Comox Strathcona Waste Management

Staff Report

DATE: April 16, 2021

FILE: 5360-30/Organics

TO: Chair and Directors
Comox Strathcona Waste Management Board

FROM: Russell Dyson
Chief Administrative Officer

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

RE: Regional Organics Compost Project Update

Purpose
To provide an update on the Regional Organics Compost Project (Project).

Recommendation from the Chief Administrative Officer:
For information only.

Executive Summary
The Project, a strategic priority of the Comox Strathcona Waste Management (CSWM) Board, will provide in-region organics waste processing critical to achieving the waste diversion goals in the current Solid Waste Management Plan (SWMP).

Staff have been advancing the Project with the goal of a fully commissioned facility by fall 2022. This report provides an update on detailed design of the facility, public consultation summary, regulatory approvals, development and building permits, and outlines the next steps for procurement and construction plans. A high level project timeline is outlined below:

Timeline	2021				2022			
	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall
Compost facility and transfer station Design								
Phase 2 public engagement								
Regulatory/DP permit approvals								
ITT for construction								
Construction award								
Construction								
Compost facility commissioning								
RFP for compost facility operation								
Facility compost facility operation award								
Pick-up collection phased in								

Task: Phase 2 Consultation
Status: Complete
CSWM conducted a comprehensive two-phase public engagement process in effort to educate and gain public support for the Project, critical to the success of the overall regional waste diversion strategy. Based on feedback from Phase 1 consultation in 2020, in March 2021, Phase 2 consultation provided the public with extensive information about the preliminary design and operations through a variety of channels for residents to learn more about the preliminary site design, mitigation efforts and how Phase 1 public input informed the facility design and operations. A number of communications activities were undertaken to raise awareness of the opportunities to learn more and provide feedback, including three virtual public meetings and First Nations consultation through a separate, parallel process. The Phase 2 Consultation Summary report (Appendix A) and previous Phase 1 Consultation Summary report will be submitted to the BC Ministry of Environment and Climate Change Strategy (MoE) to support applications for a targeted amendment to CSWM's SWMP to construct the regional organics facility and an operating permit for the regional organics facility under the Organic Matter Recycling Regulation (OMRR).

Task: Regulatory Approval – SWMP Targeted Amendment
Status: Underway
The *Environmental Management Act* [SBC2003] requires that all regional districts prepare and submit a SWMP to the Province of British Columbia. While the current SWMP supports the concept of regional organics management to advance the CSWM's waste diversion goals, on the advice of the MoE, a targeted amendment to the current SWMP is required to:

- Detail the location and processing capacity of the transfer station and compost facility; and
- Provide confirmation of adequate public and stakeholder consultation with respect to siting, and potential environmental, social and financial impacts.

The targeted amendment along with the supporting documentation was submitted to the MoE on March 18, 2021 and staff confirmed that it has been received and assigned for review and recommendation, with the understanding of the urgency of this submission as it is critical to advance the Project.

Task: Detailed Design of the Compost Facility and Transfer Station
Status: Underway
In 2021, staff retained the engineering services of Sperling Hansen Associates (Sperling Hansen) for the detailed design of the compost facility and transfer station, with consideration of Phase 1 public consultation input. The 90 per cent design drawings have been completed and are currently under review.

Task: City of Campbell River Development Permit – Compost Facility
Status: Underway
A development permit was submitted on April 12, 2021 to the City of Campbell River for the construction of the compost facility on Block J in Campbell River. Staff will be working closely with the City of Campbell River as the approval of the development permit is critical to advancement of the Project.

Task: Village of Cumberland Development Permit – Transfer Station
Status: Underway
Development permit will be required from the Village of Cumberland for the construction of the transfer station at Comox Valley Waste Management Center in Cumberland. The development permit will be submitted the week of April 12, 2021. Comox Valley Regional District staff will be

working closely with the Village of Cumberland as the approval of the development permit is critical to advancement of the Project.

Task: Regulatory Approval – OMRR Operating Permit
Status: Pending
The MoE administers and regulates air quality issues, including odour issues, under the authority of the *Environmental Management Act* [SBC2003]. The OMRR governs production, quality and land application of certain types of organic matter. In order to produce Class A compost for resale, staff will be submitting an application for an operating permit for the regional organics facility under the OMRR.

Task: Invitation to Tender for Construction of Facilities
Status: Pending
Upon final approval of the detailed design, Sperling Hansen will issue the drawings as part of the invitation to tender for the construction of the facilities under a traditional design-bid-build project model. The tender is expected to be issued summer 2021.

As previously communicated, the project team is committed to providing the CSWM Board with project updates as major design, procurement and construction milestones are achieved. Staff is in regular communication with municipal staff to coordinate and prepare for the curbside collection of organics well in advance of the upcoming changes.

Prepared by:	Concurrence:
V. Schau	***M. Rutten***
Vivian Schau Senior Manager CSWM Services	Marc Rutten, P.Eng. General Manager Engineering Services

Attachments: Appendix A – Phase 2 Consultation Summary report

Appendix A

WHAT WE HEARD – PHASE 2 CONSULTATION SUMMARY REPORT

Comox Strathcona Regional Organics Compost Project

April 2021

Submitted by:
Tavola Strategy Group Ltd.
tavolagroup.com | katie@tavolagroup.com

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ABOUT THE PROJECT

Comox Strathcona Waste Management is planning a new regional composting facility for the Campbell River Waste Management Centre, enabling a phased introduction of organics collection for over 30,000 single family dwellings in Campbell River, Comox, Cumberland and Courtenay.

Organics, which includes food and yard waste, currently makes up about 30% of the total waste that is landfilled. A composting facility will divert these organics and extend the life of the landfill, which is a cost-effective approach for handling solid waste for the taxpayers.

When buried in a landfill, organic material also produces methane gas, a key contributor to global climate change. Composting organic waste is an important step to sustainably manage waste in the Comox Strathcona region, as it reduces the greenhouse gas emissions that would otherwise be associated with its decomposition. The composting facility will repurpose this organic material into a nutrient rich compost for agriculture and landscaping.

The overall project cost estimate is $15.5 million with $6.4 million to be funded by grants and the remaining $9.1 million by reserves and tipping fees.

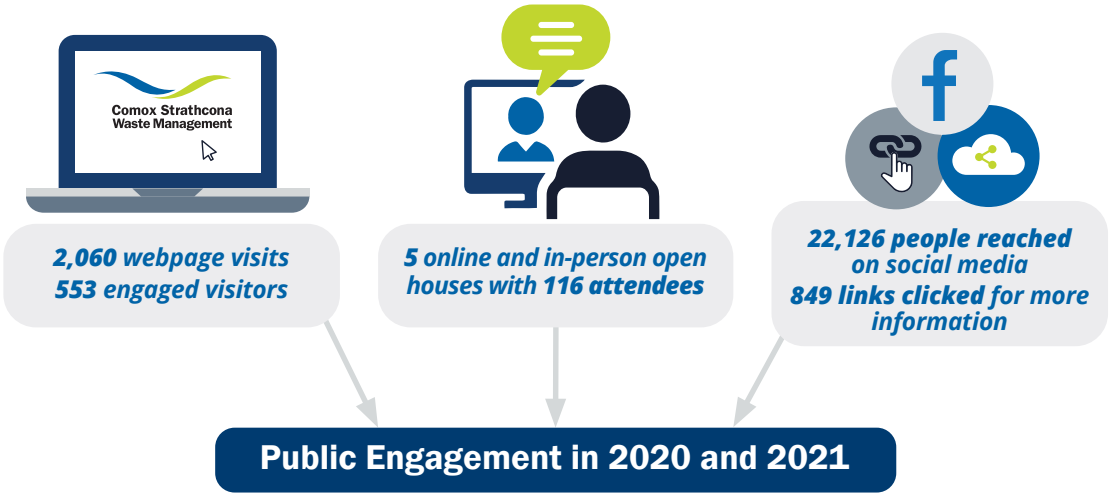
Comox Strathcona Waste Management is committed to designing a state-of-the-art facility that minimizes impacts to neighbours and the environment. The facility will meet stringent environmental and community standards and exceed these standards wherever reasonable.

Upon completion of the second phase of public consultation, CSWM will seek regulatory approvals. Construction is planned for Fall 2021.

Public education will begin in 2022 to share information about what will be collected within the program and the details around curbside pickup. The facility should be fully operational with curbside collection implemented by the end of 2022.

OVERVIEW OF THE PUBLIC CONSULTATION PROCESS

Consultation on the Regional Organics Compost Project occurred in two phases with the first commencing in January - February 2020 followed by the second phase in February - March 2021.



Phase 1 Results

As part of project planning, the first phase focused on gathering feedback to inform the design and operations of the facility. 549 people responded to the survey and 45 people attended two open houses, providing input on top of mind issues, communications preferences and mitigation measures that could be considered within the design and operations.

- Overall, survey respondents were very supportive of a regional facility and collection program, and are concerned about the environmental impacts of landfilling food and yard waste. 93% of respondents indicated they are concerned about the environmental impact of landfilling organic waste and 96% feel a regional organics composting facility and collection program are needed.
- The greatest perceived benefits of composting were: reducing waste going into the landfill, repurposing waste into nutrient-rich soil, and reducing greenhouse gases.
- The top concerns expressed related to a regional composting facility were related to groundwater, odour and pests.
- Residents felt the top issues to be addressed within the design and operations of the facility are: water quality, odour, and carbon emissions. Comparatively, visual disturbance, lighting and traffic were significantly lower in terms of issues of importance.
- When asked whether respondents in the survey were happy with the mitigation measures for managing odour, pests, groundwater, trees and wildlife, and traffic, over 90% indicated they are happy with what is proposed, or had no concerns.
- Neighbours from two adjacent properties and one stakeholder group were strongly opposed to the siting of the facility at Block J.
- Residents from Campbell River had more concerns and questions about potential impacts to neighbours, including odours, pests and water quality and monitoring, than other communities.
- There was a strong desire to see consistent monitoring and evaluation of mitigation measures to ensure best practices are in place.
- A variety of questions and comments were posed wondering how the collection program will work, e.g. bins, compostable bags, what items will be included etc. There was also interest expressed for multi-family building participation within the program.
- When asked how best to communicate with residents about composting and waste management in future, survey respondents indicated the top methods (in order) were the local newspaper, the CVRD Facebook page, the CSWM website, local radio and electronic newsletter. CVRD Twitter was rated considerably low in terms of communications preference. Open house attendees also noted the local newspaper as the preferred method, followed by open houses.

An overview of the Phase 1 consultation process and what was heard is available in **Appendix H.**

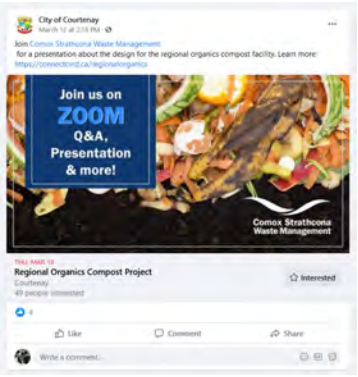
Phase 2 Results

In March 2021, extensive information about the preliminary design and operations was shared through a variety of channels for residents to learn more about the preliminary site design, mitigation efforts and how previous public input has informed the facility design and operations. Public meetings were offered virtually for residents to learn more and ask questions.

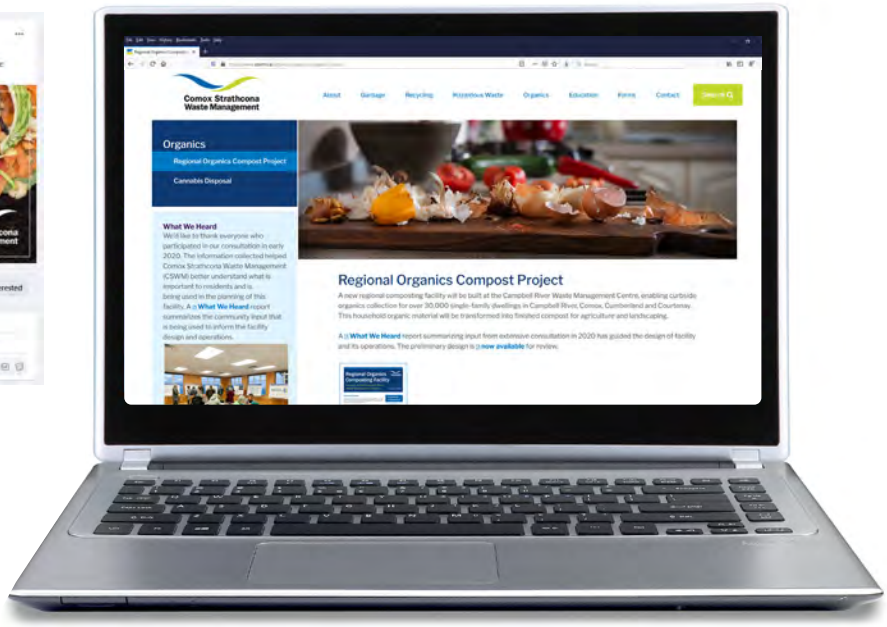
A number of communications activities were undertaken to raise awareness of the opportunities to learn more and provide feedback:

- A detailed backgrounder on the facility design and operations was shared on the project website
- A media release was distributed on Tuesday, March 21, 2021
- More than 2,000 residents visited the online project pages which provided information about the project and consultation process. 553 posed a comment or question about the project
- Letters were sent to neighbouring properties and 19 stakeholder groups
- Social media posts were shared on Facebook and promoted throughout the process
- Print ads appeared in the Comox Valley Record on March 3 and 10, 2021
- Radio ads ran 5/day on Vista radio over seven days

Consultation with local First Nations was undertaken through a parallel but separate process.



Online engagement



Print Ad

Detailed information PDF shared through the website

Neighbourhood Meetings and Webinars

Three sessions were offered to the public to learn more and ask questions of the project team. Attendees registered for the webinars in advance, and an external facilitator moderated the Q&A period. Due to the COVID-19 pandemic and associated public health orders, in-person gatherings were not possible. All sessions were Zoom-based webinars starting with an overview presentation and dedicating the majority of time to attendee questions. A commitment was made to answer any questions not covered during the session, and to posting the recording of the entire session to the project website.

The three virtual sessions took place as follows:

- Neighbourhood meeting:
  - *Thursday March 11, 2021*
- Webinars:
  - *Tuesday March 16, 2021, 12 p.m. – 1 p.m.*
  - *Thursday March 18, 2021, 5 p.m. – 6 p.m.*

In each session, the facilitator explained the format and then CVRD Chief Administrative Officer Russell Dyson spoke to the regional importance of the facility and the many benefits of diverting organics from the waste stream.

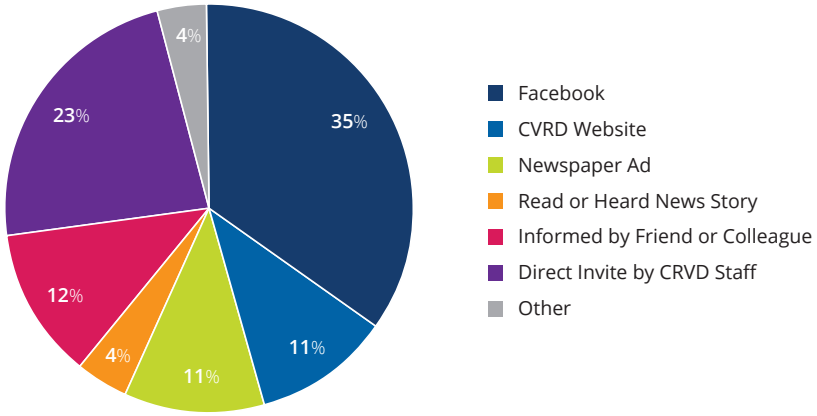
A PowerPoint presentation (**Appendix B**) summarizing the project objectives and how the preliminary design addressed issues raised in previous consultation efforts was presented by the Project Manager Cole Mackinson. Questions were moderated through the Zoom chat function. Videos of the March 16th and 18th webinars are available here: **https://connectcvrd.ca/regionalorganics**

Who We Heard From

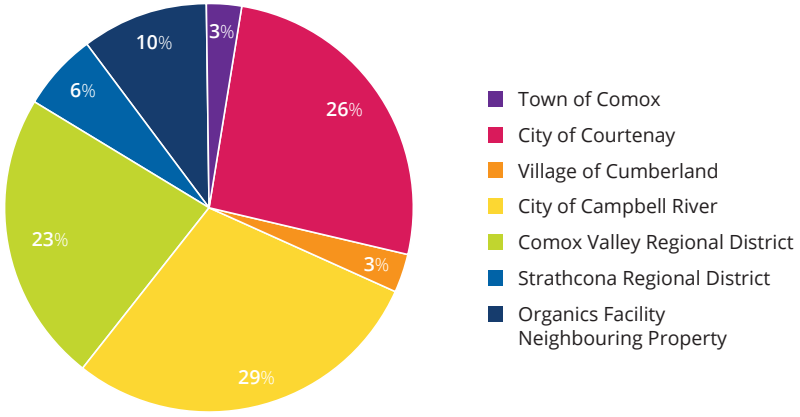
In total, 71 people participated in the three sessions, including two people who attended all three sessions.

Attendees came from across the Region, with the majority from Courtenay, Campbell River and the Comox Valley Regional District rural areas. Nearly 60% of attendees heard about the sessions through Facebook or direct invitation from the CVRD, followed by the CVRD website, the newspaper or from a friend or colleague. Attendees included residents, business representatives and staff from various local governments including Campbell River, Kamloops, Strathcona Regional District, and Columbia Shuswap Regional District.

How did you hear about this meeting?



Where are you from?



Summary Reports for Poll Responses from the March 16th and March 18th Regional Organics Project Virtual Meetings.

WHAT WE HEARD OVERALL

Overall, attendees appeared to have a high awareness and understanding of the regional composting facility and what is planned. There were no questions about why the facility was needed.

Most attendees demonstrated familiarity with the waste management system in the Comox-Strathcona Waste Management area and the overall plans for the regional composting facility. Several attendees had participated in Phase 1 of the public engagement process.

The majority of attendees expressed interest in understanding more about the service itself, specifically posing questions about what organics would be collected, feedstock, managing contamination, operational aspects such as trucking and public access, as well as overall project costs and funding.

Many attendees appeared to be anticipatory of what the new service and interested in understanding more about the service and the facility overall.

The questions posed by neighbours largely focused on more localized topics such as tree removal, odour, leachate, soil and water quality, and fire suppression.

Two individuals – one member of the Campbell River Environmental Committee (CREC) and one neighbour also identifying as a member of CREC - attended all three meetings. A third member of CREC attended two of the three meetings. These individuals raised specific concerns around health and environmental risks, odour management, fire safety, and composting facility best practices. The two participants questioned the reported distance between the planned facility and the nearest neighbouring private property, offering alternate measurement methods and research.

The questions outlined in the appendices include several links and studies shared by CREC in the meeting chat box. To address their many detailed questions, an additional follow-up meeting with CREC was held on Thursday, March 25, 2021. Meeting minutes are attached in **Appendix F**.

Many attendees expressed appreciation for the opportunity to learn more about the facility and operations, and for the detailed answers provided by members of the project team. A full transcript of questions asked and answered at the three public meetings are attached in **Appendix C, D** and **E**.

NEXT STEPS

This ***What We Heard*** summary of the public consultation undertaken will be posted at **https://connectcvrd.ca/regionalorganics** and will be submitted to the BC Ministry of Environment and Climate Change Strategy to support applications for a targeted amendment to CSWM's Solid Waste Management Plan to construct the regional organics facility and an Operating Permit for the regional organics facility under the Organic Matter Recycling Regulation.

Engagement with First Nations communities will continue as a separate and distinct process with results to be reported back to the Ministry.

APPENDIX A

Design Summary Document

Regional Organics Composting Facility

Comox Strathcona Waste Management

Located at the Campbell River Waste Management Centre

February 2021

Detailed Design

Planning and design for the new regional composting facility to be built at the Campbell River Waste Management Centre has progressed, and a design of the facility is now available.

This much needed facility will enable curbside organics collection for over 30,000 single-family homes in Campbell River, Comox, Cumberland and Courtenay. Processing organics in-region will ensure economic and environmental benefits for the community. Organic waste will become finished compost for agricultural and landscaping uses, diverting approximately 30% of collected waste from our regional landfill. The organics processing facility will be essential to manage solid waste cost effectively and achieve our regional waste diversion goal of 70% by 2022.

Informed by **extensive community input** on the facility in 2020, CSWM staff have worked closely with consultants Sperling Hansen Associates to design the site and facility. The facility, its operations and design incorporates best management practices, minimizes impacts to neighbours, and protects the environment while achieving best value for taxpayers by extending the life of the landfill and reducing operational costs.

The design will be finalized by Spring 2021 with construction commencing Fall 2021 and slated to be fully operational by Fall 2022, enabling the phased introduction of curbside organics collection by year end 2022.

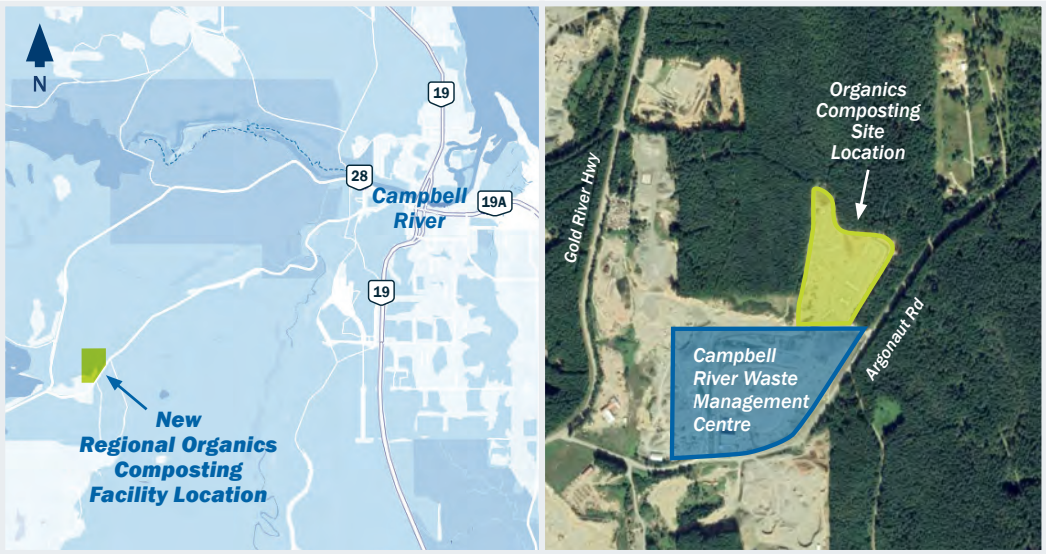
Comments or Questions?

Provide comments or ask questions at: **connectcvrd.ca/regionalorganics**

For more information visit: **cswm.ca/regionalorganics**

Project at a Glance

The regional composting facility will be built at the Campbell River Waste Management Centre, located at 6300 Argonaut Road. Organics collected from residential homes in Campbell River will be transported directly to the facility. A transfer station will be constructed at the Comox Valley Waste Management Centre to consolidate and transport organics collected from residential homes in Comox, Cumberland and Courtenay to the regional composting facility in Campbell River.



Composting Facility – Campbell River Waste Management Centre

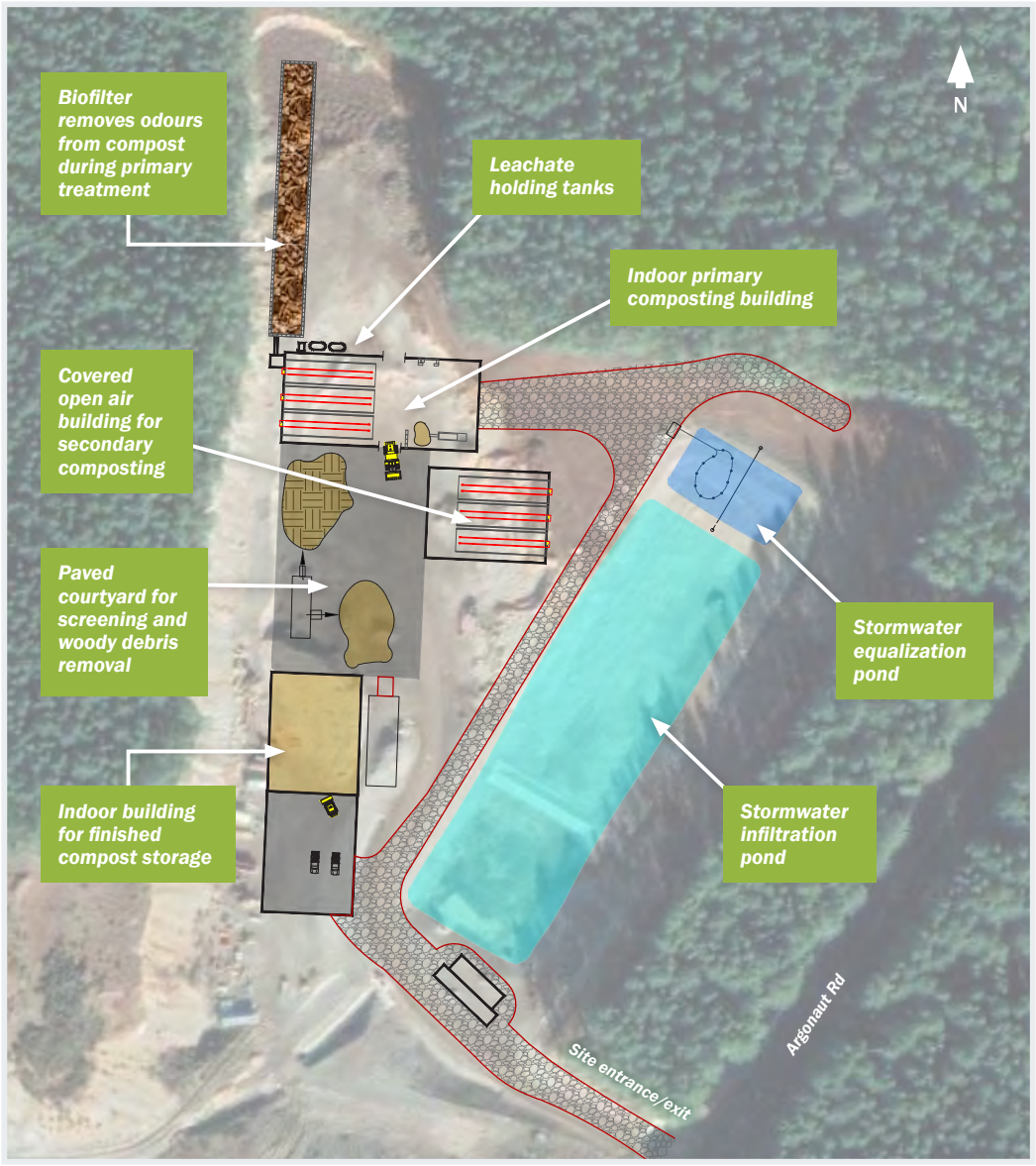
All composting activities will be completed indoors, minimizing noise and odour. There will be no impacts to groundwater and surrounding habitat.

The 19-hectare site is zoned for heavy industrial use with specific zoning for composting. In October 2019, the Agricultural Land Commission approved approximately 6 hectares of the site for non-farm use, to be used for the compost facility.

The enclosed processing building and supporting infrastructure will total approximately 47,000 square feet, or just over 2.5 NHL sized ice rinks. This building will be centrally located on a cleared area at the rear of the property, leaving a forested buffer around the site.

For more information visit: **cswm.ca/regionalorganics**

Important Design Considerations



For more information visit: **cswm.ca/regionalorganics**

GROUNDWATER

At a composting facility, best practice involves clear separation of areas where leachate is generated within the compost buildings and areas on the property where stormwater is collected and drained. Stormwater includes all water that drains from structures, covered areas, walkways, roads and the site courtyard areas.

Unprocessed materials will be stored inside, and composting will be undertaken exclusively inside buildings on concrete surfaces. Moisture content is carefully controlled as part of the process and water that comes into contact with organic waste (leachate) will be collected in sealed tanks and reused as part of the composting process. Leachate will not be discharged to the environment during the composting process.

Stormwater will be collected in a lined holding pond where it will be aerated, and sediment will be removed. The resulting treated stormwater will be discharged into an unlined pond and re-infiltrated into the ground. Water use onsite will be managed carefully and will not have an impact on groundwater quality or supply.

The facility is a highly regulated site by the British Columba Ministry of Environment and Climate Change Strategy. The CSWM service has an extensive annual water monitoring program in place to adhere to the testing protocols laid out by the Ministry to provide an understanding of the groundwater quality. Additional monitoring wells are planned as part of the project. Testing is done quarterly and reported to the Ministry. Groundwater monitoring reports are available at **www.cswm.ca/campbellriver**.

ODOUR

The successful management of odour is a critical component in the design and operation of this facility. The receiving and processing of organic waste will take place daily within a fully enclosed building. Air will be captured through an HVAC system and then treated using biofilter technology, preventing odours from leaving the building.

The finished compost will be stored under a covered area and will look and smell like rich, dark earth.

The BC Ministry of Environment and Climate Change Strategy administers and regulates air quality issues, including odour issues, under the authority of the *Environmental Management Act*. The Organic Matter Recycling Regulation under the Act governs production, quality and land application of certain types of organic matter. These two regulations govern odour management related to processing organics waste in BC as administered by the Ministry.

For more information visit: **cswm.ca/regionalorganics**

PESTS

A pest control plan will be an important part of facility operations. The daily processing of organic material indoors minimizes odours and helps control rodents and pests. Once the material is placed into an active compost pile, temperatures will reach between 50-60 degrees Celsius for several days, an undesirable and inhospitable environment for rodents and pests. The material is also moved frequently reducing opportunities for animals to establish refuge. The entire perimeter of the property will be fenced, preventing larger wildlife from entering the site.

CARBON EMISSIONS

Greenhouse gas emission reduction will be achieved by:

1. Removing organic material from the waste stream to reduce the production and release of methane gas in the landfill.
2. Recycling organic matter into soil restores carbon and eliminates the need for chemical fertilizers.

TREES AND WILDLIFE

The facility will be located on a cleared area of land. A wooded area will be kept around the perimeter of the facility to protect natural habitat as a well as mitigate visual impacts.

While some trees will need to be cleared on the site to ensuring safe slopes of the landfill gravel extraction area, careful site planning and layout will retain the maximum amount of forest possible for habitat and buffer. Site development and tree cutting will occur during an appropriate nesting window.

All delivery of compost feedstock and active composting will occur indoors to prevent birds and wildlife from being attracted. Fencing will prevent larger wildlife from accessing the site.

TRAFFIC AND LIGHTING

Traffic impacts will be minimal, as organic waste collection will integrate with the existing waste collection system. The main access to the site would be from Highway 28, which will not affect most neighbouring properties on Argonaut Road.

The current design creates the greatest buffer area possible between the facility and neighbours, protecting sightlines and minimizing light and noise. Exterior lighting will be a lower colour temperature to minimize impact. Lighting will be optimized for operational requirements and to avoid impacts to neighbours.

For more information visit: **cswm.ca/regionalorganics**

NOISE

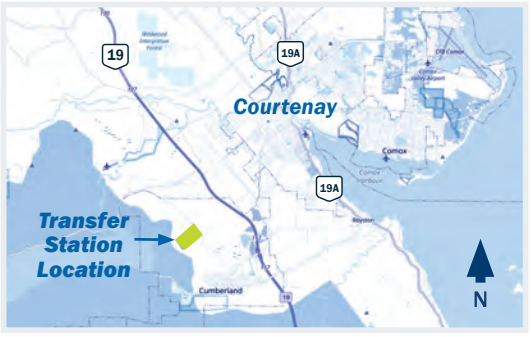
The use of back-up alarms will be minimized to reduce noise during operating hours, and equipment with lower noise ratings will be used. Sound attenuating enclosures will also be considered.

COSTS

The overall project cost is $15.5 million, with $6.4 million to be funded by grants and the remaining $9.1 million to be funded from CSWM reserves. The operation of the facility is to be funded through tipping fees charged to its users. Cost savings overall can be realized by removing organics from the waste stream which will prolong the life of our regional landfill. Landfill construction estimates are $28 million over the next 17 years based on current diversion rates, but life expectancy will be extended with increased diversion.

Transfer Station – Located at the Comox Valley Waste Management Centre

An organic transfer station will be constructed at the Comox Valley Waste Management Centre (regional landfill) located in Cumberland. When the Campbell River landfill reaches capacity in late 2021/early 2022, waste will be transferred to the regional landfill in Cumberland. These trailers will take organics from Courtenay, Comox and Cumberland to the regional compost facility in Campbell River on their return trip, maximizing trucking efficiencies. One or two truck trailers will be transferred to Campbell River per day.



Conceptual image of proposed transfer station.

For more information visit: **cswm.ca/regionalorganics**

Regulatory Approvals

A summary of the public consultation undertaken will be submitted to the BC Ministry of Environment and Climate Change Strategy to support applications for:

- A targeted amendment to CSWM's Solid Waste Management Plan to construct the regional organics facility
- An Operating Permit for the regional organics facility under the Organic Matter Recycling Regulation

The Ministry administers and regulates air quality issues, including odour issues, under the authority of the Environmental Management Act. The Organic Matter Recycling Regulation governs production, quality and land application of certain types of organic matter. The Act and Regulation are the two primary regulatory documents that govern odour management related to processing organics waste in BC.

The new facilities will also require development and building permits from the City of Campbell River and the Village of Cumberland, as well as comply with Public Nuisance bylaws, which includes prevention of nuisance odours.

For more information:

Tel: 250-334-6016
Toll Free: 1-800-331-6007
Email: cswm@comoxvalleyrd.ca
Web: **www.cswm.ca/regionalorganics**

Comox Strathcona Waste Management

APPENDIX B

Powerpoint Presentation

Preliminary Design

Regional Organics Compost Project

Webinar – March 2021

Comox Strathcona Waste Management

Welcome

"Preliminary Design" Open House

OBJECTIVES & AGENDA
- Introduction
- Project Overview
- Preliminary Design
- Response to Key Issues
- Next Steps – Project Timeline
- Question & Answer

Comox Strathcona Waste Management

Service Overview

Comox Strathcona Waste Management

Project Overview

Opportunity / Objectives

Comox Strathcona Waste Management

Community Input

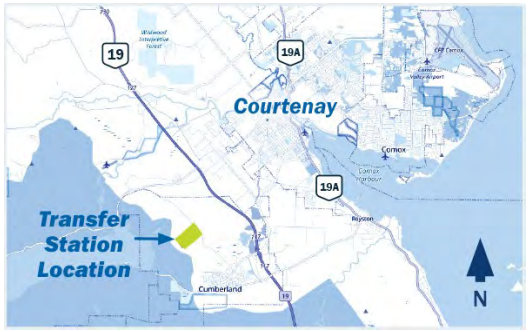
Comox Strathcona Waste Management

Top of Mind Issues

- GROUNDWATER
- ODOUR
- PESTS
- TREES & WILDLIFE

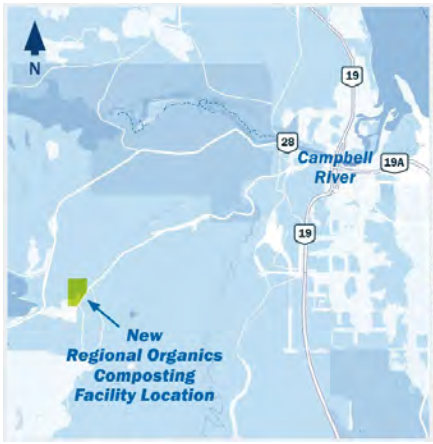
Comox Strathcona Waste Management

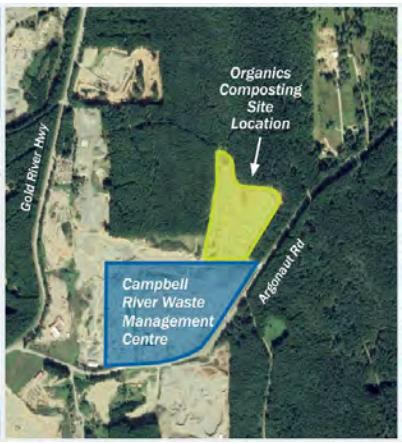
Transfer Station Location



Comox Strathcona Waste Management

Composting Facility Location





Comox Strathcona Waste Management

Composting Facility Site Plan

Comox Strathcona Waste Management

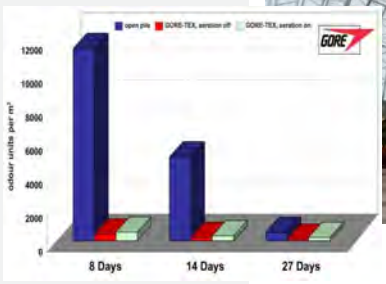
Important Design Considerations

GROUNDWATER

Comox Strathcona Waste Management

Important Design Considerations

ODOUR

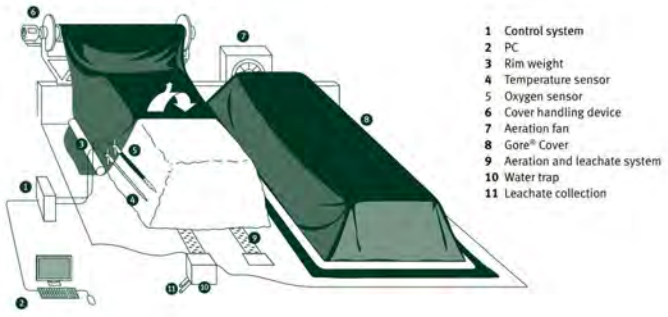


Comox Strathcona Waste Management

Important Design Considerations

PESTS

COMPOSTING WITH GORE® COVER



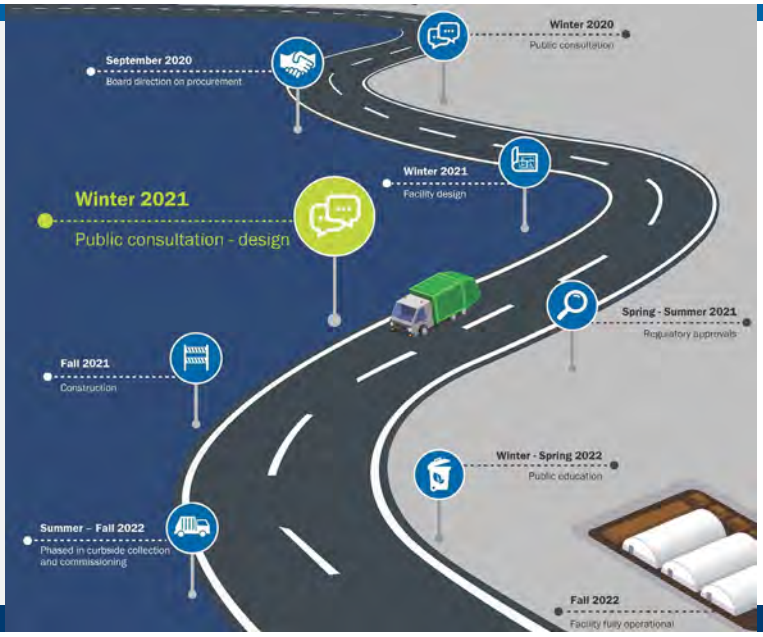
Comox Strathcona Waste Management

Important Design Considerations

TREES AND WILDLIFE

Comox Strathcona Waste Management

Road to Regional Organics



Comox Strathcona Waste Management

Questions & Answers

Comox Strathcona Waste Management

Thank You

Next Steps

- Post video and Q&A to www.connectcvrd.ca/regionalorganics
- Project team to respond to emails and phone requests for info
- Document input gathered
- Continue the detailed design process
- Submit information to the BC Ministry of Environment and Climate Change Strategy to support regulatory applications

Your feedback will be used to help us:

Comox Strathcona Waste Management

APPENDIX C

Neighbourhood Meeting

Four people attended the neighbourhood session, which was held on March 11th, 2021. Two attendees were members of the Campbell River Environmental Committee (CREC), one attendee was a neighbour and member of CREC, and one attendee was a neighbour. Comments and questions posed and answered during this information session are as follows:

- ***Location of biofilter?***

  The biofilter will be situated in the north east corner of the facility, adjacent to the primary compost building.

- ***What is the capacity of the facility?***

  The current design is for 14,500 tonne/yr. Within the first year after start up the expected tonnage from residential curbside food and yard waste is 11,500 t/yr. This provides additional capacity for some multifamily or commercial organics material. Over time the facility will need to grow and our current design allows for a doubling of capacity in the future. The timing of future expansions will depend on community diversion and expansion of the facility is expected in about 10 years.

- ***How will an expansion be accommodated without removing any trees?***

  The design is for the 14,500 tonne/yr capacity with room for expansion in the future. The facility, including the expansion, will be located on a cleared area of land. A wooded area will be kept around the perimeter of the facility to protect natural habitat and mitigate visual impacts. While some trees will need to be cleared on the site, careful site planning and layout will retain the maximum amount of forest possible for habitat and buffer.

- ***Please remind me "soil extraction" (recently) for what use, removed and placed where?***

  Block J has been used as a soil extraction pit for cover material for the Campbell River landfill, which is reaching capacity and will be closed this year. Upon closure, this practice will not be no longer be required.

- ***From experience, as organics received, assume they are screened, what items must be removed? What do residents incorrectly put into the organic stream?***

  Education is critical to the success of this project. Contaminates and oversized material will be screened at the transfer station and further screened at the facility by the operator on the tip floor as a final check. Loads with obvious contaminates will be rejected accordingly.

- ***Is it possible to view an existing operation of this planned facility i.e. is the Cumberland operation the same or of value to view to see the actual (rather than the proposed planned document for this CR site)?***

  Yes, we can arrange a tour of the Cumberland facility. Will follow up with the resident directly on this request.

- ***Cobble Hill facility has two bio filters - Leona will send further information. Experience in that facility is that the bio filters themselves cause odour issues.***

  Without knowing the exact details of their operation, it is difficult to elaborate on how their operation compares to the propose facility operation. Their facility is permitted to receive yard and garden waste, food waste and biosolids. It is our understanding that it is the biosolids that has been the primary source of the odour concerns at this particular facility.

  All exhaust air from the composting buildings goes through the biofilter, which is why it is listed as

the source, but the odours are coming from the composting process inside the building. Problems with biofilters not removing odour is a result of design issues or not following Best Management Practices (undersized, airflow, moisture content, frequency of media changes, or high emissions).

The purpose of the biofilter is to remove odour, it, and the Gore Cover is our main treatment technology for odour. Best management practices for the maintenance of the biofilter media will be built into the operations contract. Additionally, the Gore Cover system has been piloted at the Comox Valley Waste Management Center for the past 8 years with great success and no odour complaints.

- ***Is there a facility that you can point to which would be a good comparison?***

  The Net Zero Waste facility in Abbotsford utilizes the open windrow composting method with a Gore Cover system and no biofilter, which our facility is modelled off of with much higher odour control and leachate management, would be the best comparison. There has been no odour complaints at this site to date. Furthermore, the Gore Cover system has been successful used at over 300 composting operations in the world.

  There are many factors that may into the odour conversation, chief among them:

  - *The incoming feedstock. It is our intention to receive only commingled yard waste and food waste. If and when, ICI material is received, there will be very stringent acceptability guidelines.*
  - *The composting technology – open vs. indoor operation with negative ventilation*
  - *The actual operation of the facility, such as the method of loading, the use of Gore Cover, how feedstock is received and the time it takes to process the material.*

- ***Re: Cumberland what residents are located downwind from the compost facility. To my mind there are none***

  The Village of Cumberland is about 4km away from the facility.

- ***Concern about VOCs/carcinogens/air quality. Concern about proximity of neighbors to facility. If the systems don't work and odour/carcinogens become an issue how will the CSWM be held accountable?***

  We are making a strong commitment to address the odour concerns by way of facility design, such as indoor primary processing building under negative ventilation, use of the Gore Cover system, biofilter, commitment to best management practices for the operation of the facility.

- ***What is considered an acceptable odour level?***

  We are following best practices for the design of the facility to ensure very low levels of odour at the property boundary, to ensure no impact to neighbours.

- ***Differing accounts about the distance of the closest property - would like to have distance confirmed. Best practices state the facility should be 300 metres away.***

- *As part of the final design and OMRR permitting, we will be doing a full odour modeling, using worst case scenario (i.e. maximum feedstock, spent biofilter media, wind direction, to ensure determine odour at the property boundaries. This study will forms part of our application and we will be required to meet this standard in order to receive our permit for operation.*

- ***Will odour modelling be required for regulatory permits?***

  No, it is not required for operations below 20,000 tones. To ensure best practices, and to show our commitment to the community, we will be submitting a full permit application, which will required odour modelling.

- ***Provide confirmation that an environmental impact study will be complete 90 days prior to construction as per OMRR requirements.***
  Yes, we have committed to the environmental impact study and have been working closely with the Ministry to ensure we meet the OMRR requirements.
- ***Concerned about groundwater impacts during construction***
  The groundwater monitoring program for the landfill is completed quarterly. The groundwater table level is very deep at this site, there is no standing water. The footings for the proposed building will be very shallow and will not hit the groundwater table, therefore, no impact to groundwater during construction.
  With the closure of the Campbell River landfill next year, it will improve groundwater quality as we will be capping the landfill with an impervious liner to prevent rainwater from seeping through the historical attenuating landfill.
- ***Location of monitoring wells***
  There are approximately 30 monitoring across the property. Will also be installing a well at the compost facility to ensure there is no impact from the composting process. For further reassurance, storm water will be collected in a lined holding pond where it will be aerated, and sediment will be removed. The resulting treated storm water will be discharged into an unlined pond and re-infiltrated into the ground. Water use onsite will be managed carefully and will not have an impact on groundwater quality or supply.
- ***Is there an intention to request a larger footprint of land for development form ALC?****No, the design already incorporates a phased expansion option to support the future organics diversion initiatives beyond the initial design capacity slated for primarily residential volumes.*
- ***Where is the aquifer located?***
  The groundwater table modelled underneath the whole landfill. There are a series of monitoring wells being installed as part of the Design Operation and Closure Plan, including a few nesting wells to better understand the water table.
- ***Will there be a fire suppression system?***
  We will work closely with the City of CR in the development of a fire-fighting plan. Our design carefully monitors and controls the amount of air, temperature, moisture and pile size of the composting process. These are all important factors in the prevention of fire. Facilities such as this are not prone to fires. If a fire does occur there are established technics for extinguishing. Organics facilities are not typically installed in areas with municipal fire fighting systems.
- ***What is the fire risk when material is being processed at such a high temperature?***
  The Gore Cover will keep the material wet, the temperature and moisture content is carefully monitored, controlling the amount of air through the system. We will be adhering to best management practices in the operation of the facility, specifically, the co-mingled feedstock will be processed immediately in the bunkers thereby eliminating fire concerns.
- ***Fires at yard waste site (since closed). How will risk be managed at the facility?***
  That facility utilized a passive windrow system, coupled with their operational practices posed fire risk. Our proposed operation is a highly controlled process, material will be processed within controlled bunkers, and temperature and moisture are controlled to achieve the required composting rate as prescribed by OMRR. It is a very different process and we are committed to adhering to best management practices in the operation of the facility to control these risks.

- ***Is tree removal complete?***

  Yes.

- ***Confirm there will be no biosolids at this site.***

  No, there is no intention to process biosolids at this facility.

- ***Is this a true P3 operation or is it exclusively operated and financially managed by the Regional District. I heard this was going to be a public private partnership***

  The Regional Organics facility is not a P3 project. The facility will be owned and operated by the CSWM service.

  CSWM has retained Sperling Hansen Associates to provide a detailed design for the facility. Based on the detailed design CSWM will then retain a construction contractor to build the facility. Facility operations are planned to be performed by a qualified operations contractor.

APPENDIX D

Webinar #1

41 people registered for the first webinar session on Tuesday, March 16, 2021. Two individuals – one member of the Campbell River Environmental Committee (CREC) and one neighbour who also identifies as a member of CREC raised specific concerns around health and environmental risks, odour management, safety, and composting facility best practices. The two participants questioned the reported distance between the planned facility and the nearest neighbouring private property, offering alternate measurement methods and research. A subsequent meeting was held on March 25 to follow-up on these specific concerns. Minutes can be found in **Appendix F**.

Questions asked and answered during this session are summarized below. A full video recording with staff responses is available at **https://connectcvrd.ca/regionalorganics**

General:

- ***What is the life span of the Cumberland landfill? Does taking organics away increase the timeline?***

  The benefits of removing organics from the waste stream are twofold 1) it will increase the lifespan of the landfill - it is estimated that 30% of the waste going into the landfill currently is made up of organics. The Comox Valley Landfill is permitted up to cell 3 which will has an additional 20 year landfill airspace capacity. 2) The removal of organics will eliminate methane production, a harmful greenhouse gas.

- ***Will this increase employment? Is there a remediation plan in place for when this organic facility will shut down?***

  This is a permanent facility. Organics diversion will be an integral part of the waste management plan to ensure environmental compliance for landfill gas generation as well as the strategic plan to extend the life of the landfill.

  COMMENT – Super exciting. Thank you for the presentation. Sounds like a good plan. You will be a model for other communities in BC.

Operational and Technical Aspects:

- ***Will pick-up of organics be available in the regional district?***

  Pick up isn't currently planned for the regional district areas. There is a plan for implementing curbside pickup for garbage, recycling and seasonal yard waste for the electoral areas but no plans to include organics at this time.

- ***Will this facility be able to accept "biodegradable" plastic?***

  No, biodegradable plastics will not be accepted as biodegradable plastics causes contamination issues for the process.

- ***Is the leachate useable as a nutrient source? Similar to compost tea.***

  The leachate will be reused in the process to ensure the correct moisture levels.

- ***Will I be able to drive in to leave garden waste?***

  Yard waste will be accepted at the Campbell River and Comox Valley Waste Management Centres for residents. Co-mingled organics will be available for commercial drop off only.

- ***Was dewatering considered at the transfer station to reduce transportation costs and number of trips required?***

  The co-mingled organics will not be hitting the weight thresholds for transport. The southbound trucks will exceed the backhaul capacity and therefore, not an issue.

- ***What percent of plant feedstock compared to other feedstock to be used?***

  Depends on residential buy in and seasonality. In spring and fall, the landscaping component will yield much higher yard waste compared to food waste. Looking to the pilot project data, yard waste makes up approximately 50 to 75% which is sufficient for our proposed operation.

- ***What fruit and vegetable percentage in the feedstock?***

  Will follow up upon review of data.

- ***For transporting organics from Cumberland to Campbell River, are the same trucks used or will specific "trailers" be used to haul the organics to prevent cross-contamination?***

  The steel lined trucks will be cleaned prior to waste transfers.

- ***How will the public access the compost? Will they be entering Block J for pick up, or will it be delivered?***

  This will be worked out in greater details when the operation contract goes out for competitive bid in early 2022, specifically surround the sale of the compost. The finished product will be stored in the covered building and the access point will be through Block J.

- ***What operations on the site will be outside or open to the outside?***

  The secondary compost building is a covered, open ended building, utilizing the GORE cover technology to control odours. The screening operation is in the central courtyard, which is open but fully paved to control storm water.

- ***Please confirm there are no plans to accept biodegradable plastics at the beginning, but this may change after a public education campaign?***

  No, biodegradable plastics will not be accepted as biodegradable plastics causes contamination issues for the process. Education and public outreach will be included as part of the CSWM 2022 communication plan.

- ***Is the expected temperature high enough to make sure plastics degrade?***

  Commercial composting, including the GORE cover technology, is a quick process and biodegradable plastics is not recommended. There are no plans to accept biodegradable plastics now, nor in the future.

- ***If so, can the CVRD clarify this so that businesses don't use biodegradable plastics?***

  This will be part of the public engagement scheduled for fall 2021.

Environmental Aspects:

- ***I appreciate that full waste trucks are going from Campbell River to Cumberland, then returning full of organics. This is still a lot of emissions. Is there a plan to offset or change fleet over time?***

  With the closure of the Campbell River Landfill, the waste will be coming to the Comox Valley landfill. The plan to backhaul the organics to the composting facility will be an efficient use of these empty trailers. Additionally, the CSWM Service is carbon neutral and purchases carbon credits for the act of transporting.

- ***How will any contaminated waste that comes from the trucks be handled?***

  Public education will be key in addressing contamination. Additionally, there will be a number of visual checkpoints built within the process to address contamination. Operators will be visually inspecting commercial loading as material is being dropped off at the transfer stations, as well as prior to shredding process.

- ***Can you explain the systems and plans you have to prevent wastewater leakage to groundwater?***

  Moisture content is carefully controlled as part of the composting process and water that comes into contact with organic waste (leachate) will be collected in sealed tanks and reused. Unprocessed materials will be stored inside, and composting will be undertaken exclusively inside buildings on concrete surfaces.

  Stormwater will be collected in a lined holding pond where it will be aerated, and sediment will be removed. The resulting treated stormwater will be discharged into an unlined pond and re-infiltrated into the ground. Water use onsite will be managed carefully and will not have an impact on groundwater quality or supply.

Health and Safety:

- ***What is the distance to the nearest neighbour of the pilot compost project?***

  The site is 300 meters from the property boundary of the closest residence, 450 meters to the residence.

- ***Do you have an example of any other facility to have neighbours less than 250m away, particularly ones with small children that could potentially be affected by the carcinogenic emissions released in the composting process?***

  1) Abbotsford, British Columbia 2) Peterborough, Ontario 3) Saskatoon, Saskatoon. The CSWM Service is committed to the safe operation of the facility. The design meets and exceeds all environmental regulations. The GORE cover system will remove odour contaminates during the composting process and the biofilter will be a secondary measure to remove any further odour contaminates.

  The design is above and beyond the requirements of current regulations. The CSWM service is committed to following best management practices in the operation of the facility as it pertains to odour emissions.

- ***What about drinking water? Will the employees of your plant be drinking from a well as I have to (as I live down the hill from plant)?***

  Groundwater is routinely monitored. We will have a well for processed water. Bottle water will likely be used for drinking water.

- ***I asked about the drinking water. How can you protect me as a neighbour? If you won't drink the water, why should I?***

  The CSWM service took over this historical attenuating landfill and is in the process of closing it per Ministry of Environment guidelines which will improve groundwater quality in this area. This closure will include capping off the existing landfill with an impervious liner to prevent rainfall from entering the waste. This method of closure significantly reduces leachate from entering the groundwater. Drinking water was reviewed as part of the design process and it was determined that it is not permitted based on the close proximity to the landfill footprint.

- ***If the waterline was extended, we would have safe water to drink.***

  The CSWM service does, and will continue to, protect groundwater through continual monitoring

work. The closure of the landfill will further mitigate impact to groundwater. Furthermore, the regional organics project will not be putting any water into the ground that does not meet the requirements for discharge (to ground). All of the water that may come in contact with the organics will be treated onsite and will be discharged to the stormwater management pond only if the discharge meets the requirements for discharge to ground.

- ***Plant debris includes toluene and benzene.***

  These are naturally occurring compounds in organics decomposition. The GORE cover technology will capture 90% of the emissions with the biofilter capturing the balance from the exhaust air.

Fire risks:

- ***Please explain fire suppression plan, given yard waste is part of the feedstock.***

  The facility design will monitor and control the amount of air, temperature, moisture and pile size during the composting process, which are important factors in fire prevention. Facilities that utilize the GORE cover technology as per design and Operation and Maintenance guidelines have not had any fires. The CSWM service is committed to adhering to best management practices in the operation of this facility which will significantly reduce fire risk, specifically, the co-mingled feedstock will be processed immediately in the bunkers thereby eliminating fire concerns.

- ***You suggested that the Abbotsford compost facility would be one to compare with. My research so far is that they have had a fire. Would you please research this?***

  This item was followed up after the meeting: Staff spoke with the owner of the Net Zero Waste Abbotsford facility, and they did have a small fire due to someone smoking onsite 8 years ago but have had no issues since. Composting operations can have fires and proper fire management plans and following best management practices is critical for successful operations, which we are committed to doing.

- ***What is the pumping rate for fire suppression, and will there be a pond or water storage?***

  CVRD will be working with the City of Campbell River and fire department to meet the requirements for the facility.

Odour:

- ***I measured 200m to the nearest residence using Google. Where did you measure from?***

  The measurement was taken from the biofilter next to the primary composting building to the property line.

- ***My research re: the Abbotsford facility also told to me orally is that odour is at 750 m. I will be speaking to another neighbor soon. Would you please research this?***

  We can't speak to the Abbotsford facility but generally speaking, the setback guideline is general and highly dependent on the compost technology used (open windrow versus enclosed buildings) and input type and tonnage (100,000 large scale versus our 14,500 tonnes). There is not a standard for what specific infrastructure to measure to property lines, but set as guidelines. The measurement noted in the presentation was from the Primary Compost Building to the property line. We are confident in the design and odour controls.

- ***You said earlier odour/emission will be at 0% at the property border?***

  An odour modeling study will be conducted as part of the design to understand impacts to neighbouring properties (uses one odour unit at the property boundary).

- ***I would prefer odour is actually labelled airborne emissions.***

  Comment noted.

APPENDIX E

Webinar #2

26 people registered for the second webinar session on Thursday, March 18, 2021. Three individuals – two members of the Campbell River Environmental Committee (CREC) and one neighbour who also identifies as a member of CREC, raised specific concerns around health and environmental risks, odour management, safety, and composting facility best practices. These participants questioned the reported distance between the planned facility and the nearest neighbouring private property, offering alternate measurement methods and research. A subsequent meeting was held on March 25 to follow-up on these specific concerns and the technical reports provided. Minutes can be found in **Appendix F**.

Questions asked during this session are summarized below. A full video recording with staff responses is available at **https://connectcvrd.ca/regionalorganics**

General:

- ***What are the estimated annual operation costs?***

  We are working through this right now. Tipping fee is estimated to be $100 – 120/tonne.

- ***Have you finalized and locked in the budget for this considering current and dramatic rising construction costs?***

  Cost estimates with escalations have been refined throughout this design process.

- ***Who pays for this project?***

  The $15.5 million project is funded through $6.4 million in grants and $9.1 million from CSWM reserves. Operations will be funded through tipping fees.

- ***At the May 11, 2020 CVRD EASC meeting, it was stated that the skyrocket compost produced at Cumberland costs $440,000/yr vs. sales that generate $50,000/yr. If these numbers are correct, what will be the net "cost" of this facility (i.e., operational costs/yr vs revenue generated from the sales of compost at Campbell River) Is it possible for there to be a net profit, or is it assumed it will be a net cost?***

  For the organics project, we are looking to develop a cost to cover the operation of the facility in its entirety. For the skyrocket process, the tipping fee doesn't entirely cover the cost of the operation. It is a different costing model for the sewer project. We would be happy to discuss this in greater detail.

- ***Regarding annual operational costs, will this be paid for through tax dollars?***

  Operations will be funded through tipping fees.

- ***You mentioned it would be collecting from 30,000 households. Is there an estimated amount each household will be paying for the service?***

  It is estimated $7 per household per month dependent on tonnages, inclusive of the collection costs.

Operational and Technical Aspects:

- ***Will private trucking companies be able to bring organics from outlying areas?***

  It could be considered but there is a host of policy and operational considerations to be determined before this can be answered. We need to determine operational capacity, quality requirements, the origin of the material, etc.

- ***Will you accept residential / individual owner direct deliveries?***

  The organic compost facility is initially open to participating municipalities (Courtenay, Comox, Cumberland, Campbell River). The regional district waste collection has been proposed to include garbage, recycling, and seasonal yard waste pickup (but not food waste organics). For resident currently not part of organics pick-up, we will also be reviewing with landfill operations for the potential of a residential food waste drop-off location at the landfill.

- ***You said, "woody material will be separated and re-enter the process". Is there a digester or chewer machine to manually break down the coarse material?***

  All feedstock will go through a shredding unit to get it down to size to allow airflow through the composting process. There will be size restrictions similar to what the municipalities current require through the existing pilot compost project (i.e. no tree stumps).

- ***Will this program include South Courtenay and Royston?***

  No, organics will not be included as part of the upcoming Alternative Approval Process (AAP) for rural roadside collection. If the AAP is successful, only garbage and recycling will be collected as part of the new proposed service. The reasoning for this is because we are focused on the four member municipalities to start with as they have well established collection programs already and will be the easiest to transition to this new program. As the program grows over time, the CSWM service will consider expanding to the rural areas, multifamily and ICI sector.

- ***When will Area D be included?***

  Area D is not part of the upcoming Alternative Approval Process for rural roadside collection as it is out of the jurisdiction under consideration.

- ***Will you collect from multi-dwelling buildings and apartments?***

  No, not at the moment. However, there may be opportunities to service strata properties with individual homes that can set out their own garbage and recycling receptacles, in which case, the CVRD may be able to include these properties as part of the service. This will be worked out with the individual municipalities.

- ***What is the lifetime of the facility? How long is it estimated that expanded facility to 29,000 tonnes will last?***

  Dependent on uptake from the municipalities and residential buy in. The facility is rated for 14,500 tonnes; estimated 10 to 20 years to reach this capacity before expansion is required.

- ***If the lifetime of this facility is indefinite, does that mean that the site – which is contaminated from the landfill – will never be remediated?***

  Given its close proximity to the landfill, the facility is part of landfill closure plan which includes post closure environmental monitoring for the site for a period as defined by the Landfill Criteria estimated to be around 65 years.

- ***Will the feedstock include "fish morts" or other dead animals?***

  No, we will be very selective of feedstock for this facility recognizing odour concerns.

- ***When taking food wastes from restaurants, will the food waste be more than 25% of the feedstock?***

  Acceptance of ICI wastes will be entirely dependent on operational capacity and quality of the feedstock. Moreover, there will be strict adherence to maintain the carbon to nitrogren ratio of the Class A compost as prescribed by OMRR guidelines.

- ***Will dog waste be accepted?***

  No, because it will turn into a biosolid system which isn't the intent of this process.

- ***Will plastics be accepted?***

  No, biodegradable bags will not be accepted as it requires sustained high temperatures to break down which our process will not reach within the six-week composting period, resulting in contamination and quality issues.

- ***Will each household need to purchase the appropriate bin for pick up? Is it an automated system like Surrey municipality has or are the bins on a much smaller scale?***

  As part of the program rollout and education program, the CSWM service will be providing kitchen catchers. The individual municipalities are looking at their collection options as they manage their contracts separately. It will be on a case-by-case depending on the municipalities.

- ***What specific gases are produced in the process?***

  When organics decompose in a landfill in an anaerobic digestion process, methane is produced which is harmless. By removing the organics from the landfill and rather composting this material instead, we are eliminating this methane generation.

Environmental Aspects:

- ***Information distributed states that leachate / water will be collected stored in tanks. When and where is it disposed of?***

  There will be no trucking of leachate offsite. It will be a closed loop system whereby the leachate will be reused back into the process to pre-wet the incoming organic feedstock to ensure proper moisture content.

- ***Are the leachate tanks held above or underground?***

  The leachate tanks will be buried underground.

- ***What material will the tanks be made of? Will they need to be replaced at some point?***

  They are double wall lined, reinforced fiberglass tanks. They do have a finite service life and will be replaced accordingly.

- ***Do these tanks ever need to be flushed out?***

  Yes, there will be routine flushing to remove sediment build up.

- ***As the leachate is used and re-used during the composting process, does the level of contamination become stronger and stronger?***

  No, it is a negative process of water. As noted, leachate will be recirculated back into the process. Supplementary water will likely be required to be added back into the process as a result of water loss due to evaporation in order to meet the 50 to 60% moisture content requirement.

- ***What will happen if more leachate is generated that the tanks can hold or can be of use?***

  The leachate tanks are sized to peak loading capacity. The compost process is a negative use of water, therefore, this is not expected. In the off chance that the leachate generated does exceed capacity of the holding tanks, the leachate will be trucked offsite for treatment and no leachate will be released into the environment. There will be level monitoring system in place which will form part of standard operating procedures.

Health and Safety:

- ***Compost can contain bacteria that can cause food borne illness such as Escherichia coli. Will your compost be safe for growing vegetables for human consumption?***

  Yes, the process will meet Class A compost requirement, which stipulates that the process must reach a certain temperature for a prescribed number of days in order to kill harmful pathogens.

Fire risks:

- ***There was a fire at the Abbotsford Net Zero compost facility. 75 feet of the compost pile was burning (identified as a slow burn). Incident identified as fire, includes explosion. Material was Agricultural and forestry products.***

  Industry must be prepared for fires especially when yard waste is part of the feedstock.

  The area around the proposed compost facility here is forest.

  Hydrants are needed. It would be horrific if a fire traveled northeast to the residences.

  If fire reached the crowns of the trees, it could burn Elk Falls Park to the river.

  Hydrants and pumping capability needed, but I was previously told it would not be installed. This needs to be reconsidered.

  Why are we to be confident when the comparable facility has odour and fires with the gore design?

  Within the GORE cover design, the temperature and moisture content is carefully monitored, controlling the amount of air through the system. We will be adhering to best management practices in the operation of the facility. In order to access hydrants, the facility would have to be situated near a municipal water source, likely closer to a higher density area. CVRD will be working with the City of Campbell River and fire department to meet the requirements for the facility.

Odour:

- ***You stated that the Gore cover controlled 90 to 95% of the odour. However, a 2013 Report on the compost facility in Seattle, using an odour controlling cover, titled "Odor in Commercial Scale Compost" references a study by Winges (2011) which states: "Consistent with earlier discussions, the primary pile generated 83% of the odors from piles—this despite an odor controlling cover."***

  48% of the odour was coming from the compost piles, despite the covers that you reported at the March 16th Open House to capture 95% of the odor. See Pg. 6 and 7 and table 2.1 at **https://crecwebcom.files.wordpress.com/2021/03/washington-state-odour-document-2013.pdf** ***Please explain.***

  We are not familiar with this particular report but will review and get back to you. Majority of the odour comes from the primary composting process which is filtered via the biofilter. The GORE system has been piloted successfully for the past eight years processing 2,500 tonnes of organics at the Comox Valley Waste Management Centre with no odour complaints. Staff is confident in this design.

- ***We were told that the setback measure of 300 meters from the proposed facility to the closest residence was taken from the biofilter to the property line and then we were told it was taken from the Primary Compost Building to the property line. You have used the border furthest from the closest residence, (biofilters) or from the centre of the compost facility footprint to measure from. Using the inside operational width of the footprint to enable reaching a 300-meter distance from the closest residence to achieve Best Practices is not acceptable. As is for landfills, the setback distance is taken from the border of the facility footprint closest to the nearest residence at the closest point of that footprint, which in this case is about 200 meters measured on google, therefore not "Best Practice".*** **https://crecwebcom.files.wordpress.com/2021/03/block-j-to-residence-google-distace-200-m.pdf**

  Guideline setbacks are highly dependent on tonnage input and compost technology utilized. The technology in our design has much more controls than a simple open-air windrow. The 300m we

had referenced in the public open house was measured from the primary compost to the property line. This will be further validated through the odour modelling study and again, staff is confident in the design to meet compliance.

- ***Reports state that setting is the most import consideration when planning a compost facility. This was not given proper consideration in this case. The site was moved from 500 meters away from many residents to a site 200 meters away from a resident. Is there other crown land the Reg. District can apply for further from residents?***

  The previously location sited was at the Norm Wood Center but it didn't have the expansion capability and therefore, ruled out. The Block J location was determined to be a better location due to its proximity to other industrial operations in the area, including other landfills. Another important consideration was the efficiencies with reduced trucking for the backhauling of waste, hence, Block J was determined to be the most suitable location for the facility.

- ***Similar to the above comment/question: "Some general guidelines for minimum buffer distances between compost facilities and sensitive receptors are presented in the Environment Canada 2013 document. For example, the minimum distance between a compost facility and any kind of sensitive receptor is 300 metres. In practice, this has been shown to be inadequate" Page 16 of BEST ODOUR MANAGEMENT PRACTICES AT COMPOSTING FACILITIES prepared for Metro Vancouver by Morrison Hershfield. So, what is the distance to the nearest neighbour?***

  300 metres from the biofilter.

- ***Can you provide the specific regulation or document you are using to determine best practices?***

  Our engineering design team is running through a host of design criteria for this facility. They are working through the environmental assessment and odour modelling, as well as working closely with the Ministry of Environment to ensure regulatory compliance. The best practices are for facilities to be sited at least 300 m in a high-density residential area. In our case, we are situated in an industrial area in a rural setting. Again, guideline setbacks are highly dependent on tonnage input and compost technology utilized.

- ***On March 17th I spoke to a residence next to Abbotsford Net Zero Waste Compost Facility which you gave as a comparison facility for what is proposed to be built here. I was told about odour issues, rodent issues, and the residence was expecting a visit from the City of Abbotsford that day regarding what was described as an effluent drainage issue from the facility. Speaking with residents in the area of the Abbotsford Net Zero Waste compost facility, odour (airborne emissions) presence was identified to be more constant at the 500-meter range and intermittent at the 700 meter range from the facility. We are being given estimates for a facility that has not been built, but the distance we are given by residents from an existing comparable facility is a distance in real time. That does not bode well for a residence at 200 or even 300 meters away. Reports from residents situated near composting facilities in other regions of BC speak of odours. What are you using as the prevailing winds, i.e. what residents do you anticipate receiving complaints from as there are several immediate, and many more residents at a short distance away, say at McIvor Lake to the north.***

  The Net Zero Waste facility is on a site smaller than the proposed facility and a through put 4X higher. They run their contract through the City of Abbotsford since 2013, and as a contractual requirement, they are required to document all odour complaints. We have received confirmation from the City of Abbotsford dated 2015 and 2020, noting that they there have been no documented odour complaints from Net Zero Waste.

APPENDIX F

Follow-up Meeting Minutes

Comox Strathcona Waste Management

March 25, 2021

Attendees:
CREC: Leroy Mcfarlane, John Lewis, Glenda Woodword, Leona Adams, Amie Baskin
CVRD: Marc Rutten, Adem Idris, Cole Makinson, Vivian Schau
Weaver Tech: Tim Weaver
Sperling Hansen: Mircea Cvaci

Regional Organic Compost Facility Meeting Summary

- CVRD: Overview of the Organics for those who did not attend previous open house. Benefits include extended landfill life, reduced methane production, high quality finished compost.
- CREC: in terms of the type of organic waste coming to site, could you speak to this?
    - To start with co-mingled food and yard waste from single family households from the 4 municipalities, Comox, Courtenay, Campbell River, and Cumberland will be accepted.
    - In the future we will work with municipalities to increase diversion to include the commercial sector including schools, restaurants, and grocery stores.
    - The GORE system has been piloted successfully for the past 8 years processing 2,500 tonnes of organics at the Comox Valley Waste Management Centre with co-mingled feedstock from Comox and Cumberland
- CREC: has anyone done a study on what the effects of trucking waste to offset methane produced if landfilled? Why centralize the system? Why not keep composting at the Cumberland landfill
    - There are efficiencies for economy of scale for one centralized system (less loaders, screeners, shredders, etc). Campbell River landfill is reaching capacity this year and waste will be transferred down to Cumberland. Utilizing the empty backhaul, organics will be transferred back minimizing any additional trucking
- CREC: How does the trucking flow work in block J, scale usage, etc. (referenced trucking options report)
    - For the Comox Valley commercial trucks will be scaled in at the CVWMC and unload in the transfer station. The walking floor trailer is then loaded and will haul directly to the Block J compost facility.
    - For CR organics, commercial trucks will be scaled at the CRWMC scale and then go down to the adjacent block J compost facility
    - There is provision for a future scale at the block J facility
- CREC: Setback discussions. The reports I read do not specify sizes/technology with regards to distance guidance of 300m setbacks. Provincial 2004 guidelines say 400m to 1000 m from residential areas
    - Guideline setbacks are highly dependent on tonnage input and compost technology utilized. The technology in our design has much more controls than a simple open

air windrow. The 300m we had referenced in the public open house was measured from the primary compost to the property line.
    - When the guidelines were developed in 2004 GORE was an emerging technology.
    - This facility utilizes GORE covers, an enclosed primary composting building and a biofilter for treatment of air.
- CREC: the Gore covers were used Seattle and Delaware and had odour issues
    - These facilities were 10 to 20 times the size of our proposed facility, primary composting occurring outside without the use of biofilters
    - Private facilities operate on a much higher foodwaste percentage to increase profits but also have a higher potential for odour concerns
- CREC: Do biofilters cause odour
    - Biofilters are wood chips and will smell like wood
    - Biofilters only produce odour during operation if overloaded and unable to treat the exhaust air from the compost operation. This is not the case for this facility which uses GORE covers as the primary odour prevention and a biofilter as secondary for building exhaust air.
- CREC: We were told that the compost facility moved from NWEC to Block J for increased buffer distance to neighbours, but it is closer.
    - Block J was chosen as it provided room for future expansion potential, closer proximity to landfill for organic backhauling, and located in a more rural neighbourhood with a much lower density
- CREC: What is the training for operators?
    - There is standardization for training and certifications for compost operators. This will be part of the operational contract.
    - When permitting, operational plans are submitted which then become part of the permit
- CREC: We need to ensure that the one resident has equal rights to clean air as 20,000 residents have. (regarding higher density neighbourhoods).
    - We are designing the facility to ensure there are no odour issues. We will still be held responsible for our operations through our OMMR permit and through the City of Campbell River odour bylaws.
- CREC: Question regarding expansion plans and odour from other commercial compost facilities (Cobble Hill)
    - Often privately run facilities increase their through put by decreasing their primary composting time without increasing the size of building and odour mitigation measures, which can cause odour issues
    - The planned Phase 2 expansion, when required is to be within the cleared area approved by the ALC. There will be capital input for expansion and will utilize the same technology, duplicate buildings (primary, secondary, storage) and biofilters to ensure odours are managed properly
- CREC: who is doing air quality testing?
    - Odour modelling as part of the permit application will use conservative sampling data for worst case scenarios

  - When monitoring air quality around compost plants the substances are typically in concentrations too low to be detected in samples.
  - Odour Unit testing can be utilized, but can be highly subjective
- CREC: What is the path for odour complaints?
  - This hasn't been detailed to date, but typically through the City of Campbell River bylaw complaints or through a CVRD complaint website.
- CREC: please clarify the comment about mechanical testing not picking odours that a human nose picks up. Also validating odour complaints
  - Typically a human nose can detect concentration levels that mechanical testing cannot
  - When looking at complaints wind data is reviewed, as typically compost facilities are in an industrial/agricultural area that can have multiple odour producing sources
- CREC: Is there a facility of similar size that does not have complaints?
  - Forceman ridge facility is similar feedstock and size but in an open building, gore cover, and no biofilter. Our design has added an enclosed building to ensure there are no odours during organic drop-off as well as a biofilter to treat this air.
  - City of Surrey also operates a great composting facility that is fully enclosed but a much higher tonnage
- CREC: Fire discussions with fire chief regarding required flow. How will we pay for this infrastructure?
  - CVRD will be working with the City of Campbell River and fire department to meet the requirements for the facility
- CREC: Environment Canada Technical Table 5.3, what is the type of technology are we using?
  - A combination of aerated static pile, with a gore covers and a negative building air system with biofilter treatment
- CREC: If there is odour complaints, what is the RD going to do?
  - Odour complaints will be addressed and followed up on.

- CREC: Looking for written confirmation on facility expansion and biosolids not being accepted
  - The current facility is size to treat 14,500 tonnes of organics
  - Provisional space has been provided to double each building allowing for processing capacity of 29,000 tonnes in the current approved area from the ALC
  - Each municipality controls the collection of organics in their area, so timing for accepting materials from the commercial and multifamily sectors will be dependent on their individual schedules which is not known at this time
  - Estimated tonnages are found in the following staff report, but highly dependent on residential participation and expansion to the commercial sector.

http://agendaminutes.comoxvalleyrd.ca/Agenda_minutes/CSWMBoard/RSW/11-Apr-19/20190404_Dyson_SR_regional_organics_compost_project_CSWMB.pdf
  - The current feedstock for the program roll-out is to be single family co-mingled food and yardwaste

- In the future the plan is to work with municipalities for diversion of multifamily and commercial organics
- Biosolids from the CVRD are composted separately at a composting facility in the Comox Valley
- When the regional organics facility was proposed to be sited at the Norm Wood Environmental Centre, there had been discussions on synergies for composting the biosolids from their facility
- When the site was moved to Block J, there have been no further discussions on accepting biosolids for composting. There are no agreements in place for accepting biosolids from the City of Campbell River.
- A staff report regarding keeping the CVRD biosolid program separate from the regional organic program can be found here:

http://agendaminutes.comoxvalleyrd.ca/Agenda_minutes/CVRDCommittees/SEW/15-May-18/c_20180509_Dyson_SR_Biosolids_and_Organics_Composting.pdf

APPENDIX G

Stakeholder Groups

Coast Waste Management Association

Recycling Council of BC

Solid Waste Association of North America (SWANA) – Pacific Chapter

Recycle BC

Campbell River Environmental Committee

Campbell River Fish and Wildlife Association

Campbell River Salmon Foundation

Strathcona Wilderness Institute

Watershed Sentinel

World Community Education Development Society

Youth Environmental Action Team

Council of Canadians – Comox Valley

Comox Valley Project Watershed Society

Comox Valley Naturalists Society

Comox Valley Water Watch Coalition

Cumberland Community Forest Society

Comox Valley Land Trust

Comox Valley Conservation Partnership

Oyster River Enhancement Society

APPENDIX H

What We Heard Summary from Phase 1

TAVOLA
STRATEGY GROUP

WHAT WE HEARD
CONSULTATION SUMMARY REPORT

Comox Strathcona Waste Management
Regional Organics Facility

March 2, 2020

Submitted by:
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Comox Strathcona Waste Management Regional Organics Facility

ABOUT THE PROJECT

Comox Strathcona Waste Management is planning a new regional composting facility for the Campbell River Waste Management Centre, enabling a phased introduction of organics collection for over 30,000 single family dwellings in Campbell River, Comox, Cumberland and Courtenay. The composting facility will be operational in fall 2021.

Organics, which includes food and yard waste, currently makes up about 30% of the total waste that is landfilled. A composting facility will divert these organics and extend the life of the landfill, which is a cost-effective approach for handling solid waste for the taxpayers.

When buried in a landfill, organic material also produces methane gas, a key contributor to global climate change. Composting organic waste is an important step to sustainably manage waste in the Comox Strathcona region, as it reduces the greenhouse gas emissions that would otherwise be associated with its decomposition. The composting facility will repurpose this organic material into a nutrient rich compost for agriculture and landscaping.

The overall project cost estimate is $14.7 million with $6.4 million to be funded by grants and the remaining $8.3 million by reserves and tipping fees.

Comox Strathcona Waste Management is committed to designing a state-of-the-art facility that minimizes impacts to neighbours and the environment. The facility will meet stringent environmental and community standards, and exceed these standards wherever reasonable.

OVERVIEW OF CONSULTATION PROCESS

In January and February 2020, the CSWM offered a variety of opportunities for residents to learn more about what is planned, meet with project staff, and provide feedback to inform the design and operations of the facility. Residents could offer input through a survey (online and print) or in person at two public open houses.

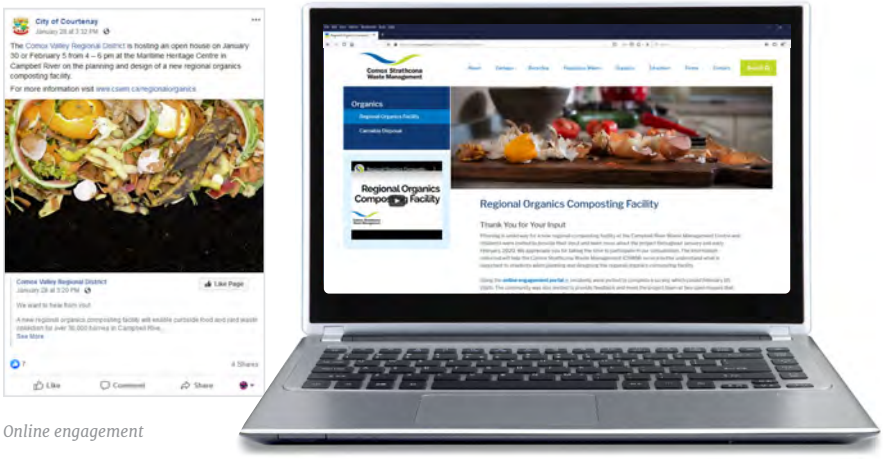
A number of communications activities were undertaken to raise awareness of the opportunities to learn more and provide feedback:

- A media release was distributed on Thursday, January 9, 2020
- More than 1,000 residents visited the interactive engagement portal at **www.cswm.ca/regionalorganics** which provided information about the project and consultation process. It included the location and times of open houses and was a portal for asking questions and participating in the online survey.
- Social media posts were shared on Twitter and Facebook and promoted throughout the process.
- Print ads appeared in the Comox Valley Record
- Radio ads promoted the upcoming open houses and the website available to learn more.

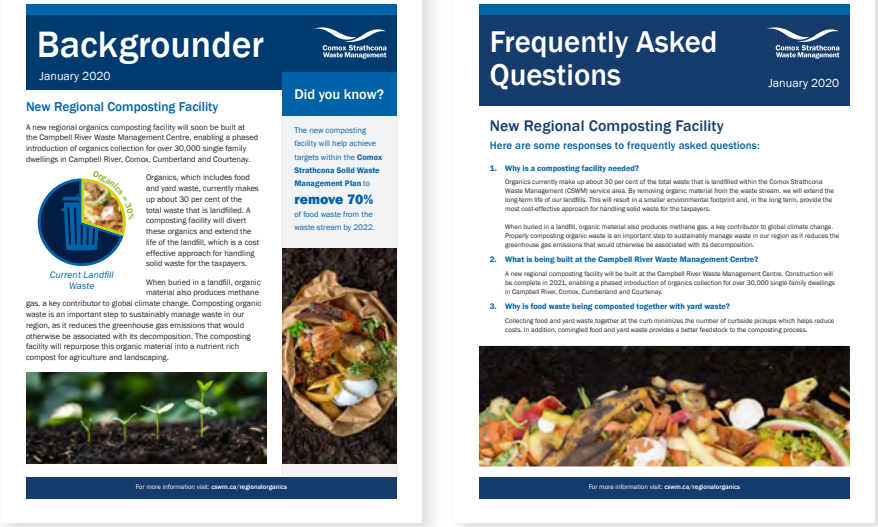
Print Ad

WHAT WE HEARD SUMMARY - February 2020

Comox Strathcona Waste Management Regional Organics Facility



Online engagement



Information pieces available at the event

WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

Open Houses

Two drop-in style open houses provided opportunity for the community to learn more, ask questions of staff, and provide feedback about the project. The open houses were held on Thursday, January 30, 2020, and Wednesday, February 5, 2020, from 4 p.m. – 6 p.m. at the Maritime Heritage Museum in Campbell River.

45 people attended, with most indicating they were from the Campbell River area. Residents from three neighbouring properties and representatives from the Campbell River Environmental Committee, Recycling BC and Coast Waste Management Association attended.

Backgrounders, Frequently Asked Questions and informational and interactive display boards were available at the open house. Print surveys were also available. A multi-disciplinary team of staff and consultants was on-hand to answer questions.

WHAT WE HEARD SUMMARY – February 2020

Comox Strathcona Waste Management Regional Organics Facility

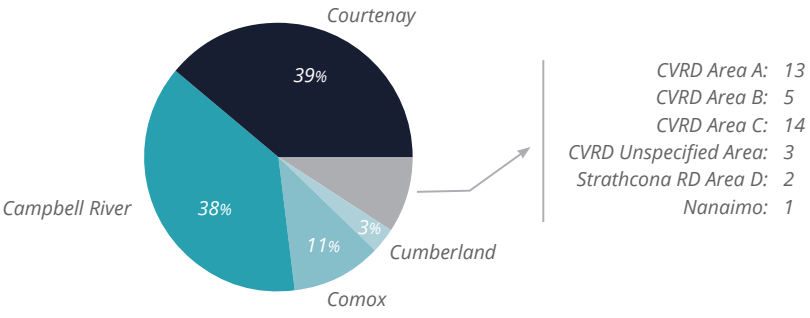
Information on a variety of topics, including the 15 display panels noted below, were shared at the open house and online. The display panels are available as Appendix E.

1) *Tell Us About You*
2) *Overview*
3) *Managing Solid Waste in the CSWM Service Area*
4) *Where the New Facility will be Located*
5) *Benefits of Composting*
6) *Organic Materials that will be Accepted*
7) *Road to Regional Organics*
8) *How It Will be Funded*
9) *Public Engagement*
10) *Community Benefits*
11) *Topics of Importance*
12) *Mitigating Impacts Through Design & Operations*
13) *Mitigating Impacts*
14) *Mitigating Impacts*
15) *Communication Preferences*

Survey

A survey was available from Thursday, January 9, 2020, – Monday, February 10, 2020, through **www.cswm.ca/regionalorganics** online and print. 549 residents responded to the survey.

Of the 549 respondents to the survey, 39% were from Courtenay, 38% from Campbell River, 11% from Comox and 3% from Cumberland. The remaining respondents were from CVRD Area A, CVRD Area B, CVRD Area C, General CVRD, Strathcona RD Area D, and Nanaimo.



81% of the respondents currently receive municipally supplied garbage and recycling services.

WHAT WE HEARD SUMMARY – February 2020
Comox Strathcona Waste Management Regional Organics Facility

WHAT WE HEARD OVERALL

In early 2020, communications and consultation occurred to raise awareness of the planned regional organics facility and to seek input on the design and operations of the facility. 549 people responded to the survey and 45 people attended two open houses, providing input on top of mind issues, communications preferences and mitigation measures that could be considered within the design and operations.

A number of strong themes emerged:

- Overall, survey respondents were very supportive of a regional facility and collection program, and are concerned about the environmental impacts of landfilling food and yard waste. 93% of respondents indicated they are concerned about the environmental impact of landfilling organic waste and 96% feel a regional organics composting facility and collection program are needed.
- The greatest perceived benefits of composting are: reducing waste going into the landfill, repurposing waste into nutrient-rich soil, and reducing greenhouse gases.
- The top concerns expressed related to a regional composting facility are related to groundwater, odour and pests.
- Residents felt the top issues to be addressed within the design and operations of the facility are: water quality, odour, and carbon emissions. Comparatively, visual disturbance, lighting and traffic were significantly lower in terms of issues of importance.
- When asked whether respondents in the survey were happy with the mitigation measures for managing odour, pests, groundwater, trees and wildlife, and traffic, over 90% indicated they are happy with what is proposed, or have no concerns.
- Neighbours from two adjacent parties and one stakeholder group are strongly opposed to the siting of the facility at Block J.
- Residents from Campbell River had more concerns and questions about potential impacts to neighbours, including odours, pests and water quality and monitoring, than other communities.
- There is a strong desire to see consistent monitoring and evaluation of mitigation measures to ensure best practices are in place.
- A variety of questions and comments were posed wondering how the collection program will work, e.g. bins, compostable bags, what items will be included etc. There was also interest expressed for multi-family building participation within the program.
- When asked how best to communicate with residents about composting and waste management in future, survey respondents indicated the top methods (in order) were the local newspaper, the CVRD Facebook page, the CSWM website, local radio and electronic newsletter. CVRD Twitter was rated considerably low in terms of communications preference. Open house attendees also noted the local newspaper as the preferred method, followed by open houses.

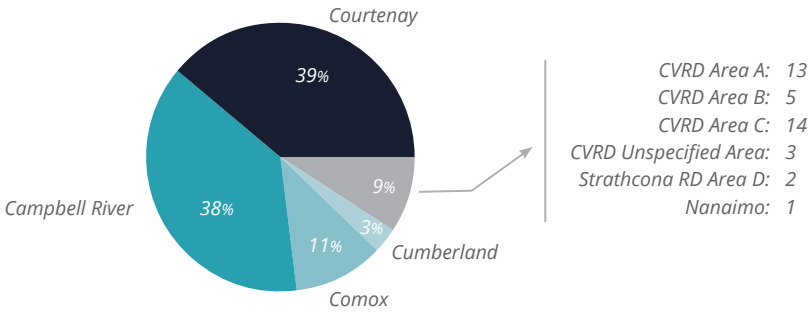
NEXT STEPS

This What We Heard report will be provided to proponents to inform the facility design and shared with the CSWM board in March 2020. For more information about the project as it progresses, visit: **www.cswm.ca/regionalorganics**

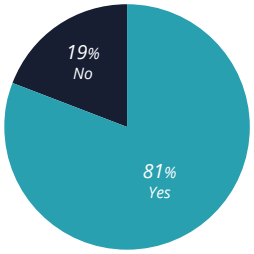
APPENDIX A

Survey Results – What Was Heard By Question

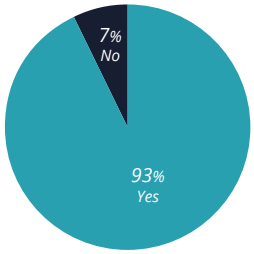
1. ***Which municipality do you live in?***



2. ***Do you currently have municipally supplied curbside garbage and recycling pick-up in your neighbourhood?***



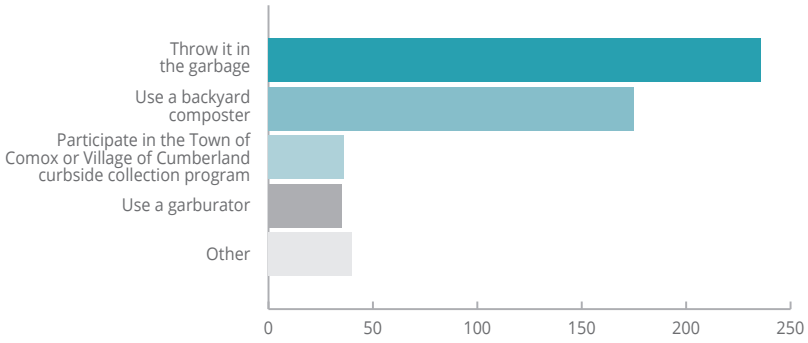
3. ***Are you concerned about the environmental impact of throwing food and yard waste in the landfill?***



WHAT WE HEARD SUMMARY - February 2020

Comox Strathcona Waste Management Regional Organics Facility

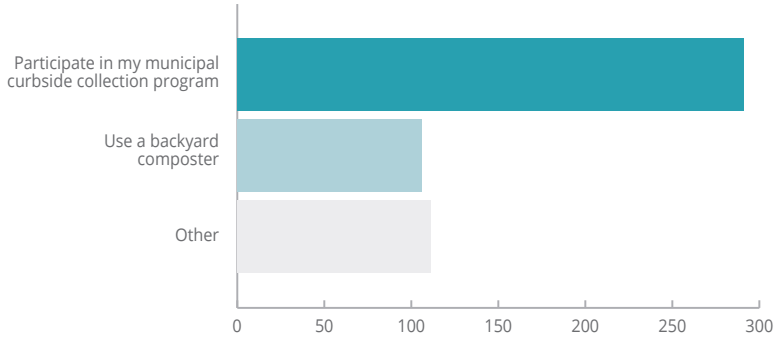
4. What do you currently do with your food waste?



Other:

- Feed it to chickens or other livestock
- Take it somewhere else for processing
  (E.g. either to a facility or to a friend who has a backyard composter)

5. What do you currently do with your yard waste?



Other:

- Burn it
- Throw it in the garbage
- Some who live in apartments commented they didn't know what happened to it after the building landscaper takes it away

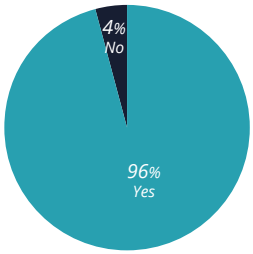
WHAT WE HEARD SUMMARY – February 2020

Comox Strathcona Waste Management Regional Organics Facility

A new regional composting facility will process food and yard waste from 30,000 single family homes in Campbell River, Comox, Cumberland, and Courtenay, starting in 2021.

- ✓ *Diverting organics from the garbage helps extend the life of regional landfills, reducing the cost and environmental impact of creating new landfills.*
- ✓ *Decomposing food and yard waste produces methane gas, a key contributor to greenhouse gas emissions and climate change. Removing organics from the waste stream is an important step in reducing our environmental footprint.*
- ✓ *The composting facility will re-purpose food and yard waste into a nutrient rich compost for agriculture and landscaping. Healthy soil reduces the need for chemical fertilizers, unnatural methods of soil enrichment, and the use of pesticides.*

6. Based on this description, do you think a regional organics composting facility and collection program are needed?



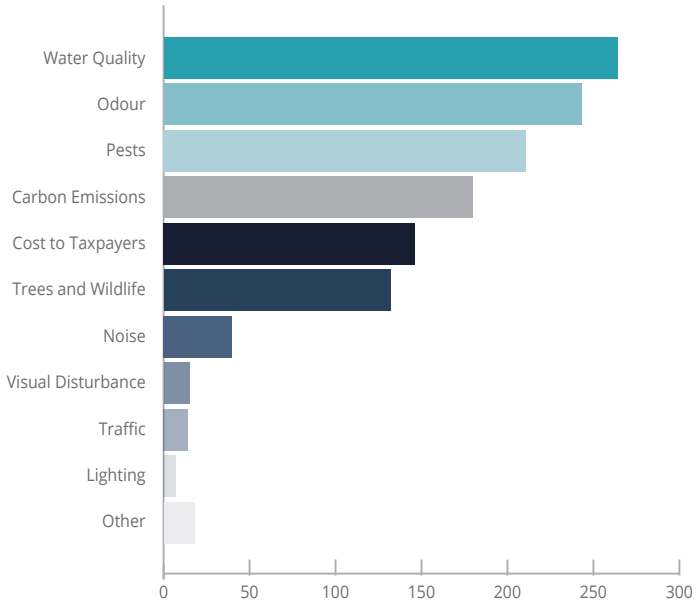
If yes, what do you think are the greatest benefits?

The top benefits indicated by respondents were:

1) Reducing waste in the landfill
2) Repurposing into nutrient rich compost
3) Reducing greenhouse gases – methane
4) Extending the life of the landfill

WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

7. Here are some issues that we will manage at the new regional organics composting facility to minimize our impact on the community and the environment. Please choose the top three issues that you feel are most important for us to consider during the planning and design of this facility.



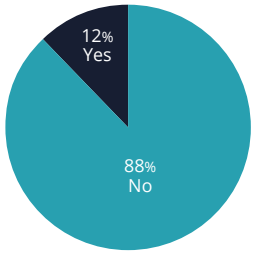
Other:
- Costs
- Location/hauling distance

WHAT WE HEARD SUMMARY - February 2020

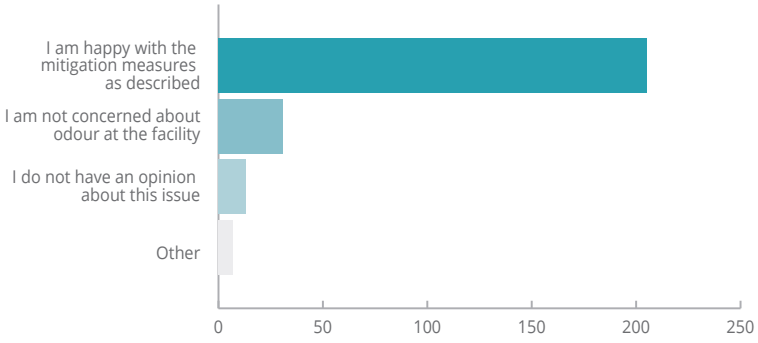
Comox Strathcona Waste Management Regional Organics Facility

8. ***Odour:*** *The successful management of odour is a high priority and a critical component in the design and operations of this facility. To minimize the impact on residents, odours will be managed within our property boundary. The processing of organic waste will take place within enclosed buildings and air will be treated on site with biofilters. The finished compost will be stored outside and will resemble rich, dark earth.*

Do you have any comments about management of odour at the facility?



If no, please tell us why?



Comments:

Campbell River: (21 comments)

- Concern there would be odours
- Facility shouldn't be built at Block J
- Nanaimo composting facility and Richmond facility were noted as being smelly

Comox: (2 comments)

- Noted Duke Point in Nanaimo being smelly

Courtenay: (14 comments)

- Concerned about odour
- Want to see a proper and above industry standard filtering system put into place

Cumberland: (0 comments)

Other: (3 comments)

Area B

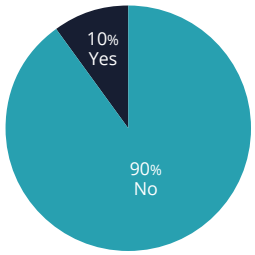
- Concerns about the facility being near homes

Nanaimo

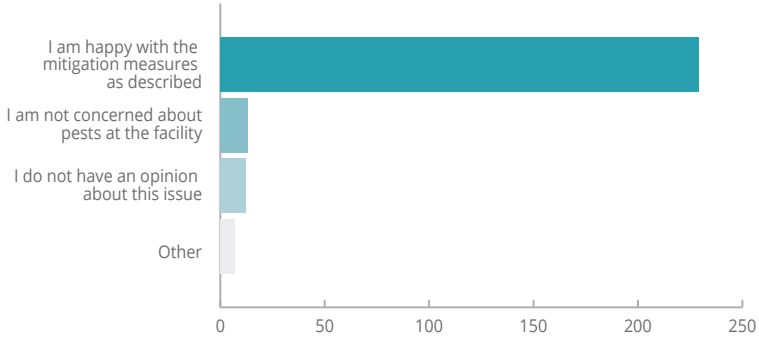
- Concerns about the Nanaimo plant smelling

9. ***Pests:*** *The daily processing of organic material indoors not only minimizes odours, but also helps to control rodents and pests. Once the material is placed into an active compost pile, temperatures reach between 50-60 degrees celsius for several days. This environment is inhospitable for mammals and prevents their interest in the material. As the material is moved frequently, animals do not have time to establish a refuge.*

Do you have any comments about management of pests at the facility?



If no, please tell us why?



Comments:

Campbell River: (20 comments)

- Possibility of rats and pests
- Noted the rat problem in town and wondering what measures will prevent that from happening
- Concerned about rats and other pests accessing organics at curbside

Comox: (4 comments)

- Noted an existing rodent problem and not wanting to see it increase
- Concerned about rats and other pests accessing organics at curbside

Courtenay: (9 comments)

- Concerned that will curbside pickup will attract rodents or bears

Cumberland: (0 comments)

Other: (2 comments)

CVRD - unspecified area

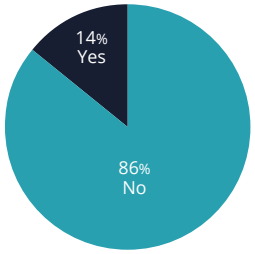
- Concerned about about an increase in rats

WHAT WE HEARD SUMMARY – February 2020

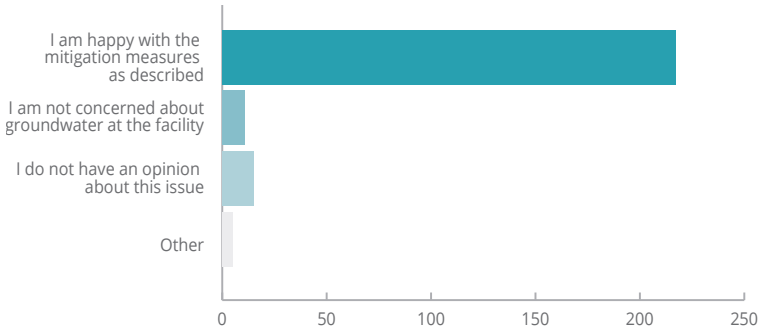
Comox Strathcona Waste Management Regional Organics Facility

10. ***Groundwater:*** *Water use on-site will be managed carefully and will not have an impact on groundwater quality or supplies. There will be no discharge to the environment during the composting process. Water that comes into contact with organic waste at the facility will be collected and reused as part of the composting process. Excess water will be stored in a sealed tank and trucked offsite for treatment. Clean storm water will be collected in an onsite management pond and re-infiltrated into the ground.*

Do you have any comments about management of groundwater at the facility?



If no, please tell us why?



Comments:

Campbell River: (31 comments)

- Asking for consistent monitoring of water
- Unsure what it means to haul water off-site for monitoring and the cost associated with it
- Concerned the mitigation measures are not enough
  - Stating it's already on contaminated land
- Worried the quality of drinking water will decrease

Comox: (3 comments)

- Interested in more information about whether/how water will be continually and consistently monitored

Courtenay: (12 comments)

- Questions about where the water will be transported and why there won't be a place to test water on site.
  - Many respondents asking for more information on this process

Cumberland: (0 comments)

Other: (2 comments)

Area B

- Concerned about the contamination from the trucks

Area C

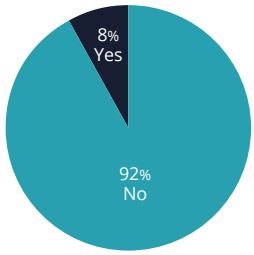
- Question about how and where the water will be treated off-site and whether it could be done on-site

WHAT WE HEARD SUMMARY - February 2020

Comox Strathcona Waste Management Regional Organics Facility

11. ***Trees and Wildlife:*** *The facility will be located on already disturbed land to avoid disruption to adjacent forested areas and natural habitat. A wooded area will be kept around the facility to mitigate visual impacts. Delivery of compost feedstock and active composting will occur indoors to prevent birds from being attracted to the site. The site will be secured to ensure bears do not frequent the area and become a nuisance.*

Do you have any comments about management of trees and wildlife at the facility?



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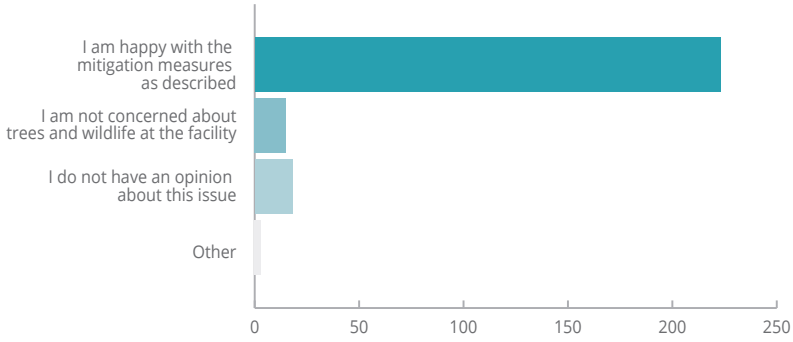


Comments:

Campbell River: (12 comments)

- Want to ensure the trees are protected
- Want to ensure wildlife isn't harmed if on site, especially bears
- Questions about how this will be monitored

Comox: (2 comments)

- Questions about monitoring of hawks
- Want to ensure the trees are protected

Courtenay: (3 comments)

- Want to ensure the trees are protected
- Suggest the use of bird spikes to keep birds away

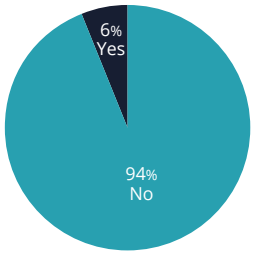
Cumberland: (0 comments)

Other: (0 comments)

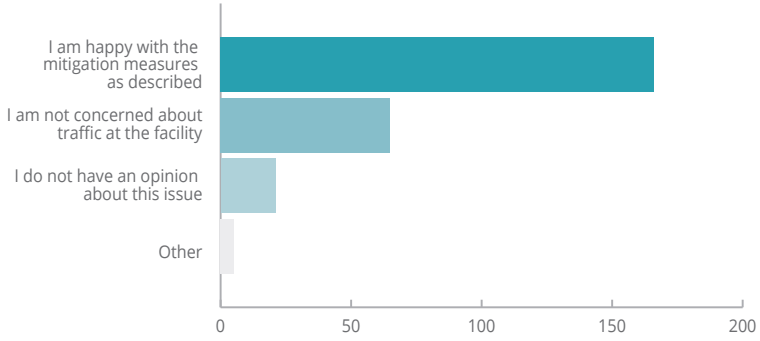
WHAT WE HEARD SUMMARY – February 2020
Comox Strathcona Waste Management Regional Organics Facility

12. *Traffic:* *There are almost no roadway improvements required and traffic impacts will be minimal, as organic waste collection will integrate with the existing garbage collection system. The main access to the site would be from Hwy 28, which will not affect most neighbouring properties on Argonaut Road.*

Do you have any comments about management of traffic at the facility?



If no, please tell us why?



Comments:

Campbell River: (6 comments)
- Questions about why smaller sites closer to each city are not being built
- Concerned about the quality of the road
- Questions about how spillage from the trucks will be monitored
- Question about whether a traffic study been completed

Comox: (1 comment)
- Asking for truck route to be designated

Courtenay: (4 comments)
- Concerned about spillage from trucks
- Suggestions of electric trucks rather than diesel

Cumberland: (1 comment)
- Question about whether transportation emissions are being taken into account and whether those emissions have the weighted against the greenhouse gases produced by the compost

Other: (1 comment)

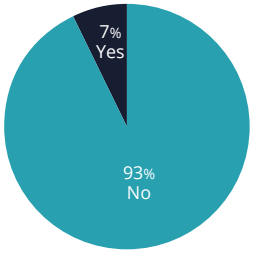
Area B
- Concerned about the increased number of trucks

WHAT WE HEARD SUMMARY - February 2020

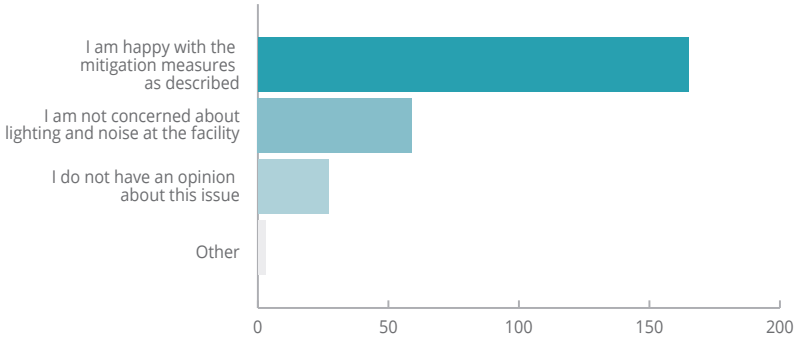
Comox Strathcona Waste Management Regional Organics Facility

13. ***Lighting and Noise:*** *The current design creates the greatest buffer area possible between the facility and neighbours, protecting sightlines and minimizing light and noise.*

Do you have any comments about management of noise and light at the facility?



If no, please tell us why?



Comments:

Campbell River: (19 comments)

- Concerned about the loud back up beepers
- Concerned about light pollution in the area affecting residents and wildlife
- Calling for the biggest buffer possible to reduce noise for the neighbours

Comox: (1 comment)

- Would like to see biggest buffer possible to mitigate noise, light and site aesthetic.

Courtenay (4 comments)

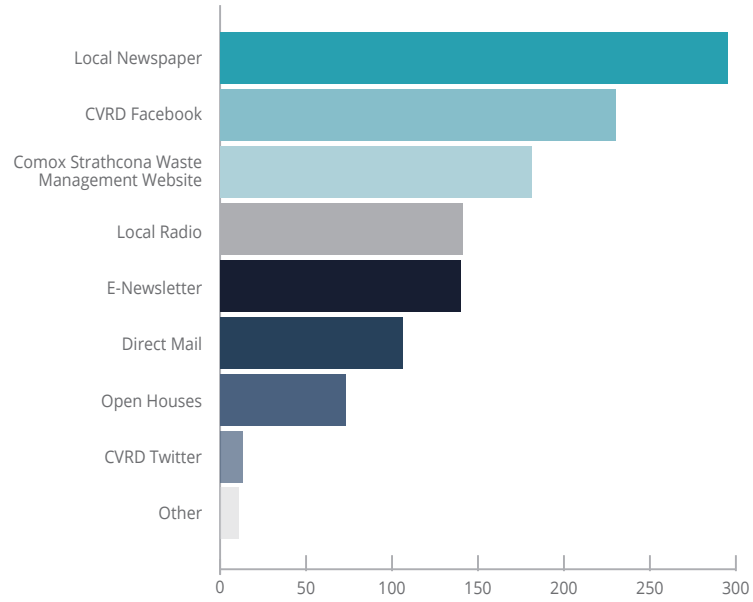
- Concerned about light pollution and nocturnal animals

Cumberland: (0 comments)

Other: (0 comments)

WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

14. As we work towards introducing the new residential organics collection program, we want to tailor our communications to the needs and preferences of our residents. What are the best ways to keep you informed about composting and waste management?



Other:
- Text
- Garbage app
- Information at each municipal building

WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

We welcome any additional feedback you might like to offer

(209 comments)

Campbell River:

- Excited this is happening
- Concerned about location chosen
- Those in condos/apartments/stratas hoping to be able to use it
- Many questions about specifics – What will be included? What will pick-up look like? Who will be included in roadside collection?

Comox:

- Keep costs low
- Introduction of pet waste
- Support for the program in condos/apartments/stratas
- Very supportive
- Questions about bags that can be used in the bins – wanting compostable ones like in Victoria

Courtenay:

- Very supportive
- Those in apartments concerned about not being able to take part
- Concerns about the facility being so far away and the carbon footprint involved

Cumberland:

- Happy to see the project happening
- Would like to be able to use compostable bags

Other:

- Very supportive
- Concerned those in rural areas will be excluded from the program
- Would like bear proof bins for their compost
- Questions about whether residents will be able to take their compost directly to the site without curbside pick-up

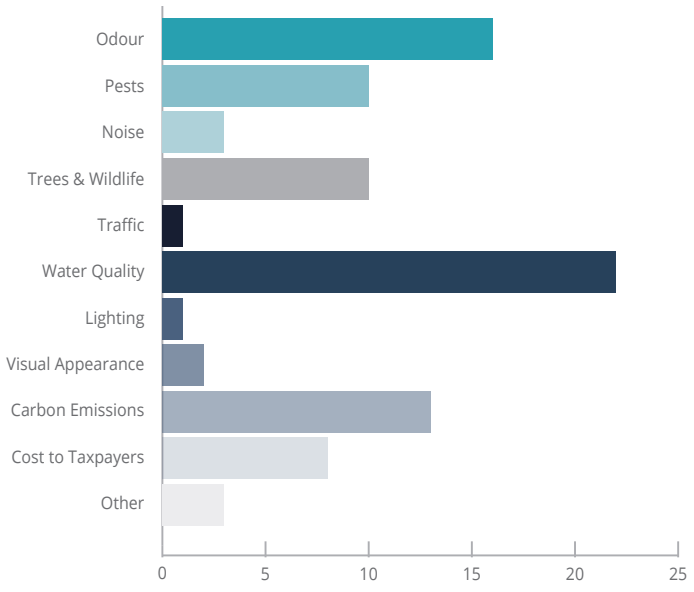
APPENDIX B

Comments Received at Open House

What do you feel are the greatest benefits of a regional composting facility and collection program?

- Composting is a great way to recycle food waste and make its way back into the environment as a nutrient source
- Diversion of waste from the Landfill
- Collecting in a facility reduces probability of increased rat population inspired by some backyard composting efforts
- Life of the landfill and reusing food waste
- Can there be a facility in the city populated area for those without vehicles, using buses, bicycles, etc.
- Less waste to landfills
- Great that it's taking meat, bones, fish, dairy
- Reduction of waste in the landfills
- I'll be glad not to have compost at home
- Location makes sense
- Increasing the life of the landfill, decrease rodent habitat in the city, more compost for use in local home gardens
- Divert waste from the landfill
- Local control to meet the needs of Campbell River
- The sooner the better
- Animal feces? Yes or no?
- Would like to see move of this type of thing
- Creating opportunity for local food production initiatives
- Glad to see organics out of waste stream
- Make compost available for residents
- Demonstration garden to showcase benefits of compost city (municipal) flower gardens – strategic beautification

Topics of Importance:



Anything else to add?

- Use of gas/diesel trucks for pick-up
- Curbside pickup containers blow over/away in wind now
- Contamination – garbage/non-compostable materials – how will that be handled?
- Carbon footprint of trucking organics from Comox Valley to CR Facility
- Loud Backup alarms
- Impact to neighbours is important to me
- Not happy with process to date
- Norm Wood would be preferred

Mitigating Impacts Through Design and Operations

Odour:

- See January 2018 report "Odour from a Compost Facility" – odour is caused by air emissions – contain bacteria , toluene, ethyl alcohol. Measures 800m downstream of compost facility
- Organic kitchen waste amount 3 gallon/week one family
- Good fitting lid
- Weekly curbside pick-up same as recyclables – simply rinse and reuse
- Concerned about odours like at Duke Point

Pests:

- Rats are already a problem in Campbell River
- Bears, rats, racoons and other pests are already coming to the bins on the street
- Is 50 to 60 degrees Celsius to kill weed seeds?
- Organics at the curb – concerned about pests

Trees & Wildlife:

- Ensure fully enclosed and covered to eliminate birds access
- Eagles and wildlife disrupted by facility – construction and operating

Traffic:

- Traffic in general – why are we trucking compostables using trucks? Do it locally.
- More heavy industrial traffic along Campbell River impacting fishing, hiking, and other uses of River area
- Combine pick-up times for better efficiency for both residents and municipality

Lighting & noise:

- Backup alarms are loud! Neighbours can hear them from the landfill

Groundwater:

- Settling pond stormwater
- Contamination of environment
- Cumberland problems with stormwater management
- Leachate runoff management
- Like the proposed contaminated soil dump across from the landfill, it's imperative that nothing gets into the John Hart reservoir to contaminate the water supply for City of Campbell River

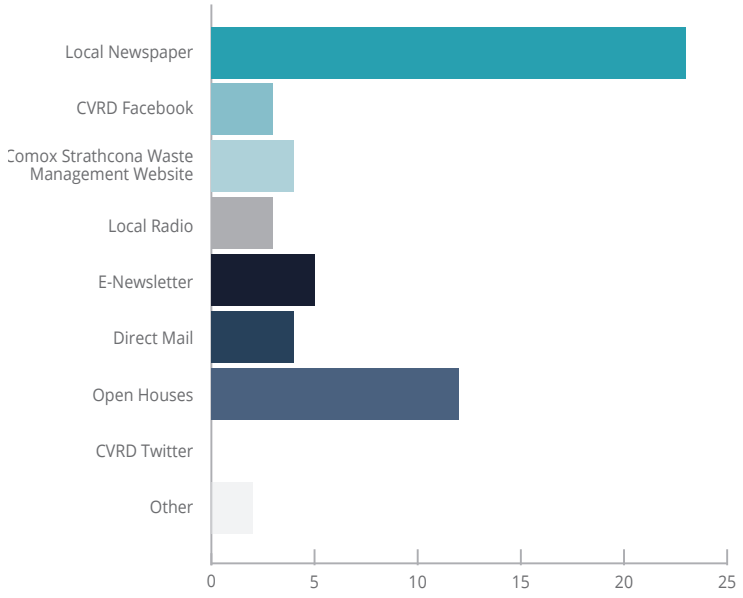
WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

- Contamination of drinking water – why take the risk?
- Treatment of leachate

Anything else you would like to add?

- The bins should be consistent design in all communities
- Bins should state what's accepted
- Don't forget apartments and condos – they need collection too
- Use leachate as nutrient source
- Waste of taxpayer dollars to build a facility on a site that is too small to begin with and has no room for expansion
- Why was the decision made before CR people were given information and a property of choice?
- What will compost cost? Where will I be able to buy it? At a processing site or landscaping supply facilities?
- Why aren't representatives from the city of Campbell River here?

Communication Preferences



Other:

- LinkedIn
- Education in schools

APPENDIX C

Neighbouring Properties

Residents from three nearby properties attended the open houses on one or both nights. Two of the neighbours expressed concern about siting the facility at block J, with several reasons provided including: impacts to adjacent and nearby properties, site constraints due to ALC approval, uncertainty regarding regulatory approvals for future expansion of the facility, lack of due-process in choosing the site and the need to amend the current grant application before full funding is secured. There is a strong feeling that one family is being sacrificed for a location which does not appear to offer many benefits over the original site identified at the Norm Woods facility.

Dust, air pollutants, noise, traffic, odours, pests and safety of groundwater were all identified as major concerns for neighbours. Specifically, the following comments from two neighbouring property owners were recorded:

- The road leading to the site is narrow and has a sharp curve, which could pose a problem for large trucks. Safety is a concern, particularly after weather events which can make road conditions dangerous.
- Property owners can already hear operations at the landfill and pre-construction activities happening on Block J are causing a disturbance. Noise from the fans required for the compost facility, as well as air handlers and facility lighting, are all likely to be disruptive.
- Soil around the landfill is likely contaminated due to past practices. One resident was concerned that construction at the compost facility site could disturb contaminants in the soil and impact groundwater while another felt that groundwater may already be contaminated.
- Potential contaminants in soil and groundwater could impact the adjacent property's ability to obtain the appropriate accreditations needed to start-up an organic farm.
- The ability to control rats and other pests was questioned given the issues faced by downtown Campbell River as it unsuccessfully tries to control rodents around homes and businesses.

Follow-Up Comments Received After Open House

Email received on February 13, 2020, from 5900 Argonaut Road

- There are no fire hydrants in the area - composting using static aerated piles technology generates a lot of heat and the risk of fire is high at compost facilities, as they contain many fuel sources
- Bacteria has been detected 1400 m downwind of compost facilities and VOCs have been detected up to 800 meters from compost facilities. Biofilters do not remove all emissions. Therefore to site a compost facility at a distance of 250 m away from a residence is too close for the health of the residents
- The site has the potential for extra construction costs, for example the steep undercut bank will need securing and use of the gravel extraction site will require additional fill
- Additional costs (and carbon footprint) should be considered for trucking clean water to the site and trucking contaminated water to the waste water treatment plant
- In order to meet diversion goals, the facility should consider public access at some point. As well, will the public be able to access the site to purchase the final product? Both of these

scenarios will increase traffic to Argonaut Road, which is already in terrible condition. Local residents choose Argonaut to travel by when accessing the CRWMC, as it is a shorter distance and often not patrolled by law enforcement. Hence the trash that often lines the side of road - everything from plastic bags to entire couches.

- Lack of a biological inventory - how can environmental impacts be considered if there is no knowledge of birds, amphibians, mammals etc in the area
- Current OC amendment request is yet another example of CVRD seeking retroactive approval for operations already undertaken. Continued non-compliance, operation without permit, and giving misleading information leaves neighbours with zero faith that the CVRD will operate this new compost facility following proper regulation and legislation

** Note: The project team has met in-person with neighbours located at 5800 and 5900 Argonaut Road to discuss and respond to their concerns. This additional input will be considered and will be responded to in separate correspondence. Members of the Project Team will continue to be available to neighbours to answer questions throughout the project.*

APPENDIX D

Stakeholder Groups

Representatives from Recycle BC, Strathcona Regional District and Coast Waste Management Association attended the Open House and were supportive of the project, seeking to obtain more information about the project itself and the consultation process.

Representatives from the Campbell River Environmental Committee had specific concerns related to the siting of the facility and the following comments were recorded:

- Concern about current use of Block J to store tires and mattresses
- Dust and air contaminants from the facility, including the possible presence of Volatile Organic Compounds, harming nearby residents.
- Properties are located down-gradient of Block J putting groundwater at risk.
- CSWM will need to comply with Canadian laws pertaining to odour.
- Perceived inconsistency with CSWM position on tree removal.
- Harming the potential of nearby properties to achieve organic farm status.

Follow-Up Comments Received After Open House

Email received on January 31, 2020, from the Campbell River Environmental Committee

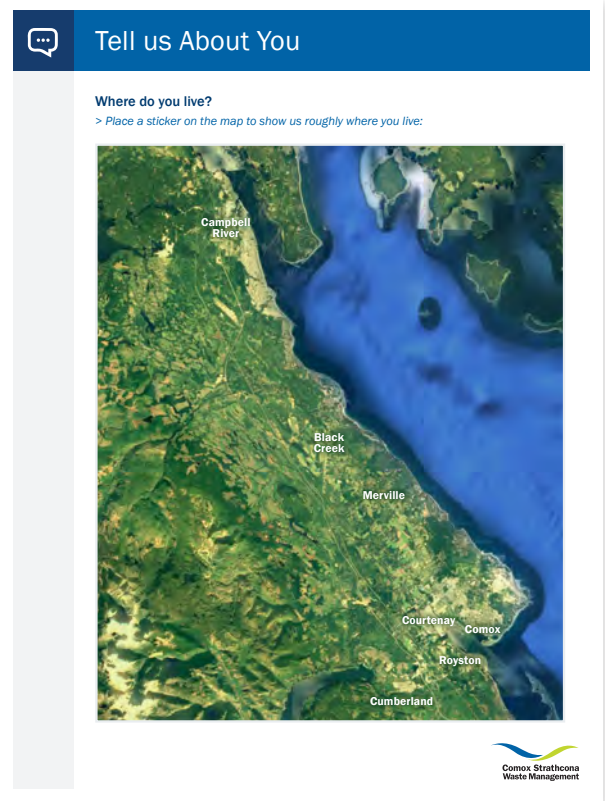
- CREC has concerns with emissions of bacteria measured up to 1400 meters downwind of compost facilities including gram-positive actinomycetes; fungi such as moulds; viruses; algae; and pollen identified in this report.
- A study by the National Collaborating Centre for Environmental Health has reported VOC emissions measured up to 800 meters downwind of compost facilities which include:
  - *"Emissions from composting facilities typically belong to any of the following chemical classes of VOCs: aromatics, sulphur compounds (mercaptans, and organic sulphides), aldehydes, alcohols, amines (ammonia), volatile fatty acids, terpenes, ketones, benzene, toluene and ethylbenzene."*
  - *"The most common VOCs characterized in samples from one compost facility were acetic acid, acetone, limonene, benzene derivatives, hexane, pinenes, toluene, napthalene, and xylene."*
  - *"Another study identified 74 compounds in the ambient air of a composting plant, with ethyl alcohol detected at the highest concentration of all compounds"*
- The same report indicates that Bio Filters do not totally eliminate emissions.
  - *"...odour emissions are still possible despite use of biofilters. For instance, terpenes have been detected in the effluent air stream of compost facilities equipped with biofilters, and in one facility, the outlet of the biofilter contained dimethyl disulphide, which is known to be malodorous"*
- The above report also identified that:
  - *"There may be interactions between different types of VOCs with non-odourous co-pollutants, such as particulates, which can contribute to health symptoms. Chronic exposure to elevated levels of bioaerosols is known to affect respiratory health. Potential health effects to bioaerosols include allergic asthma, rhinitis, hypersensitivity pneumonitis, chronic obstructive pulmonary disease, and organic dust toxic syndrome, as well as eye and skin irritation. An experimental*

study of airborne endotoxins around composting sites found an association between endotoxin levels and cytokine induction in human cells, suggesting a mechanism for health effects resulting from infection, immune responses, or inflammation."

**Note: The above referenced study by the National Collaborating Centre for Environmental Health titled Odour from a Compost Facility, was submitted to the project team via email. This additional input will be considered and will be responded to in separate correspondence*.

APPENDIX E

Display Boards Presented at Open House



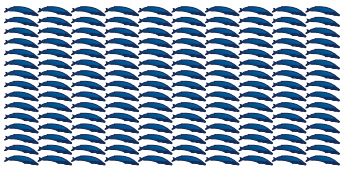
WHAT WE HEARD SUMMARY - February 2020

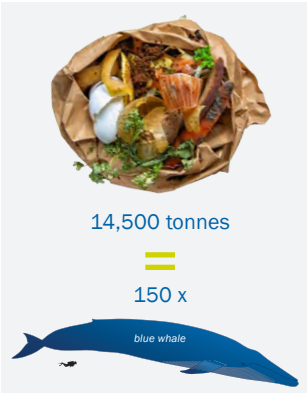
Comox Strathcona Waste Management Regional Organics Facility

Overview

A new regional composting facility will facilitate organics collection from 30,000 single family homes in Campbell River, Comox, Cumberland, and Courtenay, starting late in 2021.

The state-of-the-art facility will have the capacity to process 14,500 tonnes of organics each year. That's about the weight of one hundred and fifty blue whales!





Comox Strathcona Waste Management

Managing Solid Waste in the CSWM Service Area

Diverting organics from the waste stream will help meet the goals of the CSWM Solid Waste Management Plan, significantly reducing greenhouse gas emissions and extending the life of the landfill.

Organics, which includes food and yard waste, currently makes up about 30% of the total waste that is landfilled within the CSWM service area.

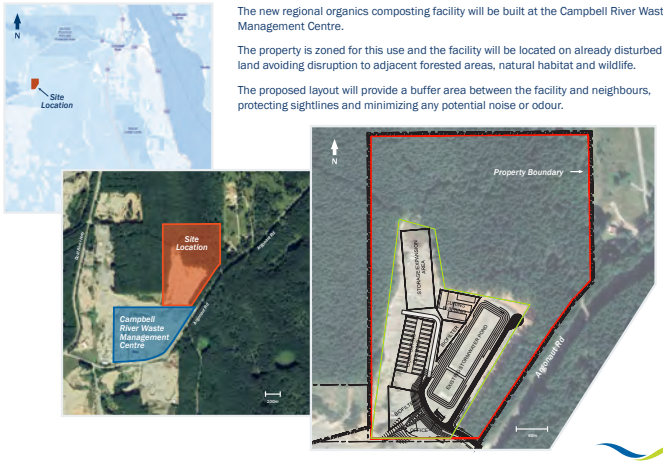
Current Landfill Waste

A new regional composting facility provides an opportunity to repurpose organic material into compost for agricultural and landscaping use.

Comox Strathcona Waste Management

WHAT WE HEARD SUMMARY – February 2020
Comox Strathcona Waste Management Regional Organics Facility

Where the New Facility will be Located



The new regional organics composting facility will be built at the Campbell River Waste Management Centre.

The property is zoned for this use and the facility will be located on already disturbed land avoiding disruption to adjacent forested areas, natural habitat and wildlife.

The proposed layout will provide a buffer area between the facility and neighbours, protecting sightlines and minimizing any potential noise or odour.

Benefits of Composting

Diverting organics helps extend the life of regional landfills, reducing the cost and environmental impact of creating new landfills.

When buried in a landfill, decomposing food and yard waste produces methane gas, a key contributor to greenhouse gas emissions and climate change.

When Organics Go To Landfill

Organic waste in landfill is starved of oxygen as it decomposes. This results in the production of methane, which is a more potent greenhouse gas than carbon dioxide.

The composting facility will re-purpose organic material into a nutrient rich compost for use in agriculture and landscaping.

Replenishing the soil, enriching plant health, and promoting garden sustainability are some of the ways composting gives back to the Earth.

Healthy soil reduces the need for chemical fertilizers, unnatural methods of soil enrichment, and toxic pesticides that are harmful to our environment, health, and food.

Comox Strathcona Waste Management

WHAT WE HEARD SUMMARY – February 2020

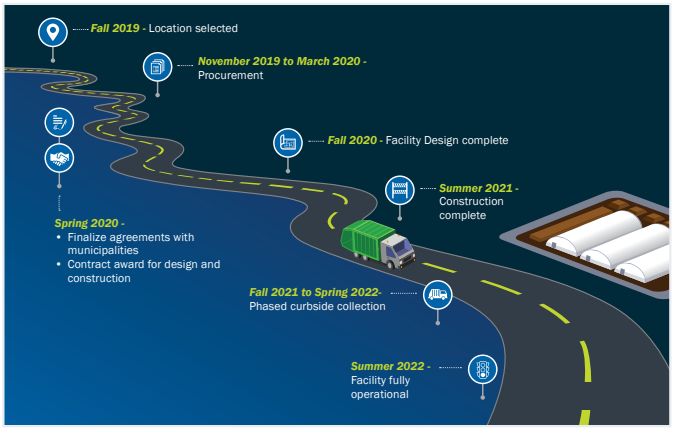
Comox Strathcona Waste Management Regional Organics Facility

Organic Materials that will be Accepted

The following are examples of organic materials that will be collected and will no longer go in the garbage:

Comox Strathcona Waste Management

Road to Regional Organics



Comox Strathcona Waste Management

WHAT WE HEARD SUMMARY – February 2020
Comox Strathcona Waste Management Regional Organics Facility

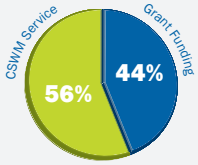
How It Will be Funded

Capital cost estimates for the regional organics facility in Campbell River and a transfer station at the Comox Valley Waste Management Centre:

New Building Canada Grant	$5.5 million
Organics Infrastructure Program	$909,630
Reserves and Tipping Fees	$8.3 million
Total Capital Cost Estimate	**$14.7 million**

These amounts are reflected in the preliminary 2020-2024 Financial Plan.

Funding Sources:



Funding Partners:

Canada | British Columbia

Comox Strathcona Waste Management

Public Engagement

A common understanding of public engagement is important to help ensure we are working towards common goals. The following table illustrates the goals and promises associated with different levels of engagement.

	Inform	Consult	Involve	Collaborate	Empower
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. Infrastructure Program grant.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
Promise to the Public	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. We will seek your feedback on drafts and proposals.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will work together with you to formulate solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

INCREASING IMPACT OF THE DECISION

The public engagement to support the design and operations of the regional composting facility falls under *Inform-Consult*.

iap2

Your feedback will be used to help us:

- *Design the best facility that we can*
- *Mitigate impacts to the community*
- *Communicate with residents effectively about the project*

Comox Strathcona Waste Management

WHAT WE HEARD SUMMARY - February 2020
Comox Strathcona Waste Management Regional Organics Facility

Community Benefits

What do you feel are the greatest benefits of a regional composting facility and collection program?

> Share comments that can be posted for others to see:

Comox Strathcona Waste Management

Topics of Importance

Please choose the top three issues that you feel are most important to minimize our impact on the community and the environment.

> Place a dot on the three issues that are most important to you:

Odour	
Pests	
Noise	
Trees & Wildlife	
Traffic	
Water Quality	
Lighting	
Visual Appearance	
Carbon Emissions	
Cost to Taxpayers	
Other	

Anything else to add?

> Share comments that can be posted for others to see:

Comox Strathcona Waste Management

WHAT WE HEARD SUMMARY – February 2020
Comox Strathcona Waste Management Regional Organics Facility

Mitigating Impacts Through Design & Operations

A number of measures are in place to mitigate impacts through the design and operations of the facility.

> Share comments that can be posted for others to see:

Odour The successful management of odour is a high priority and a critical component in the design and operations of this facility. To minimize the impact on residents, odours will be managed within our property boundary. The processing of organic waste will take place within enclosed buildings and air will be treated on site with biofilters. The finished compost will be stored outside and will resemble rich, dark earth.	
Pests The daily processing of organic material indoors not only minimizes odours, but also helps to control rodents and pests. Once the material is placed into an active compost pile, temperatures reach between 50-60 degrees celsius for several days. This environment is inhospitable for mammals and prevents their interest in the material. As the material is moved frequently, animals do not have time to establish a refuge.	
Trees & Wildlife The facility will be located on already disturbed land to avoid disruption to adjacent forested areas and natural habitat. A wooded area will be kept around the facility to mitigate visual impacts. Delivery of compost feedstock and active composting will occur indoors to prevent birds from being attracted to the site. The site will be secured to ensure bears do not frequent the area and become a nuisance.	

What do you think? Is there anything else you'd like to see?

Comox Strathcona Waste Management

Mitigating Impacts

A number of measures are in place to mitigate impacts through the design and operations of the facility.

> Share comments that can be posted for others to see:

Traffic There are almost no road improvements required and traffic impacts will be minimal, as organic waste collection will integrate with the existing garbage collection system. The main access to the site will be from Hwy 28, which will not affect most neighbouring properties on Argonaut Road.	
Lighting & Noise The current design creates the greatest buffer area possible between the facility and neighbours, protecting sightlines and minimizing light and noise.	

What do you think? Is there anything else you'd like to see?

Comox Strathcona Waste Management

Mitigating Impacts

A number of measures are in place to mitigate impacts through the design and operations of the facility.

> Share comments that can be posted for others to see:

Groundwater

Water use on-site will be managed carefully and will not impact groundwater quality or supply. There will be no discharge to the environment during the composting process.

Best practice involves clear separation of areas where leachate is generated and areas where stormwater is collected and drained. Leachate is water that comes into contact with organic waste. Stormwater is all water that drains from structures, covered areas, roads and areas that are not used for waste processing or storage.

Leachate will be collected and reused as part of the composting process. Excess water will be stored in a sealed tank and trucked offsite for treatment. Clean stormwater will be collected in a management pond and re-infiltrated into the ground.

As part of the operation of the landfill, the CSWM service undertakes an extensive annual water monitoring program. Groundwater monitoring reports are available at ***www.cswm.ca/campbellriver***

What do you think? Is there anything else you'd like to see?

Comox Strathcona Waste Management

Communication Preferences

As we work towards introducing the new residential organics collection program, we want to tailor our communications to the needs and preferences of our residents.

What is the best way to keep you informed about composting and waste management?

> Place a dot on your top three preferences:

Local Radio	
Local Newspaper	
CVRD Twitter	
CVRD Facebook	
Open Houses	
CSWM Website	
E-Newsletter	
Direct Mail	
Other	

> Share "other" examples:

Comox Strathcona Waste Management