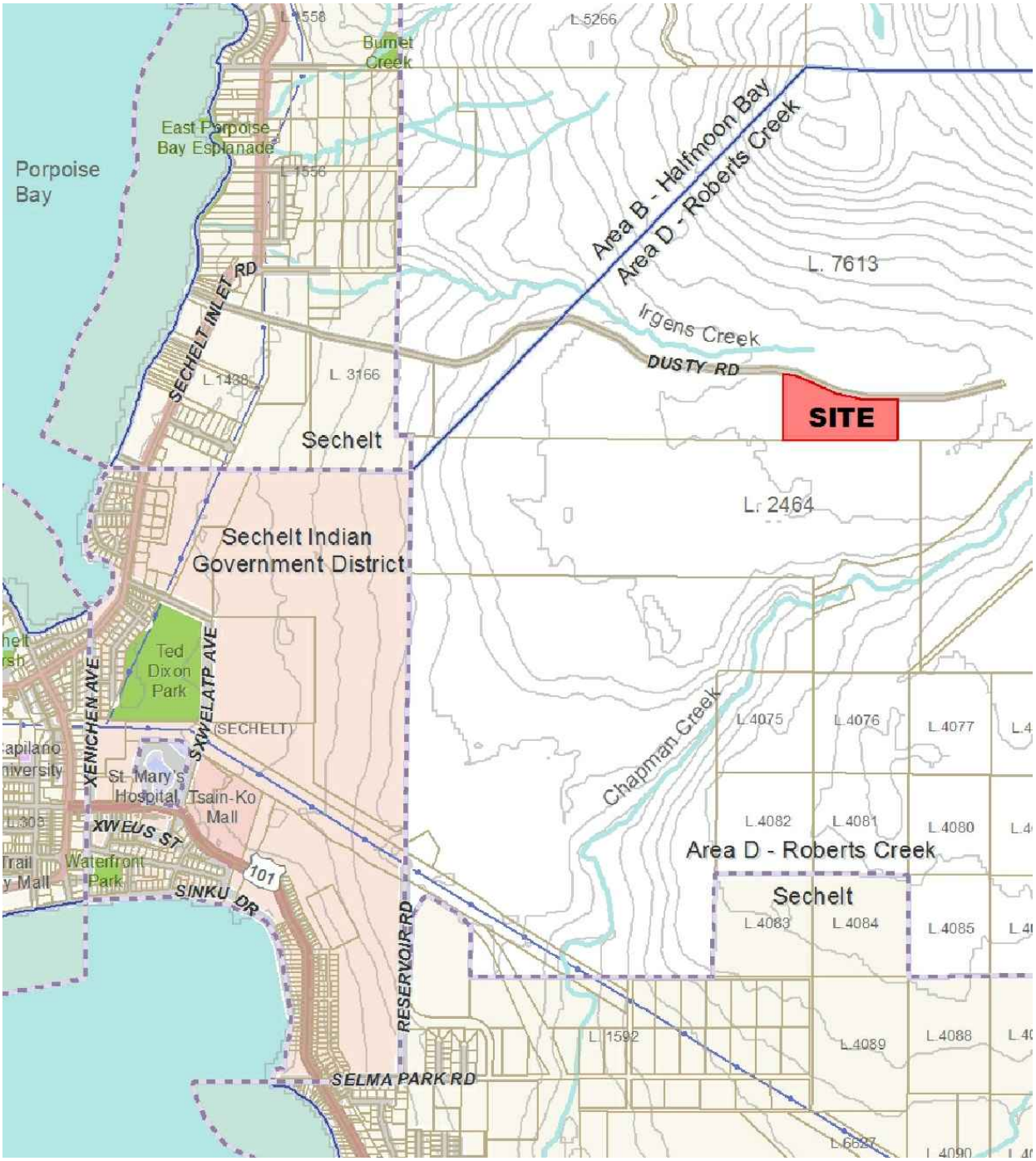
FIGURES



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SITE LOCATION MAP

BIOCOVER EVALUATION - PHASE ONE
SECHELT LANDFILL
SUNSHINE COAST REGIONAL DISTRICT

XCG
Environmental Engineers & Scientists

DATE	JOB NO.	FIGURE NO.
DEC 2020	4-2111-01-76	1

 (file: R421110176001FIG01.dwg)

DUSTY ROAD

SHARE SHED

GATE/PUBLIC ENTRANCE

OFFICE TRAILER

POWER SHED

SCALE HOUSE

SPECIAL WASTE STORAGE

MAINTENANCE SHED

CONVEYANCE DITCH FROM SECHELT SPRING (LOCATED BY SCRD)

PUBLIC TIPPING AREA

CONTACT WATER POND

FOREBAY

GATE

0 20 40 m

1 : 1500

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF WASTE
- APPROXIMATE FENCE LINE
- EXISTING CONTOURS
- EXISTING ASPHALT ROAD
- EXISTING GRAVEL ROAD
- EXISTING BUILDING
- EXISTING CULVERT
- EXISTING SURFACE WATERCOURSE
- EXISTING STORMWATER GRAVITY MAIN

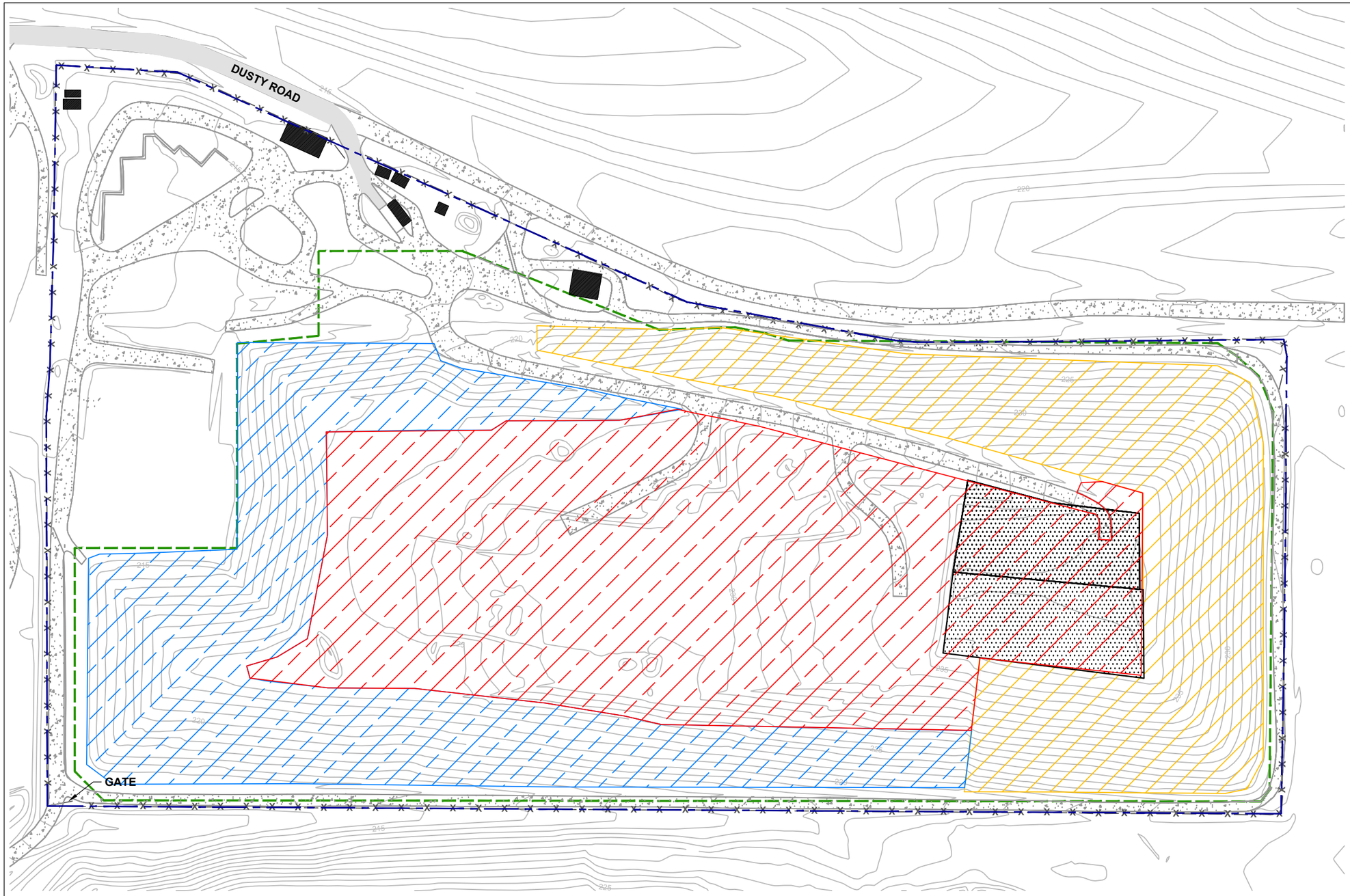
EXISTING SITE FACILITIES

BIOCOVER EVALUATION - PHASE ONE
SECHELT LANDFILL
SUNSHINE COAST REGIONAL DISTRICT

XCG CONSULTING LTD.

DATE	JOB NO.	FIGURE NO.
DEC 2020	4-2111-01-76	2

NOTES: EXISTING CONDITIONS AS OF NOVEMBER 29, 2019 (file: R421110176001FIG2.dwg)



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LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF WASTE
- APPROXIMATE FENCE LINE
- EXISTING CONTOURS
- EXISTING ASPHALT ROAD
- EXISTING GRAVEL ROAD
- EXISTING BUILDING
- EXISTING STAGE B CLOSURE (2013)
- EXISTING TARPED AREA
- PROPOSED STAGE H CLOSURE (2021)
- PROPOSED FINAL CLOSURE (2026)

STAGES OF LANDFILL CLOSURE

BIOCOVER EVALUATION - PHASE ONE
SECHELT LANDFILL
SUNSHINE COAST REGIONAL DISTRICT

XCG CONSULTING LTD.

DATE	JOB NO.	FIGURE NO.
DEC 2020	4-2111-01-76	3

NOTES: EXISTING CONDITIONS AS OF NOVEMBER 29, 2019 (file: R421110176001FIG2.dwg)

TABLES

Table 1 Existing Final Cover Design Costs

Final Closure	Thickness (m)	$/m^2 in 2026 Funds	31,000 m^2
Organic Soil	0.15	$11.90	$368,900.00
Native Soil	0.50	$12.25	$379,750.00
LDPE	0.001	$18.20	$564,200.00
Draintube	0.001	$20.30	$629,300.00
Sand	0.30	$8.20	$254,200.00
TOTAL	**0.95**	**$70.85**	**$2,196,350.00**

Table 2 Biocover Costs for Final Closure

Mixed at a Third Party Location	Thickness (m)	Area (m2)	$/m2 in 2026 Funds	Cost
Methane Oxidation Layer (Biosoil @ 30% & Compost screenings/wood @ 70%)	0.65	31,000	$17.97	$557,070.00
Gas Distribution Layer (drain rock)	0.30	31,000	$9.12	$282,720.00
Material Placement, Grading and Compaction (If Required)	1.00	31,000	$8.49	$263,190.00
TOTAL	**1.95**	**93,000**	**$35.58**	**$1,102,980.00**

Mixed at Site	Thickness (m)	Area (m2)	$/m2 in 2026 Funds	Cost
Methane Oxidation Layer (Septage Solids @ 30%)	0.195	31,000	$0.00	$0.00
Methane Oxidation Layer (compost screenings/wood @ 70%)	0.455	31,000	$2.32	$71,920.00
Gas Distribution Layer (drain rock)	0.30	31,000	$9.12	$282,720.00
Material Mixing	1.00	31,000	$4.53	$140,430.00
Material Placement, Grading and Compaction (If Required)	1.00	31,000	$8.49	$263,190.00
TOTAL	**2.95**	**155,000**	**$24.46**	**$758,260.00**

Table 3 Waste and Emissions Summary

Year	MSW (tonnes)	Relatively Inert (tonnes)	Mod. Decomp. (tonnes)	Decomposable (tonnes)	Decomposable (tonnes) with Organics Ban	Total MSW Landfilled	C02e Emissions (tonnes/year)	C02e Emissions (tonnes/year) with Organics Ban
1989	12,000	2,160	3,600	6,240	6,240	24,000		
1990	12,000	2,160	3,600	6,240	6,240	36,000		
1991	12,000	2,160	3,600	6,240	6,240	48,000		
1992	12,000	2,160	3,600	6,240	6,240	60,000		
1993	17,062	3,071	5,119	8,872	8,872	77,062		
1994	11,684	2,103	3,505	6,076	6,076	88,746		
1995	11,574	2,083	3,472	6,018	6,018	100,320		
1996	11,532	2,076	3,460	5,997	5,997	111,852		
1997	11,884	2,139	3,565	6,180	6,180	123,736		
1998	10,658	1,918	3,197	5,542	5,542	134,394		
1999	11,054	1,990	3,316	5,748	5,748	145,448		
2000	10,514	1,893	3,154	5,467	5,467	155,962		
2001	11,036	1,986	3,311	5,739	5,739	166,998		
2002	10,992	1,979	3,298	5,716	5,716	177,990		
2003	11,647	2,096	3,494	6,056	6,056	189,637		
2004	13,375	2,408	4,013	6,955	6,955	203,012		
2005	13,741	2,473	4,122	7,145	7,145	216,753		
2006	13,436	2,418	4,031	6,987	6,987	230,189		
2007	12,630	2,273	3,789	6,568	6,568	242,819		
2008	11,639	2,095	3,492	6,052	6,052	254,458		
2009	11,784	2,121	3,535	6,128	6,128	266,242		
2010	11,510	2,072	3,453	5,985	5,985	277,752		
2011	11,108	1,999	3,332	5,776	5,776	288,860		
2012	10,524	1,894	3,157	5,472	5,472	299,384		
2013	9,071	1,633	2,721	4,717	4,717	308,455		
2014	10,446	2,507	2,820	5,119	5,119	318,901		
2015	11,067	2,656	2,988	5,423	5,423	329,968		
2016	12,667	3,040	3,420	6,207	6,207	342,635		
2017	12,976	3,114	3,504	6,358	6,358	355,611		
2018	13,191	3,166	3,562	6,464	6,464	368,802		
2019	13,500	3,240	3,645	6,615	6,615	382,302		
2020	13,635	3,272	3,681	6,681	6,681	395,937		
2021	13,771	3,305	3,718	6,748	6,748	409,708	20,737	20,737
2022	13,909	3,338	3,755	6,815	4,512	423,618	21,045	21,045
2023	14,048	3,372	3,793	6,884	4,557	437,666	21,348	20,753
2024	14,189	3,405	3,831	6,952	4,603	451,854	21,646	20,512
2025	14,331	3,439	3,869	7,022	4,649	466,185	21,941	20,317
2026	14,474	3,474	3,908	7,092	4,695	480,659	22,232	20,164
2027	0	0	0	0	0	480,659	22,521	20,049
2028	0	0	0	0	0	480,659	20,495	18,280
2029	0	0	0	0	0	480,659	18,662	16,678
2030	0	0	0	0	0	480,659	17,005	15,227
2031	0	0	0	0	0	480,659	15,504	13,912
2032	0	0	0	0	0	480,659	14,146	12,720
2033	0	0	0	0	0	480,659	12,915	11,638
2034	0	0	0	0	0	480,659	11,800	10,656
2035	0	0	0	0	0	480,659	10,789	9,764
2036	0	0	0	0	0	480,659	9,872	8,953

APPENDIX A
OPERATIONAL CERTIFICATE NO. 106060

BRITISH COLUMBIA

July 8, 2014

Tracking Number: 243546
Authorization Number: 106060

REGISTERED MAIL

SUNSHINE COAST REGIONAL DISTRICT
1975 FIELD ROAD
SECHELT, BC
V0N 3A1

Dear Operational Certificate Holder:

Enclosed is Operational Certificate 106060 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the operational certificate. An annual fee will be determined according to the Permit Fees Regulation.

Please be aware that the following documents are required for submission by the specified dates set forth in the operational certificate:

- A hydrogeologic characterization and impact assessment of the landfill by August 31, 2015;
- An updated design and operating plan by December 31, 2017;
- An geotechnical and seismic assessment by April 30, 2018
- An environmental monitoring plan by April 30, 2018
- A leachate management plan for the landfill, acceptable to the Director, by December 31, 2015; and
- An annual report for the preceding 12 month period from January 1 to December 31 must be submitted to the Regional Director, Environmental Protection, by March 31 of each year.

This operational certificate does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operational certificate holder. It is also the responsibility of the operational certificate holder to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

.../2

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this operational certificate will be carried out by staff from the Coast Region. Plans, data and reports pertinent to the operational certificate are to be submitted to the Regional Director, Environmental Protection, at Ministry of Environment, Regional Operations, Coast Region, 2nd Floor, 10470 - 152 Street, Surrey, BC V3R 0Y3.

Yours truly,

Avtar S. Sundher BSc.
for Director, *Environmental Management Act*
Coast Region

Enclosure

cc: Environment Canada

BRITISH COLUMBIA

MINISTRY OF ENVIRONMENT

OPERATIONAL CERTIFICATE

106060

Under the Provisions of the Environmental Management Act and

in accordance with the Sunshine Coast Regional District's

Solid Waste Management Plan

SUNSHINE COAST REGIONAL DISTRICT
1975 FIELD ROAD
SECHELT, BC
V0N 3A1

is authorized to manage municipal solid waste / recyclable material and discharge residual solid waste to the ground at the Sechelt Landfill located at 4901 Dusty Road, Sechelt, British Columbia, subject to the conditions listed herein. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may result in prosecution.

This Operational Certificate supersedes and cancels all previous versions of the permit PR-02547 issued under the authority of the *Environmental Management Act*.

1. AUTHORIZED DISCHARGES

1.1 This section applies to the discharge of municipal solid waste and contaminated soil to the Sechelt Landfill. The discharge of municipal solid waste must be restricted to sources within the Sunshine Coast Regional District. The site reference number for this discharge is E208123.

Date issued: July 8, 2014

Avtar S. Sundher BSc.
for Director, *Environmental Management Act*
South Coast Region

1.1.1 The discharge is authorized by the Sunshine Coast Regional District's approved solid waste management plan. The maximum rate of discharge is 15,000 metric tonnes per year.

1.1.2 The characteristics of the discharge must be municipal solid waste as defined in the *Environmental Management Act* and include other material as specifically authorized by the Director. Waste asbestos may be discharged in accordance to Section 40 of the Hazardous Waste Regulation and in accordance with the Sunshine Coast Regional District's bylaws.

Materials prohibited from discharge include hazardous waste (excluding asbestos), liquids, semi-solid waste, biomedical waste and the following:

- Recyclable Materials including:
  a. used white goods,
  b. auto hulks and other large metallic waste,
  c. used tires,
  d. used lead acid batteries,
  e. gypsum wallboard, and
  f. corrugated cardboard.

- any other waste and/or recyclable material regulated under the Ministry's Recycling Regulation when alternate disposal options become available;

- other materials banned by the regional district in implementing the Sunshine Coast Regional District's solid waste management plan or bylaws; and

- other materials which may be designated by the Director when alternative disposal becomes available.

1.1.3 Waste must not be discharged into water or within a buffer zone as identified in Section 2.9, 2.10 and 2.11. The burning of waste is prohibited.

1.1.4 The authorized works common to this section and Section 1.2 and 1.3 are a sanitary landfill, locking gate to control access by the public, weigh scale and related appurtenances, approximately located as shown on Site Plan A.

Date issued: July 8, 2014

Avtar S. Sundher BSc.
for Director, *Environmental Management Act*
South Coast Region

1.1.5 The authorized works specific to this section are those associated with a landfill operation and include berms, covering material, electrified bear fence, surface water diversionary works and environmental monitoring systems, approximately located as shown on attached Site Plan A and Site Plan B.

1.1.6 The authorized works must be complete and in operation while discharging.

1.1.7 The legal description of the location of the area of discharge is:

Block C, District Lot 7613, Group 1, New Westminster District.

1.1.8 The civic address of the Sechelt Landfill is 4901 Dusty Road, Sechelt, BC.

1.2 This section applies to a public drop off and recycling area for the management of municipal solid waste and recyclable material from sources within the Sunshine Coast Regional District.

1.2.1 The types of materials which may be managed in this area include waste as set out in Section 1.1.2, and typical recyclable materials.

1.2.2 The quantity of recyclable material that may be stored is limited to the capacity that can be reasonably handled on the site.

1.2.3 The authorized works are those associated with a public drop of and recycling area and include an access area, roll-off bins and related appurtenances approximately located as shown on Site Plan A.

1.2.4 The facility is located on a portion of Block C, District Lot 7613, Group 1, New Westminster District.

1.3 This section applies to a return collection facility for the management of household hazardous waste from sources within the Sunshine Coast Regional District.

1.3.1 The operational certificate holder must obtain the necessary approvals prior to commencement of operation of the return collection facility and ensure compliance with all applicable legislation. The operational certificate holder must notify the Director at least 30 days prior to commencement of operations.

Date issued: July 8, 2014

Avtar S. Sundher BSc.
for Director, *Environmental Management Act*
South Coast Region

1.3.2 The types of material which may be managed at this facility are typical household hazardous wastes.

1.3.3 The quantity of household hazardous waste that may be stored must be in accordance with the Hazardous Waste Regulation and is limited to the registration quantity as a return collection facility.

1.3.4 The authorized works are those associated with a return collection facility and include an access area, a secured storage area for household hazardous waste and related appurtenances approximately located as shown on Site Plan A.

1.3.5 The facility location is proposed to be on a portion of Block C, District Lot 7613, Group 1, New Westminster District.

1.3.6 The operational certificate holder must submit an updated Site Plan A at least 30 days prior to commencement of operations.

2. DESIGN AND PERFORMANCE REQUIREMENTS

2.1 Design and Operating Plan

The operational certificate holder must operate the facilities authorized in Section 1 in accordance with a design and operating plan certified by a qualified professional. The operational certificate holder must submit an updated design and operating plan of the existing landfill authorized in Section 1, acceptable to the Director. The plan must address each of the subsections in the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version) including performance, siting, design, operational, closure and post-closure criteria and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills (January 1996 or the most recent version).

The plan must include, but is not limited to, information regarding:

- A fill strategy for the design capacity of the landfill. The plan must incorporate the concept of progressive closure and take into consideration environmental protection measures and the proposed end use of the site.

Date issued: July 8, 2014

Avtar S. Sundher BSc.
for Director, *Environmental Management Act*
South Coast Region

- A contingency plan (including funding) to close the landfill is to be developed prior to the design capacity being achieved should the landfill not be supported by future Sunshine Coast Regional District solid waste management plans or is closed for any other reason;
- Estimated elevations;
- Cell size, compaction details, daily, intermediate and final cover including types of materials used;
- Actions taken to ensure slope stability;
- Anticipated schedule for progressive closure activities;
- Measures to minimize leachate generation, including surface water diversion measures;
- A groundwater monitoring program in accordance with the requirements of Section 2.5;
- Recommended action plan to be undertaken as a result of the existing and subsequent leachate management assessment required in Section 3.13;
- A landfill gas management plan if required by Section 2.4 and updated in accordance with anticipated legislation changes;
- Recommended actions as a result of the existing and subsequent geotechnical, hydrogeological, landfill gas and any other assessments;
- Contingencies to address environmental protection issues, including leachate, landfill gas management and slope stability, in the event of an earthquake or any other emergency;
- Fire prevention measures;
- Operational requirements for the return collection facility for household hazardous waste, if applicable;
- List of recyclable materials accepted and how they are managed at the site;
- Incoming waste inspection, removal of unauthorized waste and staff supervision on the active face;
- Estimated closure/post closure-costs and details of how the closure/post-closure funds will be accrued;
- Measures to minimize hazards to public safety; and
- Measures to control vectors, odours, dust, wind-blown litter and scavenging.

The facilities must be developed, operated and closed in accordance with the design and operating plan. Should there be any inconsistency between this Operational Certificate and the design and operating plan, this Operational Certificate must take precedence unless otherwise agreed in writing by the Director.

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The Interim Design and Operating Plan was submitted in December 2012. The operational certificate holder must review the design and operating plan on an annual basis to determine if changes are required. Any revisions to the design and operating plan must be certified by a qualified professional and acceptable to the Director as part of the annual report required in Section 4.6.

The operational certificate holder must also submit an updated design and operating plan every five (5) years which includes, at a minimum, any revisions submitted as part of the previous five years of annual reporting. The next design and operating plan is required by December 31, 2017

2.2 Geotechnical and Seismic Assessment

The operational certificate holder must submit a geotechnical and seismic assessment for the landfill, acceptable to the Director, which meets the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version). The assessment must address, at a minimum, slope stability during construction, operation, and post-closure is required. The geotechnical and seismic assessment must be reviewed and updated every five (5) years hereafter. The next assessment is required by **April 30, 2018** Actions recommended in the assessment and subsequent reviews must be incorporated into the design and operating plan as required in Section 2.1. A qualified professional must conduct the assessment and subsequent reviews.

2.3 Hydrogeological Assessment

The operational certificate holder must review the hydrogeology of the landfill authorized in Section 1.1 annually and submit the results with the annual report required in Section 4.6. Actions recommended in the annual reviews must be incorporated into the design and operating plan as required in Section 2.1 and form the basis of a recommended groundwater monitoring program as required in Section 2.5. A qualified professional must conduct the annual reviews.

The operational certificate holder must submit an updated hydrogeologic characterization and impact assessment of the landfill authorized in Section 1.1 acceptable to the Director, by **August 31, 2015.** The assessment must meet the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version) and be reviewed and updated every five (5) years hereafter. A qualified professional must conduct the assessment and subsequent reviews.

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2.4 Landfill Gas Assessment

The operational certificate holder must submit to the Director supplemental landfill gas assessments and generation reports every five years as required under the Landfill Gas Management Regulation. Annual monitoring and reporting of landfill gas must be done in accordance with the Landfill Gas Management Regulation and the criteria set out in the Environmental Monitoring Program (EMP) in Section 2.5.

The landfill gas assessment must address, but is not limited to, each relevant subsection in the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version) and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills (January 1996 or the most recent version). Should the assessment indicate that the nonmethane organic compounds (NMOCs) will exceed 150 tonnes/year, then the operational certificate holder must submit a landfill gas management plan, acceptable to the Director.

At any time, based on the assessment or any other information, the Director may require the installation and operation of gas recovery and pollution prevention works, including landfill gas monitoring wells. It should be noted that the Ministry of Environment has developed the Landfill Gas Management Regulation under the Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act, 2008. The requirements of the Regulation and its guideline documents must be incorporated by the operational certificate holder into the landfill gas management plan and design and operating plan as they come into effect.

2.5 Environmental Monitoring Plan

The Operational Certificate holder must submit an Environmental Monitoring Plan acceptable to the Director by April 30, 2018. The plan must be prepared by a qualified professional and meet the requirements set forth in the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version) and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills (January 1996 or the most recent version).

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The operational certificate holder must review the environmental monitoring plan on an annual basis to determine if changes are required. Any revisions to the plan must be prepared and certified by a qualified professional acceptable to the Director. The operational certificate holder must also submit an updated environmental monitoring plan every five (5) years, which includes, at a minimum, any revisions submitted as part of the previous five years of annual reporting required in Section 4.6.

2.6 Qualified Professionals

All facilities and information, including works, plans, assessments, investigations, surveys, programs and reports, must be certified by qualified professionals. Refer to Section 3.1 of the operational certificate for the definition of a qualified professional.

2.7 Additional Facilities or Works

The Director may require investigations, surveys, and the construction of additional facilities or works including, but not limited to, leachate and bear-proofing measures. The Director may also amend the requirements of any of the information required by this operational certificate including plans, programs, assessments and reports.

2.8 Public Health, Safety and Nuisance

The landfill must be operated in a manner such that it will not create a public nuisance or become a significant threat to public health or safety with respect to landfill gas, unauthorized access, roads, traffic, airport activity, noise, dust, litter, vectors, or wildlife attraction.

2.9 Surface Water Diversion

Discharge of municipal solid waste into water is prohibited. The Operational Certificate holder must construct adequate surface water and groundwater diversion works to minimize surface water run-off and groundwater seepage from entering the landfill.

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2.10 **Ground and Surface Water Quality Impairment**

The landfill must be operated in a manner such that ground or surface water quality does not decrease beyond that specified by the British Columbia Water Quality Guidelines, or other appropriate criteria as may be specified by the Director, at or beyond the landfill property boundary.

If exceedances to the specified water quality criteria occur as a result of landfill operations, the Director may require that control measures or works be undertaken in addition to those outlined in Section 3.13.

2.11 **Buffer Zones**

The operational certificate holder must maintain the existing buffer zone relative to the property boundary of: 2 to 4.5 metres to the south, 10 to 98 metres to the west, 4.42 metres to the north and 4 to 18 metres to the east as shown in Site Plan A and Site Plan B.

The buffer zone must include an adequate firebreak. The firebreak must be maintained free of combustibles.

2.12 **Survey of the Landfill**

The Operational Certificate holder must conduct a legal survey which identifies the metes and bounds for both the limits of the landfill footprint and the boundaries of the landfill site. Copies of the land surveys are to be kept on file for review if requested by the Director. The corners and breakpoints of landfill footprint limits and landfill site boundaries are to be established and maintained in the field.

The operational certificate holder must also conduct an annual survey of the height, contour, surface area and settlement of the landfill and submit as part of the annual report required in Section 4.6.

3. OPERATIONAL REQUIREMENTS

3.1 **Definitions**

"**director**" means the Director or a person delegated to act on behalf of the Director, as defined in the *Environmental Management Act*;

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"**commercial quality soil**" means soil which does not contain any substance with a concentration exceeding the lowest applicable numerical soil standard for commercial land as set forth in the Contaminated Sites Regulation.

"**hazardous wastes**" as defined by the Hazardous Waste Regulation pursuant to the *Environmental Management Act* are prohibited from disposal unless expressly authorised by the Hazardous Waste Regulation, approved by the Director or as specified in the Operational Certificate;

"**regional director**" means Regional Director, Environmental Protection;

"**qualified professional**" means an applied scientist or technologist specializing in a particular applied science including, but not necessarily limited to, agrology, biology, chemistry, engineering, geology, or hydrogeology and

- who is registered in British Columbia with their appropriate professional organization, acting under that association's Code of Ethics and subject to disciplinary action by that association, and

- who, through suitable education, experience, accreditation and knowledge, may be reasonably relied on to provide advice within their area of expertise;

"**return collection facility**" means a household hazardous waste collection facility or a mobile household hazardous waste collection facility;

"**suitable cover**" means soils utilized in accordance with Section 3.5 of this operational certificate or other material acceptable to the Director:

"**commercial quality soil**" means soil which does not contain any substance with a concentration exceeding the lowest applicable numerical soil standard for commercial land (CL) use as set forth in the Contaminated Sites Regulation.

3.2 Bypasses

The discharge of effluent which has bypassed site control works as listed in Section 1.1.5 is prohibited unless the prior approval of the Director is obtained and confirmed in writing. In the event of an emergency, Section 3.3 must be followed.

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3.3 Emergency Procedures

The authorized works must be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the operational certificate holder including, but not limited to, unauthorized fires ~~arising from spontaneous combustion or other causes, or detection of leachate~~ on the property, the operational certificate holder must take appropriate remedial action and notify the Director immediately. The Director may reduce or suspend operations to protect the environment until the authorized works has been restored, and/or corrective steps taken to prevent unauthorized discharges.

3.4 Inspections

The operational certificate holder must inspect the authorized works regularly and maintain them in good working order. The Director must be immediately notified of any malfunction of these works.

The operational certificate holder must inspect the property boundaries regularly and notify the Director of any visual evidence of environmental impacts on adjacent properties.

3.5 Soil Management

Soil meeting the commercial land use standard, as set forth in the Contaminated Sites Regulation, may be utilized for berm construction, daily, intermediate and final cover, top dressing and landscaping. Soil with any substance with a concentration exceeding the lowest applicable numerical soil standard for commercial land may only be used for internal berms or daily or intermediate cover. The utilization or discharge exceeding the industrial quality soil and hazardous waste soil is prohibited.

Soils utilized for berm construction, intermediate and final cover, top dressing and landscaping must not be included in determining the rate of discharge specified in Section 1.1.1.

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3.6 Waste Compaction and Covering

All waste must be placed in cells of a size determined by a qualified professional, and in accordance with the design and operating plan and must address each of the subsections in the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version). The working face must be confined to the smallest practical area. The waste must be compacted and covered as per the design and operating plan.

Daily cover consisting of a minimum of 0.15 metres of suitable cover material or a functionally alternate cover material, as authorized by the Director, must be applied to the working face at the end of each operating day. If alternate cover is utilized, then the working face must be covered with a minimum of 0.15 meters of suitable cover at least once every week or as approved by the Director. Intermediate cover, consisting of a minimum 0.30 metre of suitable cover material must be applied within thirty (30) days to any area of the landfill which will not receive any further waste for thirty (30) days. The Director may vary the frequency of covering when freezing conditions adversely affect normal operation.

3.7 Completed Areas of the Landfill

The operational certificate holder must apply final cover to any area of the landfill which will not receive any further waste. Final cover must be applied in accordance with the design and operating plan required in Section 2.1 and, at a minimum, must consist of a minimum of 1.0 metre of low permeability ($<1 \times 10^{-5}$ cm/s) compacted soil (or equivalent) cap plus a minimum of 0.15 metre of topsoil and suitable vegetative cover, or as approved the Director.

With the written approval of the Director, the topsoil used for the final covering may be mixed with conditioning agents such as sludge (biosolids), compost and the like to add organics and improve the moisture holding capacity and nutrient value of the soil. Soil must be utilized in accordance with Section 3.5. Final cover must be constructed and maintained with adequate drainage and erosion controls and seeded with suitable grasses. Surface water runoff must be directed away from the landfill footprint. Soils must be in accordance with the Organic Matter Recycling Regulation (OMRR) and the Contaminated Sites Regulation (CSR).

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3.8 Wildlife and Vector Management

Vectors (carriers capable of transmitting a pathogen from one organism to another including, but not limited to flies and other insects, rodents, and birds) must be controlled by the application of cover material at the required frequency per Section 3.6 or by such additional methods as specified by the design and operating plan and the Director. This landfill must be operated so as to minimize the attraction of wildlife such as bears and birds by applying cover at required frequencies and instituting a good housekeeping program.

Additional works may be required or other operating instructions may be issued by the Director should a wildlife nuisance or hazard arise.

3.9 Litter Control

Litter must be controlled by compacting the waste, minimizing the work face area, applying cover at the required frequencies, providing litter control fences and instituting a regular litter pickup and general good housekeeping program or as specified by the Director.

3.10 Electric Fencing

The operational certificate holder must maintain an electrified bear fence, at a minimum, around the landfill footprint, or implement alternative bear-proofing measures, acceptable to the Director, that will deter bears from entering that part of the site. The electric fence must be energized at all times, unless otherwise approved prior by the Director in writing. The fence must be maintained to the standards set out by the manufacturer until implementation of the landfill closure plan required in Section 5.2. Any penetrations through the electric fencing by bears must be immediately reported to the Ministry's Conservation Officer Service.

3.11 Fire Prevention and Control

The operational certificate holder must take all reasonable measures necessary to prevent fires from occurring at the site and is responsible for complying with all local fire safety requirements. The operational certificate holder must provide adequate fire breaks that are free of combustibles around the perimeter of the landfill footprint.

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The operational certificate holder must maintain firefighting equipment and materials as required. In the event of a landfill fire, immediately notify the local fire department, the Provincial Emergency Program and the Director.

3.12 Posting of Signs

The operational certificate holder must post signage, to the satisfaction of the Director, at the entrance of the landfill site with the following current information including:

- Site name;
- Owner and operator;
- Contact telephone number and address for the owner and operator;
- 24 hour telephone number in case of emergency;
- Hours of operation;
- Materials and wastes accepted for recycling and land filling;
- Prohibited materials and wastes; and
- Tipping fees.

3.13 Leachate Management

The operational certificate holder must, to the satisfaction of the Director, take measures to minimize leachate generation, including but not limited to, providing effective covering and surface water runoff. Actions taken and their effectiveness must be detailed in the annual report as required in Section 4.6.

The operational certificate holder must submit a leachate management plan for the landfill authorized in Section 1.1, acceptable to the Director, by **August 31, 2015**. The plan must meet the Landfill Criteria for Municipal Solid Waste (June 1993, or the most recent version) and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills (January 1996 or the most recent version) and must be reviewed and updated every five (5) years hereafter. The leachate management plan, prepared by a qualified professional, must review the adequacy of the existing works to protect the receiving environment and identify any necessary upgrades and include a schedule for their implementation. Once implemented, the upgraded works must form part of the authorized works identified in Section 1.1.5.

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3.14 Landfill Gas Management

The Landfill must not cause combustible gas concentrations to exceed the lower explosive limit in soils at the property boundary or 25% of the lower explosive limit at or in on-site or off-site structures.

3.15 Management of Recyclable Materials

The operational certificate holder must take all practical measures to segregate for recycling and reuse of waste destined for disposal at this site.

Recyclable materials must be managed in a manner to not cause pollution and in accordance with the *Environmental Management Act* and its regulations.

3.16 Management of Household Hazardous Waste

The amount of household hazardous waste accumulated at the facility authorized in Section 1.4 must be stored in accordance with the Hazardous Waste Regulation and is limited to the registration quantity as a return collection facility.

4. MONITORING AND REPORTING REQUIREMENTS

4.1 Monitoring

The Operational Certificate holder must implement an environmental monitoring program as required in Section 2.5. The Operational Certificate holder must maintain records of all monitoring program data and analyses available for inspection. Based on the information submitted in the annual report, or any other information relevant to the site, the Director may vary the frequency, location and analyses of environmental monitoring as warranted.

4.1.1 Slope Stability Monitoring

The operational certificate holder must regularly monitor for evidence of slope instability as part of regular operations for evidence of tension cracking, veneer instability or failure.

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4.2 Sampling Procedures

Sampling is to be carried out in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2003 Edition (Permittee)", or most recent edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at http://www.env.gov.bc.ca/wsd/data_searches/field_sampling_manual/field_man_03.html

4.3 Analytical Procedures

Analyses are to be carried out in accordance with procedures described in the "British Columbia Laboratory Manual (2009 Permittee Edition)", or the most recent edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at www.env.gov.bc.ca/epe/wamr/labsys/lab_meth_manual.html.

4.4 Waste and Recyclable Materials Recording

The operational certificate holder must record the quantity, in tonnes, of waste, recycling, and return collection received at the landfill. Also, the quantity of recyclable materials and household hazardous waste removed from these facilities must be recorded.

4.5 Records Management

The operational certificate holder must maintain the following information and records, current and suitably tabulated, at the landfill office or Regional District office for inspection:

- A copy of Operational Certificate 106060;
- Training procedures and personnel training records;
- Contingency plans and notification procedures;
- The current design and operating plan;
- Inspection records from staff and regulatory agencies;
- Most recent hydrogeological, geotechnical and landfill gas assessments;

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- Incoming waste and soil records;
- Records of recyclable material and household hazardous wastes shipped offsite including the name of company and location the recyclable material and household hazardous waste is sent;
- Environmental monitoring results and interpretations;
- Records of commercial quality soil used as cover material identified in Section 3.5 along with records of soil shipped offsite; and
- Annual operating and monitoring reports for the previous 5 years.

4.6 Reporting

The operational certificate holder must prepare an annual report which must include, but is not limited to, the following:

- A review and interpretation of the analytical data from receiving environment monitoring for the calendar year;
- Summaries of waste and recyclable material records, with the amount of waste landfilled reported as a volume and tonnage;
- Summary of recyclable material and household hazardous wastes shipped offsite including the name of company and location the recyclable material and household hazardous waste is sent;
- Summary of amount of commercial quality soil brought onsite;
- Updated estimates for the remaining capacity, closure date for the current phase and closure date for the current landfill footprint;
- Results of the annual survey required under Section 2.12;
- An evaluation of leachate generation control measures;
- Results of the landfill gas monitoring;
- Revised closure/post closure costs, confirmation of sufficient funds available, and a statement of the current dollar value of the Closure Fund and the amount earmarked for the Sechelt Landfill site;
- Revised design and operating plan and planned improvements if applicable for minor revisions;
- Revised environmental monitoring program;
- Identification of operating problems and corrective actions taken;
- An evaluation of the recycling programs including waste diversion;
- Summary of public complaint/resolutions for the landfill;
- In the event of any non-compliance with the conditions of this operational certificate, an action plan and schedule to achieve compliance; and

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- The results of all monitoring programs as specified in this Operational Certificate. Data interpretation and comparison to the performance criteria in the Landfill Criteria for Municipal Solid Waste, the Guidelines for Environmental Monitoring and Municipal Solid Waste Landfills. Trend analyses, as well as an evaluation of the impacts of the discharges on the receiving environment in the previous year must be carried out by a qualified professional.
- Monitoring data must be entered into EMS – Environmental Monitoring System electronically and submitted in electronic and printed format satisfactory to the Regional Director.

The annual report for the preceding 12 month period from January 1 to December 31 must be submitted to the Regional Director, Environmental Protection, by **March 31** of each year.

5. CLOSURE AND POST-CLOSURE REQUIREMENTS

5.1 Closure Plan / Funding

The operational certificate holder must accrue, during the life of the landfill, a dedicated reserve fund in a form acceptable to the Director, sufficient to finance closure and environmental contingencies related to the landfill. The estimated cost of carrying out closure and how the fund will be accrued must be included in the design and operating plan required in Section 2.1. The estimated costs of closure and post-closure activities must be updated annually and submitted to the Director as part of the annual report required in Section 4.6. Should the estimated costs of closure and post-closure increase then the operational certificate holder must increase the rate of accrual as

5.2 Progressive Closure

The operational certificate holder must submit a closure plan as part of a Design and Operating Plan for the facilities authorized in Section 1 by **December 31, 2015** acceptable to the Director. The plan must be reviewed and updated every 5 years as part of the Design and Operating Plan or until the site is decommissioned and a closure-plan under Section 5.3 is approved. The plan must be prepared by an independent qualified professional and include information regarding:

- Phasing plan showing areas to be progressively closed.
- Estimated total waste volumes and tonnage and the closure date;

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- A topographical plan showing the final elevation contours of the landfill and surface water diversion and drainage controls;
- Design of the final cover including the thickness and permeability of barrier layers and drainage layers and information on topsoil, vegetative cover and erosion prevention controls;
- Rodent and nuisance wildlife control procedures;
- Proposed end use of the property after closure;
- A post-closure monitoring program for groundwater, surface water, landfill gas, erosion and settlement for a minimum period of 25 years;
- Post-closure operation of pollution abatement engineering works such as leachate and landfill gas collection/treatment systems for a minimum period of 25 years; and
- Contingencies to address environmental impact concerns which may arise during the minimum post-closure period of 25 years.

5.3 Post-Closure Operation and Maintenance

A post-closure plan must be submitted not less than 2 years prior to decommissioning of the landfill. The closure plan must be reviewed every 5 years following closure and updated to encompass the next 10 years of post-closure activities. The post-closure plan and subsequent updates must be prepared by an independent qualified professional licensed to practice in the province of British Columbia and knowledgeable in such matters. The post-closure plan and subsequent updates must be submitted to the Director for approval and must include at least the following:

- a complete review and assessment report of the overall integrity of the landfill,
- Procedures for notifying the public about the closure and alternative waste disposal facilities;
- a detailed timetable for post-closure procedures and correction of any deficiency identified in the review and assessment report,
- a detailed schedule of inspection, monitoring and maintenance to be carried out for a minimum post-closure period of 25 years, and
- a process for the administration of the post-closure security fund required under Section 5.1 of this operational certificate.

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5.4 Declaration of Landfill

Landfills sited on titled land must register a covenant that the property was used for the purpose of waste disposal as a charge against the title to the property as provided for under Section 219 (1) of the *Land Title Act*. Landfills located on crown land are to have a "notation on file" registered that the property was used for the purpose of waste disposal. The registration of the charge or legal notification is to be submitted to the Regional Director.

5.5 Site Decommissioning

In accordance with Section 40 of the *Environmental Management Act* and Part 2 of the Contaminated Sites Regulation, the operational certificate holder must submit a site profile to the Director not less than 10 days prior to decommissioning the facilities authorized in Section 1.

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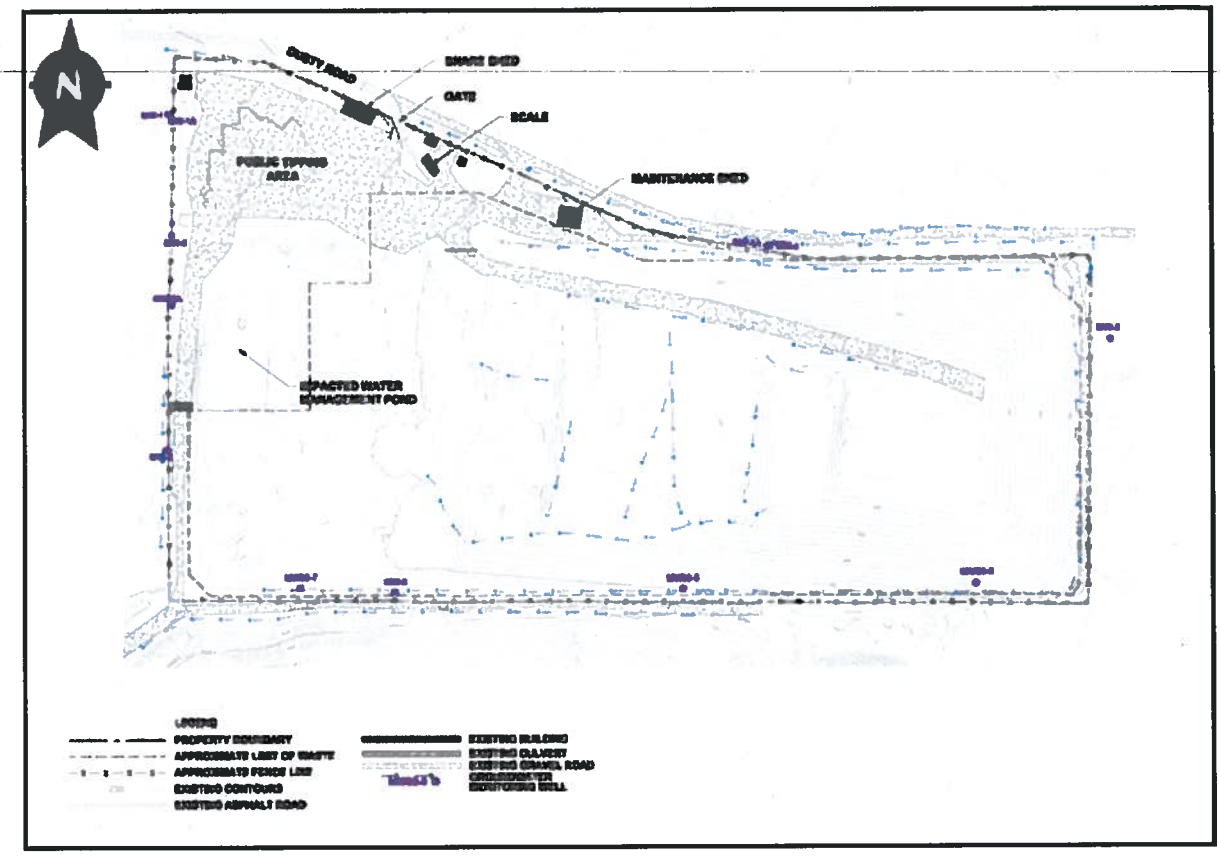
SITE PLAN A



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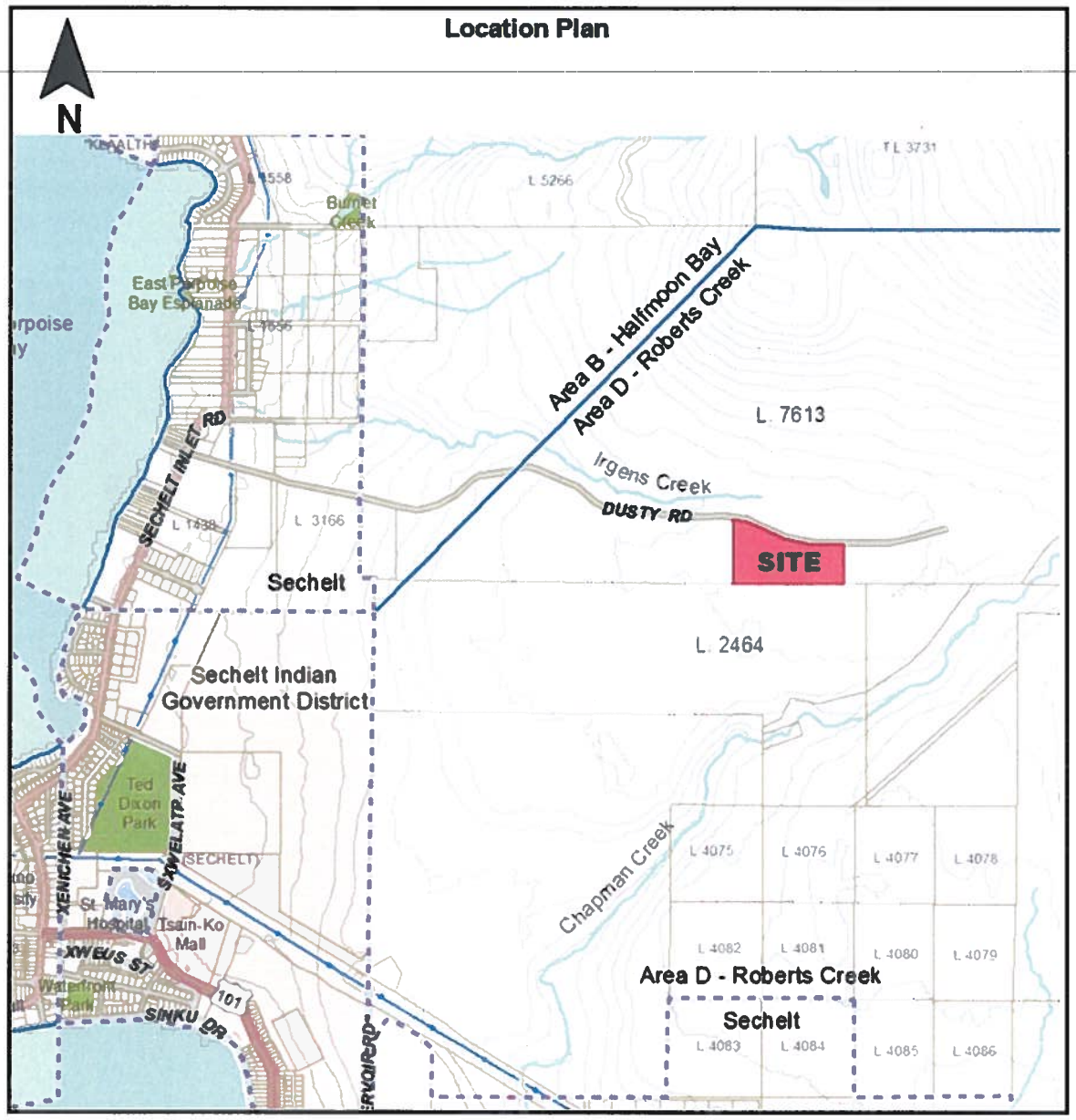
SITE PLAN B



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SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Robyn Cooper, Manager, Solid Waste Services

SUBJECT: **LANDFILL RE-DIVERSION OF WASTE FUNDING OPTIONS**

RECOMMENDATION(S)

THAT the report titled Landfill Re-Diversion of Waste Funding Options be received;

AND THAT Staff report back to the 2021 Round 2 Budget deliberations with the regulatory process to initiate a re-diversion of waste program for the following waste streams: Boats, Carpet, Concrete/Rubble, Flooring (non-wood and not containing asbestos), Furniture (non-wood), Recreation Vehicles, Roofing, Styrofoam;

AND THAT if the re-diversion program is implemented, the re-diversion of materials be initiated when 80% of annual authorized tonnage limit at the Sechelt Landfill is reached;

AND FURTHER THAT if the re-diversion program is implemented, it be funded from a new $5 per tonne surcharge for all materials landfilled.

BACKGROUND

The Sunshine Coast Regional District operates the Sechelt Landfill and Pender Harbour Transfer Station facilities. At these facilities, materials are either collected for diversion (recycling) or for burial at the Sechelt Landfill.

The Sechelt Landfill has an annual disposal limit of 15,000 tonnes. If that limit is reached, the landfill would close and re-open on January 1 of the following year when the limit is reset to 0. The 2020 disposal total was approximately 13,200 tonnes.

As well, the Sechelt Landfill has a maximum disposal capacity over its lifespan that based on a survey completed in November 2019 is anticipated to be reached in 2026. An updated remaining lifespan estimate is to be presented to the Board in the upcoming months.

In the interim between now and the closure of the Sechelt Landfill, there has been Board direction to investigate re-diversion of waste.

As such, at the July 23, 2020 Board Meeting, the following resolutions were adopted:

267/20 **Recommendation No. 4** *Landfill Capacity Management Options*

THAT staff report to a future Committee on the financial implications and implementation process of Option 1: Ad-hoc re-diversion of waste by the SCRD.

267/20 **Recommendation No. 10** *PMAC Minutes*

THAT the following recommendations therein be adopted and referred to staff for action as follows: (in part)

Recommendation No. 5 *Rubble* Material

The Solid Waste Management Plan Monitoring Advisory Committee recommends that the SCRD investigate local partnerships for the diversion of rubble material received at the Pender Harbour Transfer Station and Sechelt Landfill.

Recommendation No. 8 *Off-Coast Waste Disposal Options*

The Solid Waste Management Plan Monitoring Advisory Committee recommends that the SCRD consider off-coast waste disposal options as soon as possible.

The purpose of this report is to provide further information regarding a re-diversion of waste program to help inform the 2021 Budget deliberations.

DISCUSSION

Ad-hoc Re-diversion of Waste

As outlined in the July 16, 2020 Infrastructure Services Committee report titled *Landfill Capacity Management Options*, ad-hoc re-diversion would include the SCRD arranging the re-diversion of certain materials to be landfilled at another landfill. This would only be initiated once a certain percentage of the annual authorized tonnage would be reached. The percentage has not yet been set. This would apply at both the Sechelt Landfill and Pender Harbour Transfer Station.

The additional costs to the SCRD would include retaining the services of a hauler to load and bring these materials to another landfill and any tipping fees for disposal at the other landfill.

The additional costs for re-diversion could be funded through a few different methods:

- Increased tipping fee for those materials targeted for re-diversion
- Landfill Capacity Surcharge on all tipping fees of materials landfilled (to be implemented year-round)
- Increase taxation

The funding model has not been selected and Board direction is required.

Materials Considered for Re-Diversion

Staff reviewed the types of materials disposed at the Sechelt Landfill and Pender Harbour Transfer Station and considered the weight, volume and estimated tonnage received. As well, materials that are beyond the scope of typical household or commercial garbage that would be contained in a garbage bag were considered. Table 1 summarizes the materials staff recommend the Board to consider for re-diversion. Although all materials re-diverted contribute to a reduction in both tonnage and volume, the summary is intended to highlight when this

reduction is of significance. Some of the materials are currently collected as municipal solid waste (MSW) and thus do not have their own material code at the sites or specific tipping fee.

Table 1 – Summary of Materials for Consideration of Re-Diversion

Material	Current Tipping Fee (per tonne)	Controlled or Recyclable (as per Bylaw 405)
Boats	$265	Controlled
Carpet	$150 (as MSW)	n/a
Concrete/Rubble	$275	Controlled
Flooring (non-wood, not containing asbestos)	$150 (as MSW)	n/a
Furniture (non-wood)	$150 (as MSW)	n/a
Recreation Vehicles	$265	Controlled
Roofing	$190	Controlled
Styrofoam	$150 (as MSW)	n/a

Concrete

For rubble (concrete), staff explored local partnerships, however, most of the concrete received at the sites as re-bar and does not have a local re-use option, thus will continue to be accepted for disposal. Staff will continue to promote local reuse options for concrete without re-bar over disposal at the Sechelt Landfill or Pender Harbour Transfer Station.

Impacts to Sechelt Landfill Capacity

A limitation to initiating the re-diversion of waste program is that because most of these materials are currently accepted as MSW, the annual tonnage of each is unknown. Tonnage would be tracked as a consolidation of the materials as they are re-diverted, unless each material had its own material stream and associated tipping fee.

If implemented in 2021, the impacts to Sechelt Landfill capacity could be provided to the Board in Q2 2022 as re-diversion tracking would be included in the annual landfill reporting.

GHG Emissions

Implementing a re-diversion of waste program will increase transportation-related GHG emissions as container loads of material would be transported off-coast as opposed to remaining on-coast.

Other Considerations – Operational Certificate, Solid Waste Management Plan (SWMP)

Section 1.1.1 of the Sechelt Landfill's Operational Certificate (OC) states that the maximum rate of discharge is 15,000 metric tonnes per year,

Re-diversion of materials to an off-coast disposal site does not align with the SCRD's current Solid Waste Management Plan due to increasing GHGs as well as re-diversion is waste export, which is not outlined in the SWMP as a disposal option. Staff are consulting with the Ministry of Environment and Climate Change Strategy (MOE) on the process to allow for a waste re-diversion process to be initiated. Staff anticipate that this process might require an amended to the SWMP to include re-diversion of specific materials under specific circumstances. Staff anticipated to receive clarity if such process is indeed the one to be followed prior to Round 2 of the 2021 budget process.

Options and Analysis

In order to confirm clarity from MOE on the required process to update the SWMP, Board direction is required on the paraments of such waste re-diversion program. Besides the above-mentioned recommendation on the materials types to be included, direction is required on the funding and threshold for waste re-diversion.

Staff identified a total of four options for how this program could be funded, these are as follows:

Option 1 – Re-diversion funded from landfill capacity surcharge (recommended)

For Option 1, a Landfill Capacity Surcharge with set dollar amount could be added to the tipping fees for all materials landfilled. This could be considered the fairest approach as the need for the proposed re-diversion of materials is due to the total amount of waste disposed, and not directly triggered by the disposal of the proposed re-diversion materials. With a $5 surcharge applied to all materials landfilled, this would mean MSW would increase from $150 to $155, roofing would increase from $190 to $195 and so forth. Based on 2020 tonnage of material landfilled, a $5 surcharge could result in approximately $50,000 revenue.

The revenue of a $5 surcharge per tonne is expected to be sufficient for the initiation of re-diversion when 80% or more of the annual authorized tonnage limit is reached.

The surcharge is recommended not to be applied to minimum loads for which the current charge is $5. This funding model allows for operational flexibility for which materials to include or exclude for re-diversion based on circumstances in a given year.

The surcharge would not be applied to materials that are diverted for recycling such as wood, metal or drywall.

Implementing this surcharge would require an amended to the Sanitary Landfill Bylaw.

Option 2 - Re-diversion funded from taxation

For Option 2, funding from taxation, there would be no changes to the tipping fees and the additional hauling and processing costs would be funded from taxation. This funding method, taxation, means that all taxpayers are funding the re-diversion, not those who are producing the waste. This would also mean that separate tipping fees for the materials being re-diverted would not need to be established. This funding model allows for operational flexibility for which materials to include or exclude for re-diversion based on circumstances in a given year.

This options would require staff to bring forward a budget proposal to the 2021 Budget Round 2 deliberations.

For 2021, the average taxation increases per $100.000 of assessed value would be approximately $0.32.

Option 3 – Re-diversion funded from tipping fees

With Option 3, to be funded from tipping fees, only those materials targeted for re-diversion would have the tipping fee increased. This would require that each of the materials have a separate tipping fee established (if they do not already have one) under SCRD Sanitary Landfill Site Bylaw No. 405. This would allow for each material to be tracked, sorted and scaled at the sites, however, results in additional workload for staff and inconvenience for customers. This option could trigger more illegal dumping of materials selected for re-diversion.

Based on the estimated costs associated with the re-diversion of the selected materials, staff suggest the following tipping fees as outlined in Table 2 should this option be selected.

Table 2 – Proposed Tipping Fees for a Tipping Fee Funding Model

	Current Tipping Fees (per tonne)	**Proposed Tipping Fees (per tonne)**
Boats	$265	$285
Carpets	$150	$225
Concrete/Rubble	$275	$275 (no change)
Flooring (non-wood, not containing asbestos)	$150	$225
Furniture (non-wood)	$150	$225
Recreation Vehicles	$265	$285
Roofing	$190	$225
Styrofoam	$150	$350

Option 4 – Do not initiate a re-diversion of waste program beyond tires filled with foam funded from tipping fees

This option is the status quo. This option is not aligned with current Board direction and does not address the potential of reaching and exceeding annual regulatory authorized tonnage limit. Staff do not recommend this option.

Financial Implications

The current tipping fees are not sufficient to fund a re-diversion program as costs are higher than burying the material at the Sechelt Landfill when considering transportation and processing costs.

The following proposed budgets are based on an estimated average cost of $250 per tonne and vary by when re-diversion would be initiated based on the 15,000 annual authorized tonnage limit at the Sechelt Landfill:

- $50,000 budget would allow up to an estimated 200 tonnes to be re-diverted (re-diversion initiated at 80% of annual authorized tonnage limit). For 2021, this amount would be pro-rated to $25,000 for the Budget as such program is not expected to be initiated prior to early Q3 2021.

- $70,000 budget would allow up to an estimated 280 tonnes to be re-diverted (re-diversion initiated at 75% of annual authorized tonnage limit)

Recommended Option

Options 1 to 3 outline the considerations for three different funding models: landfill capacity surcharge, taxation and tipping fees.

Staff are recommending to fund the re-diversion of materials as included in Table 1 to be funded from a landfill capacity surcharge of $5 per tonne and to initiate re-diversion if an 80% of annual authorized tonnage limit is reached. Staff consider this to be the most fair and convenient approach to implement and administer while still ensuring regularly compliance. This approach is expected to result in a minimal risk for an increase in illegal dumping.

Organizational and Intergovernmental Implications

The organizational impacts for the options are minimal in terms of implementation of a re-diversion program. However, should a landfill capacity surcharge be implemented, this would increase the SCRD's and all local government's curbside garbage collection costs. For the SCRD Refuse Collection service [355], any increase in fees would need to be recovered in the 2022 User Rates and amended as such in the 2022-2026 Financial Plan.

Another consideration is that re-diversion would need to be incorporated into the re-design of the Sechelt Landfill, which the current plans would be able to accommodate.

Timeline for next steps

Once the process for the initiation of a re-diversion program is received from MoE, as well as the direction received from the Board on preferred options, staff will report back to the 2021 Round 2 Budget deliberations. At that time Board direction on the actual implementation of such program will be required.

If such direction is received staff will develop an implementation and communication plan (incl. timing) and will initiate the amendment to the Sanitary Bylaw 405 to include the waste re-diversion surcharge.

Communications Strategy

Staff will develop and implement necessary communications based on the Board's direction for changes to materials accepted or tipping fees if applicable.

STRATEGIC PLAN AND RELATED POLICIES

N/A

CONCLUSION

The Sunshine Coast Regional District operates the Sechelt Landfill and Pender Harbour Transfer Station facilities. At these facilities, materials are either collected for diversion (recycling) or for burial at the Sechelt Landfill.

The Sechelt Landfill has an annual disposal limit of 15,000 tonnes. If that limit is reached, the landfill would close and re-open on January 1 of the following year when the limit is reset to 0. The 2020 disposal total was approximately 13,200 tonnes.

In the interim between now and the closure of the Sechelt Landfill, there has been Board direction to investigate re-diversion of waste.

Staff are consulting with the Ministry of Environment and Climate Change Strategy on the process to allow for a waste re-diversion process to be initiated. If such process is feasible to complete in a relatively short period of time, staff recommend that a re-diversion of waste program is initiated targeting the following waste materials: Boats, Carpet, Concrete/Rubble, Flooring (non-wood, not containing asbestos), Furniture (non-wood), Recreation Vehicles, Roofing, Styrofoam and that the re-diversion be initiated at 80% of annual authorized tonnage.

To fund a re-diversion program, staff recommend a $5 per tonne surcharge for all materials landfilled.

Reviewed by:			
Manager		CFO/Finance	X – T. Perreault
GM	X - R. Rosenboom	Legislative	
CAO	X – D. McKinley	Other	X – A. Kumar

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Robyn Cooper, Manager, Solid Waste Services

SUBJECT: **PENDER HARBOUR TRANSFER STATION FOOD WASTE DROP-OFF PROGRAM UPDATE**

RECOMMENDATION(S)

THAT the report titled Pender Harbour Transfer Station Food Waste Drop-off Program be received;

AND THAT the tipping fee for the disposal of food waste at the Pender Harbour Transfer Station be set at $5 per container with a volume restriction of 50L;

AND THAT the Sanitary Landfill Bylaw 405 will be amended accordingly;

AND FURTHER THAT staff prepare a 2021 Round 2 Budget Proposal to augment the anticipated revenue from tipping fees for the food waste drop-off program at the Pender Harbour Transfer Station from Taxation collected thru [350] Solid Waste Operations.

BACKGROUND

In 2017, the SCRD engaged Carey McIver & Associates Ltd. to develop a Regional Organics Diversion Strategy (Strategy). The Strategy was adopted by the SCRD Board on January 18, 2018 and contains eight key initiatives to divert organic waste in the region.

One of the Strategy's initiatives to support a landfill ban for food waste is to implement food waste drop-offs in the areas of Pender Harbour, mid-coast and south coast.

Staff reports were brought forward to the September 19, 2019 and January 30, 2020 Infrastructure Services Committee meetings (Attachments A and B) to seek Board direction to refine the scope of a food waste drop-off program in terms of number of sites, program users, volume restrictions and cost recovery.

As part of the 2020 budget process, the SCRD Board direction was to implement one food waste drop-off site, located at the Pender Harbour Transfer Station, for residents and small businesses, funded from tipping fees with a volume restriction of 50L as per the following resolution adopted at the January 30, 2020 Board meeting:

026/20 **Recommendation No. 7** *Food Waste Drop-off Program – Update*

THAT the report titled Food Waste Drop-off Program – Update be received;

AND THAT staff prepare a 2020 Round 2 Budget Proposal for one food waste drop-off site in Pender Harbour for residents and small businesses funded from tipping fees with a volume restriction of 50L;

AND FURTHER THAT staff bring forward a report showing the Solid Waste Programs and sources of funding to a future Committee meeting.

The approved annual budget for this service is $54,000.

Subsequently, at the July 30, 2020 Special Board meeting the following resolution was adopted:

284/20 **Recommendation No. 5** *Regional Solid Waste [350] Service Levels*

THAT the Area A Food Drop-off be delayed to 2021;

AND THAT the 2020-2024 Financial Plan be amended accordingly.

The purpose of this report is to update the Board regarding the implementation of a Pender Harbour Transfer Station Food Waste Drop-off Program and to seek Board direction regarding cost recovery.

DISCUSSION

Container & Hauling and Processing Contracts

The SCRD completed procurement processes for container and hauling services as well as for food waste processing services via RFP 2035004 and RFP 1935004 respectively.

The container and hauling services and food waste processing services contracts have the following anticipated costs as outlined in Table 1. The container and hauling costs are mostly a fixed cost, whereas processing costs would be variable depending on the volume received.

Table 1 – Annual Costs for Food Waste Drop-off Program

	Year 1	Year 2	Year 3
Container and Hauling Costs	$24,200	$24,900	$25,600
Processing Costs	Up to $28,000	Up to $28,000	Up to $28,000
Total	$52,200	$52,900	$53,600

Financial Implications

The approved budget for this program is $54,000 per year and is sufficient to fund the contracted services costs.

However, the approved cost recovery method is tipping fees, which have yet to be established.

Table 2 presents the financial implications of several levels of tipping fees and number of residents participating in the program.

Table 2 - Revenue Scenarios

Customers per week	Tipping Fee	Revenue	Funding Shortfall
50	$2.50	$6,500	$45,700
100	$2.50	$13,000	$39,200
200	$2.50	$26,000	$26,200
50	$5.00	$13,000	$39,200
100	$5.00	$26,000	$26,200
200	$5.00	$52,000	$200
50	$7.50	$19,500	$32,700
100	$7.50	$39,000	$13,200
200	$7.50	$78,000	($25,800)

Staff are expecting that the maximum amount residents would be willing to pay is $5 per container of food scraps; the container would have a maximum volume of 50L. A $5 tipping fee is aligned with the minimum cost for any type of garbage. Staff therefore recommend that a tipping fee be established for food waste at $5 per container up to a maximum volume of 50L.

For budgeting purposes staff suggest to assume that on average 100 containers per week of food scraps will be delivered to the site. With a $5 tipping fee this would result in an annual revenue generated of $26,000.

To ensure the program is fully funded, staff recommended to fund the processing costs from tipping fees and to fund the container and hauling costs from taxation thru [350] Solid Waste Operation. This augmentation of the tipping fees with taxation would result in all taxpayers in the Solid Waste Operations service contributing to this service. Should the uptake of the program result in higher tipping fee revenues, the taxation in future years can be reduced.

Staff recommend to prepare a 2021 Round 2 Budget Proposal to offset the costs to fund a food waste drop-off program at the Pender Harbour Transfer Station. Based on an implementation timeline of Q3 2021, the required budget to be funded from taxation for 2021 would be $13,100 and $26,550 for 2022.

As well, staff recommend that the 2021 Round 2 Budget Proposal include a one-time $2,500 to fund a communications strategy supporting the program initiation. This would result in a total of $15,600 required to be funded from taxation thru [350] Solid Waste Operation and to be included in a 2021 Round 2 Budget Proposal.

The financial implications for the implementation of the program as outlined above with an implementation date of July 1, 2021 are summarized in table 3.

Table 3: Financial implications overview

	2021	**2022**
Anticipated container, hauling costs	$12,100	$24,550
Anticipated processing costs	$14,000	$28,000
Communication strategy	$2,500	-
Total expenditures	**$28,600**	**$52,550**
Anticipated revenue from Tipping Fees ($5/container)	$13,000	$26,000
Anticipated tipping fees Revenue shortfall to be funded from taxation collected thru [350] Solid Waste Operations	$15,600	$26,550
Total revenue	**$28,600**	**$52,550**

Timeline for next steps

Based on Board direction received and approval of the 2021 budget, the next step would be to bring forward a report to seek Board direction to establish a tipping fee for food waste. This would be followed by an amendment to Sanitary Landfill Site Bylaw 405 and the execution of the contracts for the containers, hauling and processing of the collected materials.

A food waste drop-off program at Pender Harbour Transfer Station could be implemented in Q3 2021 and would be accompanied by a communication strategy.

Communications Strategy

A communications strategy will be developed once program implementation timelines are solidified.

STRATEGIC PLAN AND RELATED POLICIES

The SCRD's 2019-2023 Strategic Plan includes implementing the Regional Organics Diversion Strategy.

The Regional Organics Diversion Strategy is in support of the SCRD's Solid Waste Management Plan's targets of 65%-69% diversion and organics diversion is one of the SWMP's reduction initiatives.

CONCLUSION

As part of the implementation of the SCRD's Regional Organics Diversion Strategy, staff have been working on initiating a food waste drop-off program at the Pender Habour Transfer Station. The approved budget for this program is $54,000, however, the approved cost recovery method is tipping fees, which have yet to be established.

After reviewing various tipping fee revenue scenarios, it is apparent that a deficit is likely if the program was solely funded from tipping fees. Staff therefore recommend that a tipping fee be established for food waste at $5 per container up to a maximum volume of 50L. For budgeting purposes staff suggest to assume that on average 100 containers per week of food scraps will be delivered to the site. With a $5 tipping fee this would result in a funding shortfall of $13,100 for 2021.

To ensure the program is fully funded, staff recommended to fund the processing costs from tipping fees and fund the container and hauling costs from taxation thru [350] Solid Waste Operation. Based on an implementation timeline of Q3 2021, the required budget to be funded from taxation for 2021 would be $13,100. Staff recommend that this Budget Proposal also include a one-time $2,500 to fund a communications strategy supporting the program initiation.

Staff recommend to prepare a 2021 Round 2 Budget Proposal to fund these items.

Based on Board direction received and approval of the 2021 budget, the next step would be to bring forward a report to seek Board direction to establish a tipping fee for food waste. This would be followed by an amendment to Sanitary Landfill Site Bylaw 405 and the execution of the contracts for the containers, hauling and processing of the collected materials.

Attachments:

Attachment A – September 19, 2019 ISC staff report Food Waste Drop-off Program Considerations

Attachment B – January 30, 2020 ISC staff report Food Waste Drop-off Program – Update

Reviewed by:			
Manager		CFO	X - T. Perreault
GM	X – R. Rosenboom	Legislative	
CAO	X – D. McKinley	Other	X - V. Cropp

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – September 19, 2019

AUTHOR: Robyn Cooper, Manager, Solid Waste Programs

SUBJECT: **FOOD WASTE DROP-OFF PROGRAM CONSIDERATIONS**

RECOMMENDATION(S)

THAT the report titled Food Waste Drop-off Program Considerations be received for information;

AND THAT the Board provide direction regarding the scope of a 2020 Budget Proposal for implementation of a Food Waste Drop-off Program.

BACKGROUND

In 2017, the SCRD engaged Carey McIver & Associates Ltd. to develop a Regional Organics Diversion Strategy (Strategy). The Strategy was adopted by the SCRD Board on January 18, 2018 and contains eight key initiatives to divert organic waste in the region.

A report outlining an update on the Strategy implementation plan was presented at the April 18, 2019 Infrastructure Services Committee meeting.

One of the Strategy's initiatives to support a landfill ban for food waste is to implement residential food waste drop-off in Pender Harbour, mid-coast and south coast.

The purpose of this report is to outline the considerations for the implementation of a food waste drop-off program and seek Board direction.

DISCUSSION

Options and Analysis

A food waste drop-off program would incur costs for site operations, container and hauling services and processing. The total program costs will differ depending on the scope of the program.

To determine the scope of the program, the following program considerations have been identified:

- Number of sites
- Program users
- Volume restrictions
- Cost recovery

In terms of these four program considerations, the Strategy proposed three sites (Pender Harbour, mid-coast and south coast), drop-off for residents only and did not address volume restrictions or cost recovery.

The Strategy did propose a drop-off for commercial loads (large bins) of food waste at the Pender Harbour Transfer Station. However, staff do not recommend pursuing this at this time and instead to direct large commercial bin loads of food waste directly to the processor, Salish Soils, as per the current practice.

Based on the four program considerations, three options have prepared and Board direction is being sought.

Option 1a – Support maximization for food waste diversion, no tipping fee

- Sites: 3, Pender Harbour, mid-coast and south coast as per the Strategy
- Program users: residents and small businesses
- Volume restriction: maximum 50L container
- Cost recovery: Fully funded from taxation

Option 1a provides the maximum support for food waste diversion by including small businesses in addition to residents, the costs are free at the time of drop-off and would have three sites along the Sunshine Coast for drop-off. With a volume restriction of 50L, any loads of food waste over 50L would be out of scope of the program and can be brought directly to the processor. This option has the highest cost but would likely have the highest participation and diversion opportunity.

Option 1b – Support maximization for food waste diversion, with tipping fee

- Sites: 3 (Pender Harbour, mid-coast and south coast) as per the Strategy
- Program users: residents and small businesses
- Volume restriction: maximum 50L container
- Cost recovery: 50% tipping fee and 50% taxation

Option 1b differs from 1a only in the cost recovery method. The tipping fee would be set at a flat rate per container with a maximum of 50L container. This option would have a lower taxation implication than Option 1a. A tipping fee for food waste may deter participation and thus diversion, however, establishing a tipping fee is in line with materials accepted for diversion at the SCRD landfill and transfer station.

Given that participation is unknown (e.g. the total number of containers of food waste per year), funding from 50% tipping fees may not be realistic. At the high end of estimates, at $158,000 per year of annual costs, to fund $79,000 (50%) at $5 per container, 15,800 containers of food waste would be required.

For Option 1a or 1b, if funded from taxation under Function 350, in whole or in part, all properties within the SCRD would pay, including Electoral Area B and F islands and those who pay a user fee for curbside food waste collection service.

Option 2 – Provide complementary service to residential collection services

- Sites: Pender Harbour Transfer Station only
- Program users: residents only
- Volume restriction: maximum 50L container
- Cost recovery: 100% tipping fee

Option 2 provides food waste drop-off for Pender Harbour residents only to compensate for not having curbside collection services in the area. Food waste from small businesses or loads of food waste over 50L would be out of scope of the program and can be brought directly to the processor. All other Sunshine Coast residents would be directed to utilize their curbside collection service for food waste or backyard composter. The tipping fee would be set at a flat rate per container with a maximum of 50L container.

A tipping fee for food waste may deter participation and thus diversion, however, establishing a tipping fee is in line with materials accepted for diversion at the transfer station. With participation being unknown, funding 100% from tipping fees may be cost prohibitive or may not receive the minimum number of containers to fund the program. For example, at $35,000 per year of estimated annual costs and at $5 per container, 7,000 containers would be required in order to recover costs.

Financial Considerations

There is not currently a budget for this program as this would be a new program.

Based on current market conditions and projected tonnes of food waste extrapolated from the Strategy, a high-level annual cost estimate for a food waste drop-off program ranges from approximately $24,000 to $34,000 for one-site at Pender Harbour Transfer Station, residential only to $113,000 to $158,000 for three sites residential and small business.

The estimated costs are summarized in Table 1. These costs assume curbside collection of food waste in the District of Sechelt, Sechelt Indian Government District, Town of Gibsons and SCRD Electoral Areas B, D, E and F.

Table 1 – Estimated Annual Costs for Food Waste Drop-off Program

Estimated Annual Costs for Food Waste Drop-off Program			
	Pender Harbour Transfer Station	**Mid-Coast**	**South-Coast**
Site Operations	existing operations	$10,000	$10,000
Container & Hauling Services	$20,000-$30,000	$10,000	$15,000-$20,000
Processing - residential	$4,000	$5,000	$9,000
Total	$24,000-$34,000	$25,000	$34,000-$39,000
Processing – small business	$10,000-$20,000	$10,000-$20,000	$10,000-$20,000
Total	$34,000-$54,000	$35,000-$45,000	$44,000-$59,000

The actual costs will depend on the Board direction regarding program options and the results from a procurement process.

Timeline for next steps

Staff are seeking Board direction regarding the implementation of a food waste drop-off program. Depending on the direction provided staff will prepare a 2020 Budget Proposal for the implementation of this new program.

A date for a regional landfill ban for organics will be reviewed after Board decisions regarding the food waste drop-off program and SCRD rural areas curbside food waste collection services of which there is a report on the Agenda of this meeting. Both the food waste drop-off program and curbside food waste collection service would need to be implemented prior to the start date of a landfill organics ban.

Suggested recommendations

If the committee wants to direct staff to start the implementation of one of the options presented in this report the following recommendations could be considered to do so:

Option 1a – Support maximization for food waste diversion, no tipping fee

AND THAT staff prepare a 2020 Budget Proposal for three food waste drop-off sites for residents and small businesses funded from taxation with a volume restriction of 50L.

Option 1b – Support maximization for food waste diversion, with tipping fee

AND THAT staff prepare a 2020 Budget Proposal for three food waste drop-off sites for residents and small businesses funded 50% from tipping fees and 50% from taxation with a volume restriction of 50L.

Option 2 – Provide complementary service to residential collection services

AND THAT staff prepare a 2020 Budget Proposal for one food waste drop-off site, at the Pender Harbour Transfer Station for residents only funded from tipping fees with a volume restriction of 50L.

STRATEGIC PLAN AND RELATED POLICIES

The Strategy is in support of the SCRD's Solid Waste Management Plan's targets of 65%-69% diversion and organics diversion is one of the SWMP's reduction initiatives.

CONCLUSION

The SCRD's Regional Organics Diversion Strategy was adopted by the SCRD Board on January 18, 2018 and contains eight key initiatives to divert organic waste in the region.

One of the initiatives is to implement residential food waste drop-off in Pender Harbour, mid-coast and south coast.

There are four key program considerations, number of sites, program users, volume restrictions and cost recovery that were incorporated into three program options.

Staff are seeking Board direction on next steps regarding the implementation of food waste drop-off sites.

Once Board direction is provided then a 2020 Budget Proposal will be prepared for the Board's consideration.

Reviewed by:			
Manager		CFO/Finance	X – T. Perreault
GM	X - R. Rosenboom	Legislative	
Interim CAO	X – M. Brown	Other	

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – January 30, 2020

AUTHOR: Robyn Cooper, Manager, Solid Waste Programs

SUBJECT: **FOOD WASTE DROP-OFF PROGRAM - UPDATE**

RECOMMENDATION(S)

THAT the report titled Food Waste Drop-off Program – Update be received;

AND THAT staff prepare a 2020 Round 2 Budget Proposal for three food waste drop-off sites for residents and small businesses funded from taxation with a volume restriction of 50L;

AND FURTHER THAT this recommendation be forwarded to the January 30, 2020 Special Board Meeting.

BACKGROUND

The following recommendation is from the October 10, 2019 Board meeting (in part):

244/19 **Recommendation No. 8** *Food Waste Drop-offs*

AND THAT staff prepare a 2020 Budget Proposal for three food waste drop-off sites for residents and small businesses funded from taxation with a volume restriction of 50L.

As such, staff prepared the 2020 Budget Proposal as per recommendation #244/19.

Subsequently, the following recommendation is from the December 5, 2019 Special Round 1 Budget Corporate and Administrative Services Committee (in part):

Recommendation No. 15 *Regional Solid Waste [350] – 2020 R1 Budget Proposals*

AND THAT the following budget proposal be referred to 2020 Round 2 Budget pending a staff report to January 2020 Infrastructure Services Committee meeting with a further explanation of the scope, a cost benefit analysis and a list of potential users in Area A and including options for small businesses if there will be a full ban on food waste:

- Budget Proposal 5 – Food Waste Drop-Offs – Increase to Base Budget, $160,000 funded through Taxation;

The purpose of this report is to provide further information regarding the proposed Food Waste Drop-off Program to help inform the 2020 Round 2 Budget deliberations.

DISCUSSION

The Sunshine Coast Regional District's (SCRD) Regional Organics Diversion Strategy (Strategy) culminates with a landfill disposal ban of food waste for the residential and commercial/business sectors. Currently, the implementation date is on hold pending the outcome of the 2020 budget deliberations which will impact which food waste diversion programs the SCRD will be offering and thus affects the community engagement. The proposed approach for the landfill disposal ban of food waste and timelines will be brought forward to a Committee in Q2 2020.

At the September 19, 2019 Infrastructure Services Committee meeting, a staff report titled Food Waste Drop-off Program Considerations was presented. The report outlined considerations for a food waste drop-off program and included three options for the Committee's consideration including the financial considerations. This report is included as Attachment A.

Current Food Waste Diversion Opportunities – Commercial/Business Sector

Currently, these are the following food waste diversion opportunities for the commercial/business sector:

- Contract private hauler for collection (hauls to Salish Soils for processing)
- Self-haul to Salish Soils
- Compost at home

Current Food Waste Diversion Opportunities – Residential Sector

For residents, food waste can be composted at home or self-hauled to Salish Soils in Sechelt.

For residents of the Town of Gibsons or Davis Bay in Sechelt, food waste can also be placed curbside for collection.

The SCRD Electoral Areas B, D, E and F and the District of Sechelt have plans to launch curbside collection of food waste in 2020. The Sechelt Indian Government District does not have a date as of yet. Residents of Electoral Area A do not receive curbside collection services from the SCRD.

Food Waste Diversion

The following food waste items could be collected as part of a food waste drop-off program and mirror that of a curbside collection program.

- Food waste e.g. meat, bones, cooked foods, egg shells, fruits and vegetables
- Soiled paper e.g. paper towels, coffee filter, tea bag, paper plates
- House plants e.g. cut flowers

Food Waste Drop-off Program Users

It is anticipated that the food waste drop-off program would see usage within the residential sector from weekend residents, tourists and visitors, as well as residents in Electoral Area A.

For the small business sector, it is anticipated that small businesses in the medical or health field such as massage, or physio therapists, chiropractors, veterinarians, doctors or dentists, as well as small retail stores, art galleries, museums would participate. As well as, public service related businesses such as the ambulance, newspaper or community services. These small businesses would primarily have food waste from staff and minimal food waste from the public.

Additionally, a food waste drop-off program with a limit of 50L as per resolution #244/19 would allow food waste from small community events such as running or sporting events, arts, crafts or cultural events, or farm markets.

The purpose of the food waste drop-off program is to maximize food waste diversion opportunities. Staff recommend that small businesses and small events be included in the food waste drop-off program.

Food waste from large businesses such as grocery stores or restaurants are excluded as the food waste generated would likely be a large volume requiring a contracted service with scheduled collection.

Options and Analysis

As per the September 19, 2019 Infrastructure Services Committee staff report (Attachment A), the food waste drop-off program considerations are:

- Number of sites
- Program users
- Volume restrictions
- Cost recovery

The options presented in that report were:

- Option 1a – Support maximization for food waste diversion, no tipping fee
    - 3 sites, residential and small business, 50L restriction, taxation funded

- Option 1b – Support maximization for food waste diversion, with tipping fee
    - 3 sites, residential and small business, 50L restriction, tipping fee funded

- Option 2 – Provide complementary service to residential collection services
    - 1 site in Pender Harbour, residents only, 50L restriction, tipping fee funded

An additional option is included for consideration:

- Option 3 – Provide complementary service to residential collection services
    - 1 site in Pender Harbour, residential and small businesses, 50L restriction, tipping fee funded

The total program costs will differ depending on the scope of the program. However, those costs would include site operations, container and hauling services and processing.

Financial Implications

The estimated costs from the September 19, 2019 Infrastructure Services Committee staff report (Attachment A), are summarized in Table 1. The hauling and processing costs would be variable depending on the volume received.

Table 1 – Estimated Annual Costs for Food Waste Drop-off Program

Estimated Annual Costs for Food Waste Drop-off Program			
	Pender Harbour Transfer Station	**Mid-Coast**	**South-Coast**
Site Operations	existing operations	$10,000	$10,000
Container & Hauling Services	$20,000-$30,000	$10,000	$15,000-$20,000
Processing - residential	$4,000	$5,000	$9,000
Processing – small business	$10,000-$20,000	$10,000-$20,000	$10,000-$20,000
Total	$34,000-$54,000	$35,000-$45,000	$44,000-$59,000

Timeline for next steps

The following decisions are required to prepare a 2020 Round 2 Budget Proposal for a food waste drop-off program:

- Number of sites – one, two, three or none
- Program users – residential or residential and small business
- Volume restrictions – a 50L restriction is recommended to ensure truck-loads of food waste are out of scope
- Cost recovery – taxation or tipping fee

Should a food waste drop-off program proceed, procurement for site operations (mid-coast, south-coast) as well as container and hauling services would be required. Food waste screening to assist with addressing contamination would part of the responsibilities of the site operator. Additionally, to allow for program evaluation after one year, the contract term could be one year with extension options.

The scope of the food waste drop-off program should be considered in the context of maximizing diversion of organics from the landfill and the impact to landfill life.

Given the intent to maximize diversion of organic materials from the landfill and to establish services, staff recommend to implement three food waste drop-off sites for use by residents and small businesses funded from taxation with a volume restriction of 50L.

STRATEGIC PLAN AND RELATED POLICIES

The SCRD's 2019-2023 Strategic Plan includes implementing the Regional Organics Diversion Strategy.

The Regional Organics Diversion Strategy is in support of the SCRD's Solid Waste Management Plan's targets of 65%-69% diversion and organics diversion is one of the SWMP's reduction initiatives.

CONCLUSION

A 2020 Round 2 Budget Proposal for a food waste drop-off program needs to identify the number of sites, program users, volume restrictions and cost recovery method.

Given the intent to maximize diversion of organic materials from the landfill and to establish services, staff recommend to implement three food waste drop-off sites for use by residents and small businesses funded from taxation with a volume restriction of 50L.

Alternatively, to reduce costs while ensuring a food waste disposal option for Electoral Area A, a drop-off service only at the Pender Harbour Transfer Station could be considered. Such service would be recommended for residents and small businesses funded from tipping fees with a volume restriction of 50L.

Attachments:

A – September 19, 2019 ISC Staff Report Food Waste Drop-off Program Considerations

Reviewed by:			
Manager		Finance / CFO	X – T. Perreault
GM	X - R. Rosenboom	Legislative	
CAO	X – D. McKinley	Other	

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Arun Kumar, Superintendent, Solid Waste Services

SUBJECT: **SECHELT LANDFILL DROP-OFF CONTRACT UPDATE**

RECOMMENDATION(S)

THAT the report titled Sechelt Landfill Drop-off Contract Update be received;

AND THAT that the contract with Salish Environmental Group Inc. for truck, driver and bin rental services at Sechelt Landfill be increased from $95,000 up to $171,000;

AND THAT the delegated authorities be authorized to execute the contract extensions;

AND FURTHER THAT these recommendations be forwarded to the February 11, 2021 Board Meeting.

BACKGROUND

In January 2020, the Sechelt Landfill experienced ground stability issues that resulted in reconfiguring the public drop-off area to a significantly smaller footprint. This was necessary in order to remain operational until such time that the ground stability issue could be resolved.

At the October 8th, 2020 Board Meeting, the following resolution was adopted:

320/20 (part) **Recommendation No. 2** *Sechelt Landfill Drop-Off Area Final Design*

AND THAT the Sechelt Landfill Drop-Off Remediation budget be increased by $940,110 to $1,377,714 for the construction phase of the project;

Of this funding $437,605 is allocated for additional operating costs and completion of the final design for the new drop-off area and $940,110 is allocated for the actual remediation of the ground and the construct of the new drop-off area, including associated engineering and construction management support.

To remain operational, one of the temporary measures consisted of obtaining contracted services for a truck, driver, and bin rental. As per the SCRD's Purchasing Policy, Request for Proposal (RFP) 2035005 was issued for truck, driver and bin rental services and was awarded to Salish Environmental Group Inc. These services are required until the permanent solution to the ground stability issue has been completed.

The purpose of this report is to ensure business continuity by extending the existing contract for truck, driver and bin rental service until the permanent solution to the ground stability issue has been completed.

DISCUSSION

Analysis

At the time of the procurement process for the truck, driver, and bin rental service, the time frame of the required service was unknown. As such, the RFP and subsequently the contract, is in hours of service provided and translated to approximately 3 months of service with options to extend up to approximately six months by approximately one-month increments.

The first extension is anticipated to conclude on February 12, 2021. The initiation of the second extension would result in the total contract value to exceed $100,000 and therefore requires Board approval.

Staff are currently reviewing the bids received following the issuance of the tender package for the actual remediation of the ground and the construction of the new drop-off area. It's currently estimated that the full construction of the new drop-off area will be completed late Q2, 2021. In order for the Sechelt Landfill's public drop-off area to remain open until that time, it is critical that the truck, driver, and bin rental service continues until the completion of the permanent solution.

Staff have been satisfied with the current contractor's performance in relation to this service and have also been monitoring the market conditions to ensure price competitiveness. Staff therefore recommend that the contract for the truck, driver, and bin rental services be extended for four months until mid-June 2021. This would require that the contract value be increased up to $171,000.

The amended contract will include provisions to hold the services (and associated payment) for the period that the drop-off area at the Sechelt landfill might be closed during the ground remediation and construction of new drop-off area or the construction activities concludes prior to mid-June 2021.

Financial Implications

The budget for the Remediation Measures for Sechelt Landfill Drop-Off Area carry-forward from 2020 to fund operational expenditures in 2021 is $99,010. This budget is funded from taxation and Operating Reserves. The requested contract increase would be for a value of $76,000 and can be funded from this available budget. If the duration of the remediation project is extended for any reason, a further contract amendment may be required.

The actual remediation of the ground and the construction of the new drop-off area is funded thru a short-term Loan and is currently budgeted at $940,110.

STRATEGIC PLAN AND RELATED POLICIES

The purchasing process followed for this service is aligned with the SCRD Purchasing Policy.

CONCLUSION

Due to ground stability issues, truck, driver, and bin rental service have been contracted for Sechelt Landfill. To maintain business continuity, it is essential that this service remain in place until the Sechelt Landfill drop-off remediation construction work is completed. To do so, would

require at the very least initiating the second extension. The value of the second extension would exceed $100,000 and therefore requires Board approval.

Staff are currently reviewing the bids received following the issuance of the tender package for the actual remediation of the ground and the construction of the new drop-off area. It's currently estimated that the full construction of the new drop-off area will be completed late Q2, 2021.

Staff have been satisfied with the current contractor's performance in relation to this service and have also been monitoring the market conditions to ensure price competitiveness. Staff therefore recommend that the contract for the truck, driver, and bin rental services be extended to four months until mid-June 2021. This would require that the contract value be increased up to $171,000.

Reviewed by:			
Manager	X – R.Cooper	CFO	X-T.Perreault
GM	X - R. Rosenboom	Legislative	
CAO	X – D. McKinley	Purchasing	X-V. Cropp

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Sam Adams, Parks Planning Coordinator

Remko Rosenboom, General Manager, Infrastructure services

SUBJECT: **PROVINCIAL WELL MONITORING NETWORK AGREEMENT AT WHISPERING FIRS PARK**

RECOMMENDATION(S)

THAT the report titled Provincial Well Monitoring Network Agreement at Whispering Firs Park be received;

AND THAT the SCRD enter into an Agreement with the Province for the well observation network at Whispering Fir Park;

AND FURTHER THAT the Delegated Authorities be authorized to sign the Agreement.

BACKGROUND

The Province has requested a partnership with the SCRD to install a groundwater observation/monitoring well on SCRD park property in Whispering Firs Park, located in Electoral Area E. The proposed monitoring well would be part of the province-wide Provincial Groundwater Observation Well Network (please see https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/groundwater-wells-aquifers/groundwater-observation-well-network). This province-wide network of observation wells is focused on identifying trends in water quality and water quantity of a selection of aquifers. All observation wells in this network are fully operated and maintained by the Province.

The purpose of this report is to seek Board direction on the execution of an agreement with the Province regarding this groundwater monitoring well.

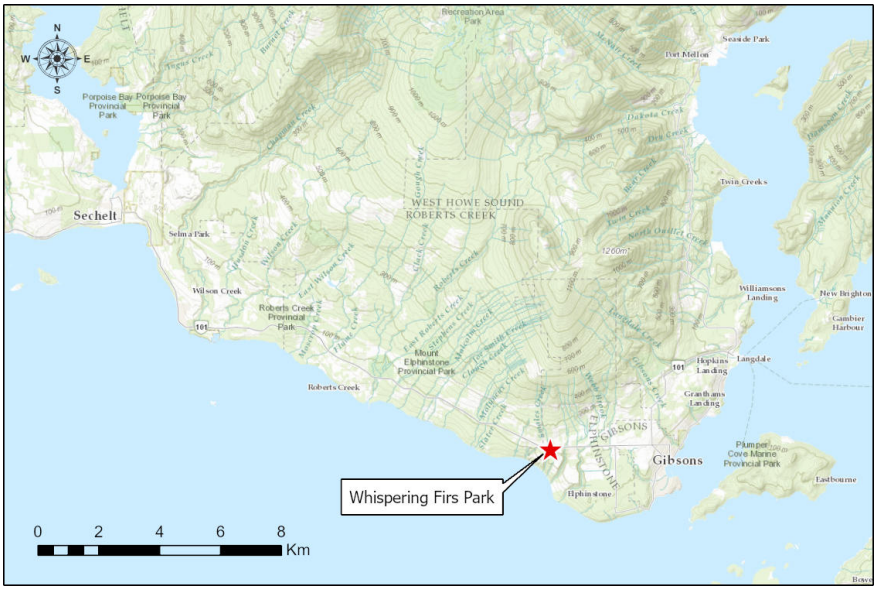
DISCUSSION

The Province would like to partner with the SCRD, through an agreement to install a monitoring well at Whispering Firs Park. The park is an approximately 8-hectare park located just off of Highway 101 adjacent to the Wood Creek Park neighbourhood in Area E. It is largely a natural and forested park, with an open grassy area, sheltered picnic site, seasonal porta-potties and an extensive trail system that provides users with outdoor recreation opportunities, loop routes and connections to adjacent neighborhoods.

The proposed provincial observation well would become part of a network of observation wells installed at various locations across BC. This Provincial Groundwater Observation Well Network monitors water conditions of key aquifers across the province to support the effective management, protection and sustainable use of our groundwater resources and associated ecosystems. All data from these wells is publicly available.

This projected well location (see Figure 1. Whispering Firs Park Location map) would help monitor the west side of Aquifer #560. If approved and a partnership agreement is signed, the province would be responsible for all costs of installation, maintenance and monitoring associated with the well for the entire lifecycle of the observation well within the park.

Figure 1. Whispering First Park Location



SCRD Parks and SCRD Infrastructure Services staff recently visited the site with provincial project staff and have determined a location that the drilling truck could access which would not interfere with park users or operations (see Figure 2 Proposed Observation Well Head Location within Whispering Firs Park). Parks staff anticipate no impacts to public use, experience or from a maintenance and operations perspective. A small cluster of alders would need to be cleared for the preferred well location site, in which all associated work would be paid for and conducted by the province. Staff suggest there is some benefit to the SCRD and the community from the required tree removal, as these alders have been identified as needing to be cleared by SCRD staff anyway, due to their condition and emerging potential of being hazardous to park visitors and park infrastructure.

Figure 2. Proposed Observation Well Head Location within Whispering Firs Park

Once complete, the observation well head would be similar to the one shown in the image below (see Figure 3 Example of observation network well head below). The well head would be composed of a 15cm pipe that is 1.2m above ground with a telemetry box on top. The box has dimensions of approximately 60x60x45 centimeters. The proposed location in Whispering Firs Park is off to the side of an open space at the forests edge.

Figure 3: Example of observation network well head.

The province wishes to enter into an agreement with the SCRD to drill, monitor and maintain the observation well. The important terms of the Agreement are:

- The province will install a well including providing appropriate safety measures;
- The province will perform all repairs, replacement, maintenance and decommissioning of the well (including cleanup after drilling);
- The province will have right to the use and installation of monitoring equipment;
- The province will perform monitoring of the water levels and water quality at the observation well; and,
- Section 4.1 (k) of the agreement contains an indemnity clause in favour of the SCRD.

The proposed term of the Agreement is 50 years from the date of signature and either party would have the right at any time to terminate the agreement with six months' written notice, at which point the province would remove the monitoring equipment, decommission the well and return the site to original conditions in compliance with applicable legislation and acts.

Organizational and Intergovernmental Implications

The proposed location would not interfere with the operation of the park and would have minimal impact to park users (aesthetics being the exception).

The monitoring well would provide information that could be used in future water supply and aquifer and watershed management initiatives by the SCRD and the Town of Gibsons.

As part of this same observation well network program, there is already one monitoring well in Aquifer #560 within the Town of Gibsons and the province is also working towards installing two monitoring wells within the District of Sechelt's Mission Point Park.

Financial Implications

Given that the province will be responsible for all financial implications related to the drilling, maintenance and operation of this well, and given the agreement includes a full indemnification clause, no financial or legal implications are anticipated for the SCRD if approving the development of this well.

Timeline for next steps or estimated completion date

Staff recommend the SCRD supports the establishment of this monitoring well as the information collected of this well would benefit future water supply and aquifer and watershed management initiatives by the SCRD and the Town of Gibsons.

If supported by the Board, staff will execute the agreement with the province as soon as possible.

The province has expressed they would like to begin drilling on approximately March 10, 2021. The project, including drilling and observation well development and install is anticipated to take a couple of days to complete.

Communications Strategy

SCRD Parks staff would communicate the proposed test well drilling dates on their website and through social media. As well, staff would install appropriate signage on site indicating the project scope, anticipated dates and times of drilling.

STRATEGIC PLAN AND RELATED POLICIES

Data from this monitoring well could support the tactic for the development of a strategic action plan for protection of watersheds and aquifers.

CONCLUSION

SCRD was approached by the province for an opportunity for a partnership for a new monitoring well as part of the Provincial Groundwater Observation Well Network. This network monitors water conditions of key aquifers across the province to support the effective management, protection and sustainable use of our groundwater resources and associated ecosystems. The new monitoring well is proposed to be located within the SCRD's Whispering Firs Park. Staff determined there is no anticipated additional maintenance costs, minimal, if any impact on park users and no forecasted financial or legal implications with the proposed installation of the monitoring well. Given the absence of impacts and the potential long-term benefits of the data collected through this well, staff recommend and support the execution of the agreement with the province for the establishment of this monitoring well**.**

Reviewed by:			
Manager	X - K. Robinson	Finance	
GM	X – I. Hall	Legislative	
CAO	X – D. McKinley	Risk	X – V. Cropp
		Parks	X – K. Clarkson

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Shane Walkey, Manager, Utility Services

SUBJECT: **WATER SAMPLING SERVICES- CONTRACT TERM EXTENSION**

RECOMMENDATION(S)

THAT the report titled Water Sampling Services- Contract Term Extension be received;

AND THAT the contract with Elements Materials Technology Group Limited for Water Sampling Service be extended for an additional one (1) year period in the amount of $40,393.60 (plus GST) with an amended contract value of $111,681

AND FURTHER THAT the delegated authorities be authorized to execute the contract.

BACKGROUND

The SCRD currently owns and operates several wastewater treatment facilities, landfills and water systems, located throughout the regional district. These systems are continuously monitored for groundwater, water and effluent control to ensure compliance with Vancouver Coastal Health (VCH), and Ministry of Environment (MOE) regulations and requirements with periodical reports submitted to these regulatory agencies.

The Utilities Services and Solid Waste Division collect drinking water, waste water, and surface and ground water samples from these systems and analyze these samples for an extended list of parameters in order to comply with all regulatory bodies requirements regarding testing and reporting.

In 2019, the SCRD requested offers from qualified contractors to conduct water sample analysis for the Water/Wastewater Monitoring and Solid Waste Monitoring programs and signed a one (1) year contract with Elements Materials Technology Group Limited (formerly Exova Canada Inc.)(Elements).

The original term of the contract with Elements was from April 15, 2019 to April 14, 2020 with options to extend for four (4) one (1) year periods.

In March 2020, the SCRD extended the contract with Elements for an additional year from April 15, 2020 to April 14, 2021. There are three (3) one (1) year period contract extension options remaining.

The purpose of this report is to review the option to extend the contract with Elements for another one (1) year term to April 14, 2022. However, to do so will result in a contract value over $100,000 and thus requires Board approval.

DISCUSSION

Elements has provided the SCRD with water sample analysis reports since 2019 and has since exercised the contract to satisfaction. The contract was renewed for another one (1) year period in 2020 and staff have remained satisfied with the service provided by Elements. The contract with Elements has allowed the SCRD to provide monitoring reports to the regulatory agencies in a timely professional manner.

Options and Analysis

Staff have remained contented with the level of service and quality of reports from Elements since the contract renewal last year. Elements continues to offer disposal, filtration supplies, archival data retrieval, containers, coolers and ice packs at no additional cost which is of added value to the SCRD. Staff have found reliability in the reports and the pricing has remained competitive.

Table 1 shows overall percent increase(s) since 2019 and the proposed percentage increases for 2021.

Table 1: Elements Contract Pricing Comparison (%)

Description	**Average Annual Increases 2019-2020**	**Average Annual Increases 2020-2021**
Solid Waste - Water Quality Sampling	68.85%	2.00%
Drinking Water - Water Quality Sampling - Drinking water sub-package	3.00%	2.00%
Drinking Water - Water Quality Sampling Disinfection Bi-Products	3.00%	2.00%
Waste Water - Effluent Quality Sampling - Quarterly	3.00%	2.00%
Waste Water - Effluent Quality Sampling - Monthly	3.00%	2.00%
One Time Sampling	3.00%	2.00%
Additional Solid Waste Sampling	-	2.00%
Total Annual Increases	**24.98%**	**2.00%**

The 68.85% increase in cost to Solid Waste Sampling between 2019 and 2020 was based on an addition of parameters to the Solid Waste Sampling program as recommended by the SCRD's contracted landfill engineering consultants, XCG Consulting Limited.

Staff have found Elements pricing to be acceptable, competitive and recommend that the contract term be extended by an additional one (1) year term.

Financial Implications

Elements original pricing submission was re-evaluated and compared to current market pricing. Table 2 below shows the breakdown of the overall contract value.

Table 2: Contract Value Details

	Cost
Original Contract Value – 1 Year(2019/2020)	$31,686.01
1st Contract Extension - 1 Year (2020/2021)	$39,601.56
Proposed 2nd Contract Extension – 1 Year (2021/2022)	$40,393.60
Total Contract Value	**$111,681.17**

Water sampling services will be funded from approved budgets from Regional Solid Waste [350], Regional Water (370) South Pender (366) and North Pender 365. The costs increases can be funded within approved budget.

STRATEGIC PLAN AND RELATED POLICIES

Water sampling services and associated reporting to comply with all regulatory bodies' requirements is consistent with the Board's Climate Change and Resiliency strategies as well as the Board's Purchasing Policy and social procurement.

CONCLUSION

The SCRD entered into a one year contract in 2019 with Elements for water sampling services for the Utilities Services and Solid Waste Services divisions, which was set to expire on April 14, 2020. The contract includes the option to extend for up to four (4) one (1) year periods.

The contract was extended for a one (1) year period in April 2020 which will expire on April 14, 2021.

Staff have reviewed the submission of updated pricing from Elements and recommend exercising the right to extend the contract for an additional period of one (1) year with a maximum 2021/2022 annual upset value of $40,393.60 (plus GST). This contract extension will result in a total contract value of $111,681.17, which requires Board approval to proceed.

Reviewed by:			
Manager	X - S. Walkey X – R. Cooper	CFO/Finance	X-T-Perreault
GM	X - R. Rosenboom	Legislative	
CAO	X – D. McKinley	Purchasing	X- V.Cropp

SUNSHINE COAST REGIONAL DISTRICT
SOLID WASTE MANAGEMENT PLAN MONITORING ADVISORY COMMITTEE

January 19, 2021

RECOMMENDATIONS FROM THE SOLID WASTE MANAGEMENT PLAN MONITORING ADVISORY COMMITTEE MEETING HELD VIA ZOOM

PRESENT:		
(Voting Members)	Chair	I. Winn
	Vice-Chair	S. White
	Members	J. Boyd
		D. New-Small
		P. Robson
		M. Cambon
		G. Bennett
ALSO PRESENT:		
(Non-Voting)	Director, Electoral Area E	D. McMahon
	Manager, Solid Waste Services	R. Cooper
	Solid Waste Programs Coordinator	A. Patrao
	Infrastructure Services Assistant/Recorder	M. Martel
REGRETS:	PMAC Members	B Hetherington
		S. Higginson
	Director, Electoral Area A	L. Lee

Directors, staff, and other attendees present for the meeting participated by means of electronic or other communication facilities in accordance with Sunshine Coast Regional District Board Procedures Bylaw 717.

CALL TO ORDER 11:02 a.m.

AGENDA The agenda was amended to include the following:

- SCRD Curbside Recycling Questionnaire

MINUTES

Recommendation No. 1 *PMAC Meeting Minutes of December 15, 2020*

The Solid Waste Management Plan Monitoring Advisory Committee recommended that the Solid Waste Management Plan Monitoring Advisory Committee meeting minutes of December 15, 2020 be received.

PRESENTATIONS AND DELEGATIONS

Robyn Cooper, Manager, Solid Waste Services, provided a verbal update on the 2021 Solid Waste Work Plan which included where work plan items originate from, what items are not

included and an overview of the core services and projects for Regional Solid Waste and Refuse collection in 2021.

Discussion included the following:

- Propane tank de-valving and recertification
- Clarification on home composter rebate program and opportunity for PMAC involvement
- Food waste collection audit and opportunity for PMAC involvement
- Explanation of the Waste Reduction Initiatives Program

BUSINESS ARISING FROM MINUTES AND UNFINISHED BUSINESS

Recommendation No. 2 *SCRD Board Resolutions Related to Solid Waste – December 2020*

The Solid Waste Management Plan Monitoring Advisory Committee recommended that the report titled SCRD Board Resolutions Related to Solid Waste – December 2020 be received.

REPORTS

Recommendation No. 3 *January 2021 ISC – Solid Waste Staff Reports*

The Solid Waste Management Plan Monitoring Advisory Committee recommended that the report titled January 15, 2021 Infrastructure Services Committee – Solid Waste Staff Reports be received.

Discussion included the following:

- Landfill disposal bans for food waste and recycling was supported at ISC
- Reporting requested on what other local governments have done to support enforcement of landfill bans and use of clear garbage bags
- A change to residential curbside collection bans would be addressed by changing bylaw for that service, could be done by each local government
- Explanation of why only food waste and paper products are included in ban
- Status of food waste drop-off at Pender Harbour Transfer Station

NEW BUSINESS

SCRD Curbside Recycling Questionnaire

Discussion included the following:

- Where to find the newly launched questionnaire and who can participate
- Review of posted questionnaire
- Impact on SCRD, recycling depots and how depots are funded as it relates to any revenue loss from diversion of materials from depots to curbside
- Desired outcome of curbside recycling is to reduce waste to landfill
- It is against the BC Recycling Regulation for commercial collection of recycling to go to SCRD depots
- Curbside material restrictions are standard across B.C. with the exception of glass; glass is collected as a separate material stream in some communities
- PMAC members can assist by sharing questionnaire with others
- Costs to residents should be stated by year to lessen confusion

The Chair advised the Committee of the resignation of Shirley Higginson from the Solid Waste Management Plan Monitoring Advisory Committee.

NEXT MEETING Tuesday, February 16, 2021

ADJOURNMENT 12:30 p.m.

SUNSHINE COAST REGIONAL DISTRICT
TRANSPORTATION ADVISORY COMMITTEE
January 21, 2021

RECOMMENDATIONS FROM THE TRANSPORTATION ADVISORY COMMITTEE MEETING HELD VIA ZOOM

PRESENT:

(Voting Members)	Director, Electoral Area E, Chair	Donna McMahon
	Director, Electoral Area B	Lori Pratt
	Director, Electoral Area F	Mark Hiltz
	Director, Electoral Area D	Andreas Tize
	Director, District of Sechelt	Darnelda Siegers
	Director, District of Sechelt	Alton Toth
	Director, Town of Gibsons	David Croal
	Transportation Choices (TraC)	Alun Woolliams
	Trustee, School District No. 46	Sue Girard
	BC Ferries	Robert Edwards
	Ministry of Transportation and Infrastructure	Colin Midgley
	Southern Sunshine Coast Ferry Advisory Committee	Diana Mumford
	Ministry of Transportation and Infrastructure	Michael Braun

ALSO PRESENT:

(Non-Voting)	Chief Administrative Officer	Dean McKinley
	GM, Infrastructure Services	Remko Rosenboom
	GM, Planning and Community Development	Ian Hall
	Manager, Transit and Fleet	James Walton
	RCMP Staff Sergeant	Poppy Hallam
	MLA, Constituency Office	Kim Tournat
	Capilano Highways	Eric Paris
	ICBC	Louisa Mendonca
	Treasurer, School District No. 46	Nicholas Weswick
	SCRD Administrative Assistant / Recorder	Tracy Ohlson
	Public	3
	Media	2

CALL TO ORDER 3:36 p.m.

AGENDA The agenda was adopted as presented.

PRESENTATIONS AND DELEGATIONS

Ken Curry, Parsons Corporation on behalf of the Ministry of Transportation and Infrastructure addressed the Committee regarding the Highway 101 Corridor Review.

Discussion included the following:

- Objectives of Corridor Study;

- Priority of improvements for vehicle traffic and active transportation improvements added;
- Pedestrian Safety not addressed;
- Highway condition completed outside the Corridor Study – conditional assessment done locally with Ministry of Transportation and Infrastructure (MOTI) and Capilano Highways;
- Active transportation concerns;
- Davis Bay corridor flooding concerns and impact on Chapman bridge connecting north and south Sunshine Coast;
- Possible timeline adjustments for improvements to Highway 101;
- Active Transportation Grant Funding and Stimulus Program funding;
- Passing lane concerns;
- Reed Road safety concerns;
- Lighting issues along Highway 101.

MINUTES

Recommendation No. 1 *Transportation Advisory Committee Meeting Minutes of October 15, 2020*

The Transportation Advisory Committee recommended that the Transportation Advisory Committee meeting minutes of October 15, 2020 be received.

REPORTS

Recommendation No. 2 *Referral from November 19, 2020 Infrastructure Services Committee - Terms of Reference Sunshine Coast Transit Future Action Plan*

The Transportation Advisory Committee recommended that the report titled Terms of Reference Sunshine Coast Transit Future Action Plan be received.

Recommendation No. 3 *BC Ferries Route 3 Traffic Statistics and Report*

The Transportation Advisory Committee recommended that the report titled BC Ferries Route 3 Traffic Statistics and Report be received.

Discussion included the following points:

- *BC Ferries website.*

Recommendation No. 4 *Excerpt of Transportation-Related Items from Q4 - Quarterly Report*

The Transportation Advisory Committee recommended that the report titled Excerpt of Transportation-Related Items from Q4 – Quarterly Report presented at the January 14, 2021 Infrastructure Service Committee meeting be received.

COMMUNICATIONS

Recommendation No. 5 *Correspondence from Sunshine Coast Highway Society*

The Transportation Advisory Committee recommended that correspondence from the Sunshine Coast Highway Society dated January 5, 2021 regarding support for a new highway on the Sunshine Coast be received;

AND THAT the letter from the Sunshine Coast Highway Society dated January 5, 2021 requesting a letter of support for a new highway on the Sunshine Coast be forwarded to the SCRD Board for consideration.

Recommendation No. 6 *Correspondence from Cedar Grove Parent Advisory Council*

The Transportation Advisory Committee recommended that correspondence from Cedar Grove Parent Advisory Council dated January 12, 2021 regarding school zone safety concerns be received.

Discussion included the following points:

- Speed bumps on Chaster Road in front of Cedar Grove.

Recommendation No. 7 *Correspondence from School District No. 46 District Parent Advisory Council*

The Transportation Advisory Committee recommended that correspondence from School District No. 46 District Parent Advisory Council dated January 13, 2021 regarding support for local infrastructure improvements be received.

Discussion included the following points:

- Funding available to Regional Districts;
- Possible ICBC education programs for speeding in school zones;
- Memorandum of Understanding formalized the process by which local government can request to licence an area in MOTI Right of Way for active transportation;
- Active Transportation design guidelines.

ROUNDTABLE

Committee members provided roundtable updates as follows:

Director Pratt (Halfmoon Bay) – Noted that a meeting has been set up with SCRD rural Directors and MOTI.

Director Siegers (District of Sechelt) – Mentioned the flooding issues in Davis Bay, that the District of Sechelt has a new engineer. She also shared that a grant application for an active transportation route from Sunshine Coast Highway to Mason Road to Ripple Way and back to Sunshine Coast Highway has recently been submitted by the District of Sechelt.

Alun Woolliams (TRAC) – Noted that he had a meeting with Director McMahon and a community group to discuss active transportation and that a report has been developed. He also noted that the District of Sechelt has submitted a grant application for a mapping function for Sunshine Coast trails.

Director McMahon – Noted she connected with her community recently to identify high value, low cost opportunities for active transportation to enable better connectivity in their area.

Colin Midgely (MOTI) – Noted his recent focus has been on the Bypass repairs as well as winter road maintenance.

Eric Paris (Capilano Highways) – Noted Capilano Highways public number for community concerns 1-800-665-3135 and requested that it be shared widely.

Louisa Mendonca (ICBC) – new Road Safety Coordinator, please contact her with any education program or road safety needs. She also mentioned that she has road safety campaign calendar available.

Director Hiltz (West Howe Sound) – Thank you to MOTI and Capilano Highways for their quick repairs to the Bypass and the extra road maintenance and sweeping.

Michael Braun (MOTI) – Thanked Tyler Lambert and Colin Midgely for their hard work and long hours they put in to get the Bypass repairs completed.

ADJOURNMENT 5:19 p.m.

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Committee Chair

SUNSHINE COAST REGIONAL DISTRICT
WATER SUPPLY ADVISORY COMMITTEE

February 1, 2021

RECOMMENDATIONS FROM THE WATER SUPPLY ADVISORY COMMITTEE MEETING HELD VIA ZOOM

PRESENT:	Chair	S. Thurber (part)
	Vice-Chair	D. McCreath
		D. Marteinson
		M. Hennessy
		A. Skelley
		T. Beck
		B. Fielding
		T. Silvey
		T. Adams
ALSO PRESENT:		
	Director, Area F	M. Hiltz
	Town of Gibsons	B. Beamish
	Director Area D	A. Tize
	Sechelt Indian Government District	A. Paul
	District of Sechelt	T. Lamb
(Non-voting)	GM, Infrastructure Services	R. Rosenboom
	Manager, Strategic Initiatives	M. Edbrooke
	Water Sustainability Coordinator	R. Shay
	Administrative Assistant/Recorder	T. Ohlson
	Public	2
REGRETS:		J. Bowen

Directors, staff, and other attendees present for the meeting participated by means of electronic or other communication facilities in accordance with Sunshine Coast Regional District Board Procedures Bylaw 717.

CALL TO ORDER 3:30 p.m.

AGENDA The agenda was adopted as amended to include the following item of New Business:

- Roles and Responsibilities of Water Supply Advisory Committee.

PRESENTATIONS AND DELEGATIONS

Ineke M. Kalwij, Senior Hydrogeologist and Principal Engineer of Kalwij Water Dynamics Inc. provided a presentation to the Committee regarding groundwater investigation.

Discussion included the following:

- Clarification on costs;
- Iron and manganese findings and the water treatment process; and
- Timing of well drilling – seasonal impacts.

MINUTES

Recommendation No. 1 *Water Supply Advisory Committee Meeting Minutes of January 4, 2021*

The Water Supply Advisory Committee recommended that the Water Supply Advisory Committee meeting minutes of January 4, 2021 be received.

REPORTS

Recommendation No. 2 *January Water Staff Reports to WASAC*

The Water Supply Advisory Committee recommended that the report titled January Water Staff Reports to WASAC be received.

The General Manager, Infrastructure Services provided the Committee with an update on current water supply projects including the results of the Groundwater Investigation presented at the Special Infrastructure Services Committee meeting on January 20, 2021. It was also noted that R1 2021 Budget Proposals will take place on Friday, February 5, 2021.

Discussion included the following:

- Hopkins Landing Water System as backup to Langdale Water System;
- Gray Creek water yield;
- Water supply and demand management;
- Water supply deficit;
- Land use impacts on community water supply;
- Impacts of Foundation Agreement on Chapman Water System; and
- Raw Water Reservoir Project.

Recommendation No. 3 *Results of Groundwater Investigation*

The Water Supply Advisory Committee recommended that the recommendations as included in the January 20, 2021 staff report Results Groundwater Investigation Phase 2– Round 2 and Groundwater Investigation Phase 3 – Gray Creek be supported;

AND THAT the collaboration between the SCRD and the Town of Gibsons on the development, utilization and monitoring of Aquifer 560 be expanded.

Staff committed to providing an update on the recent and upcoming public participation initiatives within one week of this meeting and to spend more time on this item at the next meeting.

Recommendation No. 4 *WASAC Meeting Frequency*

The Water Supply Advisory Committee recommended the SCRD Board to approve the Water Supply Advisory Committee meet monthly in March and April, 2021.

NEW BUSINESS

Roles and Responsibilities of Water Supply Advisory Committee

Discussion included the following:

- Clarification that the Advisory Committee advises the Board; and
- The Committee's desire to be more involved in the scoping phase of projects.

ADJOURNMENT 5:35 p.m.

Tracy Ohlson

From: Jennifer Hill
Sent: Monday, February 1, 2021 5:36 PM
To: Tracy Ohlson
Subject: FW: SCRD- Board Re: SCRD Garbage, Recyling, green waste collection -Reasonable Expectation of Privacy

From: jeripatter@aol.com <jeripatter@aol.com>
Sent: Tuesday, January 26, 2021 1:30 PM
To: Jennifer Hill <Jennifer.Hill@scrd.ca>; Alton Toth <Alton.Toth@scrd.ca>; JERIPATTER@aol.com; Darnelda Siegers <Darnelda.Siegers@scrd.ca>
Cc: editor@thelocalweekly.ca
Subject: SCRD- Board Re: SCRD Garbage, Recyling, green waste collection -Reasonable Expectation of Privacy

External Message

January 26,2021

Attn.: SCRD Board

Cc: the local

Re: SCRD Garbage, recycling and green waste collection- Reasonable expectation of privacy

Members of the public living in both the SCRD and Sechelt that receive SCRD billed garbage collection services from the SCRD brought the recent article in the Local paper to my attention.

In addition, they brought to my attention the Canadian Charter, and 'Reasonable Expectation of Privacy' as it relates to garbage collection.

The issue is serious. The Publics 'Expectation of Privacy' is a key issue for the SCRD to consider.

As is the health, and safety of SCRD staff, and/or subcontractors collecting garbage.

Clear plastic garbage bags could be considered a violation of the Publics ' reasonable expectations of privacy' as the products used, and disposed of in clear the bags would be clearly visible. For example; sanitary products, and other personal care items.

Having SCRD staff, and/ or subcontractors examining and sorting items in the garbage at the curb side could pose a serious health risk. And further delay, or hinder the garbage collection process. The process would also be subject to tampering, and resulting unfounded allegations, and charges.

If the SCRD intends to proceed, and in doing so violate the Publics ' Reasonable Expectations of Privacy' the SCRD should also provide the public the right to opt out (no billing or fees) of the SCRD waste management program.

I strongly object to the SCRD violating the Publics right to a 'Reasonable Expectation of Privacy'.

Jeri Patterson
West Sechelt

BCFerries

British Columbia Ferry Services Inc.
The Atrium
Suite 500, 1321 Blanshard St.
Victoria, BC V8W 0B7

Tel (250) 381-1401
Fax (250) 360-2093

bcferries.com

February 1, 2021

Board of Directors
Sunshine Coast Regional District
1975 Field Road
Sechelt, BC V0N 3A1

Dear Board of Directors,

We recently completed the second phase of engagement for the Moving Ahead Together on the Sunshine Coast project and we are writing to update you on the results and our next steps. In the second phase of engagement, we sought community input on 11 ideas to enhance service on the Sunshine Coast routes. The Moving Ahead Together Project Working Group and BC Ferries developed the ideas collaboratively.

The ideas are grouped into four topic areas:

1. **Travel Certainty** - Ways to reduce stress and anxiety for those who depend on ferry service
2. **Medical Travel** - Ways to reduce stress and anxiety for those travelling with medical needs
3. **Communications** - Ways to enhance information that can make planning and travelling easier
4. **Demand Management** - Ways to enhance the use of available capacity through the day

Community feedback indicated that all 11 ideas were worth developing further. The community also noted several key considerations to keep in mind while moving forward with idea development, including:

- **Ensuring fairness and equity** – ensuring that changes, especially changes to booking processes, carefully consider impacts on all travellers, e.g. commuters, medical travellers, Upper and Lower Sunshine Coast residents, those for whom the additional cost of making a booking is a barrier to travel
- **Easing travel for those taking more than one ferry** – taking an end-to-end view of the travel experience for those who must take more than one ferry, e.g. Upper Sunshine Coast to Lower Mainland
- **Prioritizing and supporting medical travel** – ensuring ease and comfort throughout the travel experience from booking through to arrival for those with medical needs
- **Enhancing access to information** – making key information easy to find, and coordinating with community organizations to enhance distribution and understanding of information

Through spring 2021, BC Ferries and key stakeholders will work to turn the proposed ideas into tangible solutions designed to enhance the travel experience for the Sunshine Coast. We will be coming back with additional communications and engagement over the coming months as we move from proposed ideas through to the development and implementation of tangible solutions.

You can read the engagement report and a report on our next steps on our project page: www.bcferriesprojects.ca/aheadtogether. We would also be happy to meet to discuss the results and our next steps with you directly. Please feel free to contact me to arrange a time to meet.

Sincerely,

Brian Anderson
Vice President, Strategy & Community Engagement