DISTRICT OF METCHOSIN
NEW BUSINESS/SUPPLEMENTAL AGENDA

ENVIRONMENTAL ADVISORY SELECT COMMITTEE MEETING

March 26, 2024 at 7:00 p.m.
Council Chambers
Metchosin Municipal Hall

New Business/Supplemental Information

1. New Business – Biosolids Management Plan, Capital Regional District 1
    - Correspondence from Glenn Harris, Senior Manager, Environmental Protection, Capital Regional District
    - Times Colonist Article

Making a difference...together

Parks & Environmental Services
625 Fisgard Street, PO Box 1000
Victoria, BC, Canada V8W 2S6

T: 250.360.3078
F: 250.360.3079
www.crd.bc.ca

February 15, 2024

File: 0220-20
Correspondence

Bob Payette
Chief Administrative Officer/Corporate Officer
District of Metchosin
Via email: bpayette@metchosin.ca

Dear Bob Payette:

RE: PUBLIC CONSULTATION TO SHAPE THE LONG-TERM BIOSOLIDS MANAGEMENT PLAN

The Capital Regional District (CRD) is actively exploring long-term options and technologies to harness the benefits of biosolids. The CRD produces high quality Class A biosolids and wants to ensure they are being used in a beneficial manner.

A Long-term Biosolids Management Plan is required by the Province of BC and must outline how biosolids generated in the capital region will be managed for community benefit. In 2020, when the CRD first introduced wastewater treatment, biosolids short-term management plans were put in place. Now, with a better understanding of our operations and available options, we are actively exploring long-term solutions.

The Province of BC requires that the CRD submit a Long-term Biosolids Management Plan by June 2024. The plan must consider land application options, as part of the beneficial use options analysis. Landfilling biosolids has been used as an emergency measure. However, it wastes valuable space in the landfill and does not meet provincial requirements for beneficial use of biosolids. It is not being considered as a long-term option. The CRD is moving ahead with a pilot of thermal technologies for managing biosolids. However, if successful, it will still be 7-10 years before it can be utilized as a long-term option. Since 2011, the CRD Board has banned the land application of biosolids within the capital region. In 2023, due to on-going challenges with existing options, the CRD Board amended the policy to allow for non-agricultural application of biosolids as a short-term contingency alternative. The Province of BC requires that the consultation process consider all options that meet beneficial use criteria as defined by regulatory guidance.

As we look to the future, we will need to explore a range of possibilities to maximize the benefits of biosolids. We invite you to learn more and share your ideas. Building on the involvement of the Technical and Community Advisory Committee since October 2023 and First Nations consultation, the public consultation process involves a range of opportunities from January to March 2024, including:

- Project Website: https://getinvolved.crd.bc.ca/biosolids
- Virtual Open House – Tuesday, February 20, 2024. Pre-registration required at https://us06web.zoom.us/webinar/register/WN_OJ4RQavWRZiEn8T3wS4K6g
- Provide written feedback by email: biosolids@crd.bc.ca

- Online Survey open until Friday, March 6, 2024 - Long-Term Biosolids Management Plan | Get Involved CRD

Learn more about biosolids and the different beneficial options being considered and opportunities to provide input at https://getinvolved.crd.bc.ca/biosolids. A Summary Consultation Report will capture "What We Heard" throughout the process and will be shared online.

We welcome your participation in this process and look forward to hearing from you. If you have any questions, please contact me at biosolids@crd.bc.ca.

Sincerely,

Glenn Harris, Ph.D., R.P.Bio.
Senior Manager, Environmental Protection

Attachment: Harnessing the Potential of Biosolids Fact Sheet

cc: Ted Robbins, Chief Administrative Officer, CRD
Kristen Morley, General Manager, Corporate Services, CRD
Tina Hansen, Deputy Corporate Officer, District of Metchosin

Harnessing the Potential of Biosolids

Fact Sheet

Capital Regional District | **January 2024**

The CRD is exploring long term options and technologies to harness the benefits of biosolids. The CRD produces some of the highest quality biosolids in North America and wants to ensure they are being used in a beneficial manner.

In 2020, when the CRD introduced wastewater treatment for the core area municipalities and Songhees and Esquimalt First Nations, we implemented a 5-year, short-term plan. Now, with a better understanding of both our operations and available options, we are developing a long-term plan to move us forward into the future.

What Are Biosolids?

Biosolids are the nutrient-rich by-product of wastewater treatment. They contain nutrients, energy, and organic matter that can be recycled and used in various ways. The most common use is as fertilizer to promote tree and plant growth and as a soil additive to restore degraded industrial lands. Other emerging options may include harnessing energy contained in biosolids through thermal (heating) processes to use as an alternative fuel.

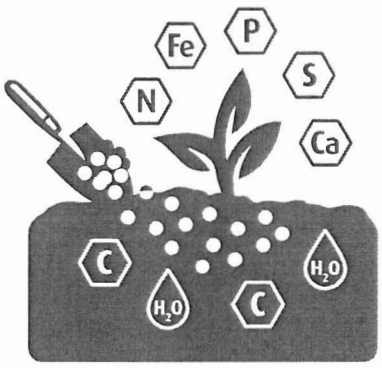


CRD biosolids are dark, dry granular pellets. Approximately 3,300 tonnes of Class A biosolids are generated in the CRD each year. CRD biosolids surpass all provincial standards. This is due to the limited heavy industry in Greater Victoria, the highest standards of sewage treatment, and robust source control programs that prevent metals and other contaminants from ever entering the wastewater system.

Benefits of Biosolids

Biosolids contain important nutrients such as nitrogen, phosphorus, calcium, sulphur, and iron. Benefits include:

- *Adds organic matter and plant nutrients to enrich soil*
- *A natural alternative to synthetic (chemical) fertilizers*
- *Stores carbon in soil and decrease greenhouse gas emissions*
- *Increases soil water retention*
- *Can be mixed with wood chips or yard waste to create compost*
- *Can be used to create alternate fuel*



For generations, biosolids have been safely used around the world by farmers, landscapers, and foresters. More recently in other countries, biosolids have been used in thermal (heating) processes to generate alternate energy sources. Biosolids are commonly used within communities across Canada. In fact, many common bagged fertilizers and soil products sold at local hardware stores and retailers contain biosolids.

How Are Biosolids Being Managed Currently?

Presently, the CRD's biosolids are largely being landfilled as an emergency measure, which does not meet provincial requirements. Further, it is exacerbating a capacity problem at the Hartland Landfill which is filling up at an accelerated rate. In 2011, prior to introducing wastewater treatment, the CRD Board passed a biosolids land application ban based on the concerns of members of the public. The ban remains in place today. Due to limited viable options, short-term exceptions were made for land cover application at Hartland Landfill in 2020 and for non-agricultural, out-of-region land application options in 2023.

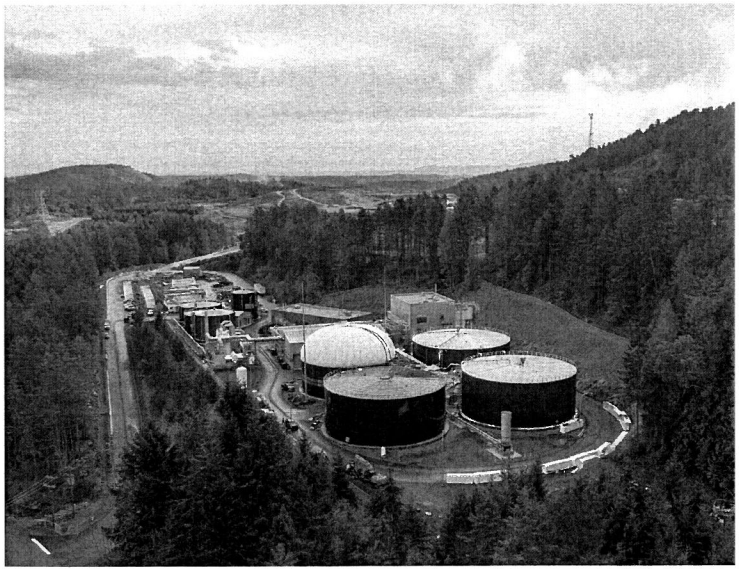
Presently, the CRD's biosolids are mostly being landfilled because of challenges with the short-term options, which do not meet provincial requirements. The CRD is currently investigating a pilot study of thermal technologies for managing biosolids. However, if successful, it will still be 7-10 years before it can be utilized as a long-term option.

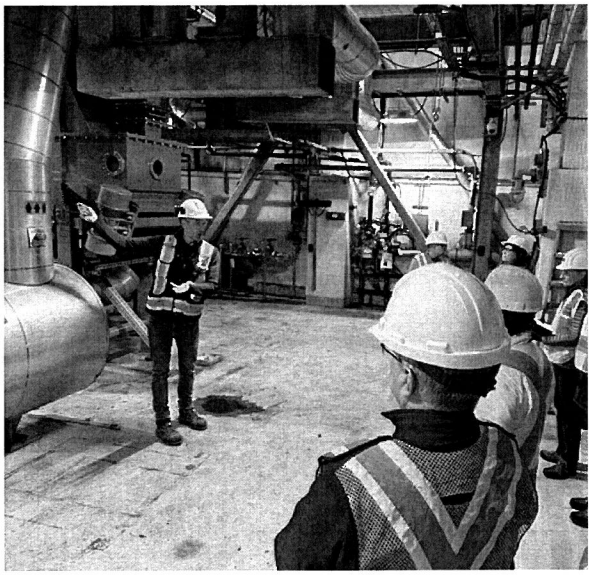
The Province of BC requires that the current consultation process consider land application options, which are included with advanced thermal options. Any options that don't meet beneficial use criteria will not be included. Landfilling biosolids has been used as an emergency measure. It wastes valuable space in the landfill and does not meet provincial requirements for beneficial use of biosolids.

Who Sets the Standard for How Biosolids Are Managed?

The BC Ministry of Environment and Climate Change Strategy and federal Environment and Climate Change Canada set the standards for wastewater treatment. Regional districts in BC are legally required by the Province to find beneficial uses for biosolids.

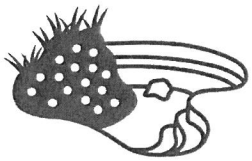
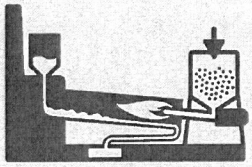
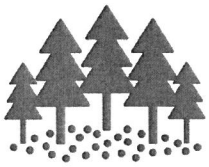
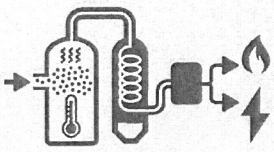
Class A biosolids must meet regulatory requirements under the Provincial Environmental Management Act and Organic Matter Recycling Regulation. These stringent requirements outline maximum allowable levels of pathogens and heavy metals to ensure protection of human health and the environment. They also provide strict controls on how and where biosolids may be used.





The Options

As we look to the future, a range of options must be explored. The CRD is exploring all options to use biosolids in ways that are increasingly beneficial for the environment. The CRD is committed to smart, innovative solutions that help reduce greenhouse gas emissions. We need to pursue a variety of options. The Province of BC requires that the CRD submit a Long-Term Biosolids Management Plan by June 2024. The plan must consider land application options, which are included with advanced thermal options among others.

OPTION	BENEFITS	TIMELINE	ESTIMATED COSTS *(per tonne)*	
Industrial Land Reclamation (e.g., mines or quarries) 	Mining activities often result in disturbed and degraded soils, which can be challenging for plant growth. Biosolids can be applied to replenish organic matter and essential nutrients, improving soil fertility, soil structure, and increasing water-retention. Can be applied directly or blended with compost, soil, or woodchips to restore degraded mine or industrial sites. Biosolids can improve soil quality and promote vegetation growth. Can also reduce reliance on synthetic fertilizers.	Immediate	<$250/tonne	LAND-BASED OPTION
Fuel for Incineration / Combustion (e.g., for cement kilns) 	Biosolids are burned or used as an alternative fuel to power facilities, such as cement kilns and pulp mills, reducing reliance on other non-renewable sources like coal or natural gas.	Limited facilities available. The CRD currently utilizes this technology at a plant in Richmond. In-region options are not available.	<$500/tonne	THERMAL OPTION
Forest Fertilization 	Can help improve soil fertility, prevent erosion, and accelerate plant and tree growth. In addition, after wildfire, biosolids can help forests regenerate, increasing water-retention and providing essential nutrients and organic matter to promote plant and tree growth. Can reduce reliance on synthetic fertilizers.	Immediate	<$400/tonne	LAND-BASED OPTION
Pyrolysis or Gasification Technology (to create biochar/gas) 	Biosolids are heated (using little or no oxygen) to make a gas or "biochar". The gas created can be used to produce heat or electricity. Biochar is a type of charcoal that is made from organic material. It can be used as a soil additive to improve soil fertility and enhance water retention.	7-10 years for permitting, siting and construction of a permanent facility. Advanced thermal technology is not currently used for processing biosolids in Canada.	$500-$4,500 /tonne	THERMAL OPTION

OPTION	BENEFITS	TIMELINE	ESTIMATED COSTS *(per tonne)*
Bagged Fertilizer for Residential Use 	The nutrient-rich organic material is bagged and distributed as fertilizer for residential use. Can also be blended with soil, compost or wood chips and made available for residential use. Can improve water retention to reduce water-usage as well as reduce reliance on synthetic fertilizers	Immediate	<$500/tonne
Fertilizer for Agriculture 	The nutrient-rich organic material can improve soil conditions to promote plant growth and increase crop yields. Can improve water retention to reduce water-usage, as well as reduce reliance on synthetic fertilizers.	Immediate	<$500/tonne
Wholesale Fertilizer for Landscaping (e.g., lawns, boulevards, golf courses) 	The nutrient-rich organic material can improve soil conditions to promote lawn and plant growth. Can improve water retention to reduce water-usage as well as reduce reliance on synthetic fertilizers.	Immediate	<$500/tonne

LAND-BASED OPTIONS

Timeline



- 2011: CRD Policy – no land application
- 2020: Short-term Biosolids Management plan developed in 2020; Sewage treatment introduced in 2020
- 2021
- 2022: Technical review of long-term options from 2022 to 2023
- 2023
- 2024: Public Engagement from December 2023 to March 2024; Draft Long-term Biosolids Management Plan in June 2024

Share Your Thoughts!

Email: biosolids@crd.bc.ca

Online Open House: Tuesday, February 20, 6pm

Website and Survey: https://getinvolved.crd.bc.ca/biosolids Complete the online survey by Wednesday, March 6,2024

Making a difference...together

Capital Regional District
625 Fisgard Street, Victoria, BC V8W 1R7
250.360.3000 | www.crd.bc.ca

TIMES COLONIST

JOIN OUR NEWSLETTER

Company behind CRD biosolids sued in U.S. over health issues, animal deaths

Darron Kloster, Roxanne Egan-Elliott
a day ago



1 / 4 The Capital Region District Residuals Treatment Facility at Hartland Landfill. CAPITAL REGIONAL DISTRICT

Listen to this article
00:12:29

The company that produces biosolids at Hartland Landfill for the Capital Regional District is being sued by a group of Texas farmers.

The farmers claim fertilizer made from a product of sewage treatment by Synagro Technologies' operation in Fort Worth, Texas, is making them sick and killing their animals.

Synagro Technologies is majority owner of the residual treatment facility at Hartland and has a 20-year contract to run the plant that produces thermally dried biosolids in the form of granules.

Five farmers in Johnson County, Texas, filed a civil lawsuit Feb. 27 against Synagro, which is based in Baltimore, Maryland, and its Texas subsidiary.

The farmers claim their lands have been rendered "worthless" after fertilizer containing toxic chemicals from biosolids produced by a Synagro plant in Fort Worth was spread by a neighbouring farmer on his crops. They say the toxic chemicals contained in the biosolids fertilizer permeated their drinking-water wells and other water sources used for raising animals and crops.

The lawsuit alleges the fertilizer contained high levels of per- and polyfluoroalkyl substances (PFAS), a group of human-made chemicals that provide heat-, stain- and water-resistance in commercial applications. PFAS are often called "forever chemicals" and some studies have suggested links to cancer, birth defects and impaired functioning of the liver, kidneys and immune system, among other ailments.

Synagro did not immediately respond to a request for comment on the lawsuit.

The allegations have not been proven in court.

Larisa Hutcheson, general manager of parks and environmental services, on Wednesday told a CRD meeting that staff have not had any conversations with Synagro about the U.S. lawsuit and they don't have a sense of how biosolids in Greater Victoria compare with those in the U.S.

Biosolids produced in the capital region have not been used for agricultural purposes, said CRD spokesman Andy Orr.

Despite that, some people are concerned about potential health risks.

Philippe Lucas, founder of Biosolid Free B.C., said the U.S. lawsuit confirms the concerns he's been raising for years.

"We have no reason to believe that the technology employed by Synagro in Texas … are any different than the technology they use here," he said.

CRD wrestling with long-term plan

The lawsuit comes as the CRD discusses what to do with its biosolids: Four years after effluent from the region's five core municipalities started making its way through the $775-million sewage treatment

system, there is still no clear plan.

Sludge from the sewage treatment plant at McLoughlin Point in Esquimalt is piped to the Synagro plant at Hartland, where it is turned into granular pellets. The result — about 10 tonnes a day — is being deposited in the landfill as the CRD awaits direction from the province on what to do with the accumulating tonnage.

The plan had been for the biosolids to be incinerated at a cement plant in Richmond. But the CRD has been unable to consistently send biosolids there due to shutdowns and unplanned operational issues.

To minimize the amount of biosolids being put in the landfill, the CRD board amended a regional ban on land application to allow biosolids to be spread on non-agricultural land as a short-term solution.

That has allowed the regional district to send biosolids to a gravel extraction quarry in Cassidy, where biosolids mixed with sand are being stored. The quarry operator is awaiting approval under provincial mining regulations to use the biosolids in quarry reclamation.

The CRD board has requested a meeting with Environment Minister George Heyman to discuss an extension on finalizing its long-term management plan for biosolids.

The province requires that the CRD submit a long-term biosolids management plan by June, but it's awaiting a provincial update to regulations that govern biosolids, which is expected in May.

The Peninsula Biosolids Coalition, a group of concerned citizens, businesses and environmental groups, would like public consultation on any new plan to include the risks of toxic chemicals to public health and the environment, and a third-party academic assessment of the scientific and legal risks and benefits on various biosolids disposal methods.

The group said it favours the CRD testing pyrolysis or gasification to mitigate toxic chemicals and create gas for heat and electricity or biochar that can be used as a soil additive. The CRD has said it could take seven to 10 years to build a facility.

The coalition opposes other CRD proposals in its current public engagement, which include fertilizer for agriculture, mine and quarry reclamation, forest fertilization and wholesale fertilizer for lawns, boulevards and golf courses.

"The daily dumping of tonnes of biosolids continues at Hartland … this is a clear risk to the surrounding watershed, farms, recreational areas, homes and businesses," Dave Cowen, general manager of Butchart Gardens, wrote on behalf of the group in a recent op-ed in the Times Colonist.

'Low concentration' of chemicals found

On its website, the CRD says the region's biosolids have been analyzed for contaminants such as pharmaceuticals and PFAS, and results show concentrations are low and risk to human health and the environment is low.

Analysis for 58 of the most common pharmaceuticals detected 30, all of which were in the parts-per-billion range, considered a low concentration "very unlikely" to have adverse health effects, the CRD says, citing a 2017 risk assessment conducted in Metro Vancouver.

An analysis for PFAS detected 14 of the 38 most common types, also all in the parts-per-billion range.

One of the most common types, known as PFOS, was detected at a concentration of about six parts per billion. The Canadian Food Inspection Agency has set a limit of 50 parts per billion for PFOS in biosolids used as fertilizer.

The regional district plans to complete a review of scientific literature on the uses and impacts of biosolids.

Orr, the CRD spokesman, said the regional district relies on the province as the regulator of biosolids.

The Ministry of Environment and Climate Change said provincial regulations require biosolids applied to land to be treated and stabilized to reduce pathogens. They're then tested to ensure they meet high-quality standards to protect human health and the environment, the ministry said.

"Treated biosolids can be a valuable resource that helps with climate change mitigation, by reducing the production of greenhouse gases from landfills, preserving carbon in soils, helping plants grow and reducing soil erosion," the ministry said.

Provincial regulations are being reviewed to reflect the latest advances in science related to biosolids and standards in other jurisdictions, it said.

In Texas, health issues and dead animals

The Texas farmers behind the U.S. lawsuit are asking the Baltimore County Circuit Court for compensation and punitive damages in an amount greater than $75,000, all costs they've incurred to bring the lawsuit and any other relief the court deems proper.

Their lawsuit alleges that because PFAS are not removed by wastewater treatment, they accumulate in the biosolids that Synagro uses to make its fertilizer, which it "falsely markets" as being safe and organic.

The suit claims Synagro's biosolid fertilizer tested positive for 27 individual PFAS chemicals and that eight of those were found in "extremely high concentrations" on the plaintiffs' properties by a Johnson County environmental investigator.

Since they were exposed to PFAS through the Synagro-branded granulate fertilizer in 2022, the plaintiffs claim that tests have found high levels of toxic chemicals in their soil, wells and water sources. As a result, they have suffered health issues that include high blood pressure, respiratory and cardiac problems, skin irritations and growths and other medical issues.

The lawsuit alleges exposure has caused damage to livestock and rendered the land where they live and work nearly worthless. One farmer claims several animals on his farm have died, including horses, cattle, dogs, chickens, ducks and fish being raised in ponds. The farmer has stopped growing vegetables.

One of the plaintiffs in the lawsuit cites the loss of five heifers and five calves to unknown causes. The liver of a stillborn calf in December showed high levels of PFOS, well above what other states say is safe for consumption of beef.

Tissue samples from fish in ponds on the farmers' lands also indicated high levels of PFAS chemicals.

"Now that their property and only water source is polluted with forever chemicals, they face the stark possibility of having to abandon the home they love and the property they have developed into a working ranch, raising cattle, freshwater fish, and game birds, which may have to be euthanized since they cannot be safely consumed," the lawsuit said of one farmer.

"[They] have started to purchase bottled water for drinking and cooking, but they must shower, do dishes, clean the house and water their animals with well water which is polluted," the lawsuit said. "Their property is their main asset which has been rendered worthless and will be costly and difficult to clean up and restore."

Another plaintiff said that because their only water source is polluted, they may be forced to abandon their cattle ranch.

"They are suffering significant daily economic losses due to the inability to market their cattle or beef or hay and may have to euthanize their entire herd, a crushing and emotional task, especially since, at the time of this complaint, seventy-three heifers are pregnant," the lawsuit said.

The claim states that Synagro knew, or reasonably should have known, of the foreseeable risks and defects of its biosolids fertilizer, and failed to provide adequate warnings of pollution of properties and water supplies with PFAS, which are persistent and mobile within the environment.

'Unwanted substances in biosolids'

Synagro has said it has more than 1,000 municipal, industrial and agricultural customers and operates 24 facilities in North America, including dryer facilities in Victoria and Windsor, Ont. The company cumulatively manages 6.5 million tons of biosolids a year.

The company's own public reports indicate its biosolid products might contain PFAS chemicals. A sustainability report by Synagro in 2022 said: "One of our industry's challenges … is the potential of unwanted substances in biosolids, like per- and polyfluoroalkyl."

The company report said Synagro does not generate PFAS or uses them in its processes, and that the chemicals enter public wastewater through industrial, commercial and residential sources.

"Each municipality has unique discharge sources and in some cases these substances can potentially be detected in biosolids."

In its 2022 report, Synagro said it is working with environmental services company Char-Tech Solutions on a high-temperature pyrolysis process to treat biosolids.

The company said preliminary testing has demonstrated it "may address PFAS contaminants" and the company will be choosing a Synagro test site for a pilot project.

dkloster@timescolonist.com

regan-elliott@timescolonist.com

>>> To comment on this article, write a letter to the editor: letters@timescolonist.com