

**REPORT TO ENVIRONMENTAL SERVICES COMMITTEE
MEETING OF WEDNESDAY, JANUARY 18, 2023**

SUBJECT Biosolids Short-term Contingency Beneficial Use Plan

ISSUE SUMMARY

To seek direction on short-term emergency contingency alternatives for biosolids beneficial use.

BACKGROUND

In 2019, the provincial government approved the Capital Regional District's (CRD) Biosolids Beneficial Use Strategy, with the condition that the CRD prepare a beneficial use contingency plan that did not include landfilling or long-term storage of biosolids. To comply with these regulatory requirements, the CRD Board moved to amend its land application policy on February 12, 2020, per below:

That the Capital Regional District Board partially rescind its policy to prohibit land application as a beneficial use of biosolids at Hartland landfill only; and 2. That land application of biosolids be approved as a contingency plan for beneficial use at Hartland landfill.

Throughout 2021 and 2022, the CRD was unable to consistently follow the CRD's approved short-term (2021-2025) Biosolids Beneficial Use Strategy (Definitive Plan), due to both planned shutdowns at the cement manufacturer, and unplanned operational issues. Consequently, the CRD required more than 300 days of contingency capacity in 2022, whereas the CRD's approved contingency plan contemplated only 35 days of contingency annually. Given the significant 2022 contingency requirements, the area available at Hartland Landfill for creation and storage of mixed biosolids engineered cover systems was exceeded, and the CRD was unable to follow the approved contingency plan and began landfilling biosolids. The CRD continues to keep the BC Ministry of Environment & Climate Change Strategy (ENV) informed of its actions and planning on a regular basis, and ENV is aware that the CRD is not following the approved contingency plan, as referenced in the CRD Board Chair's December 2022 letter to Minister Heyman (Appendix A). Staff continue to work with Lafarge to address operational challenges and resume delivery; however, the CRD urgently requires additional short-term contingency alternatives that meet the Province of BC regulatory requirement of beneficial use.

The CRD has hired GHD as a technical advisor to support short-term emergency contingency analysis and has worked with industry to understand and evaluate more than 30 emergency contingency alternatives, including thermal technologies and non-agricultural land application. This analysis found:

1. In the near-term (less than 24 months), there are no additional contingency alternatives (beyond beneficial use at Hartland Landfill) that are consistent with both ENV regulatory requirements and the CRD partial ban on land application of biosolids.
2. If the CRD Board policy were changed to allow non-agricultural land application as an approved emergency contingency alternative, there are available contingency alternatives on Vancouver Island that could accept CRD biosolids in the immediate near-term, and at

lower cost than the current approved contingency. Concurrent with addressing the short-term biosolids management needs, the CRD continues planning for the long-term biosolids management strategy that will come into effect at the end of the CRD's 2021-2025 approved short-term plan, including undertaking three advanced thermal processing (pyrolysis and gasification) pilot projects. In March 2023, staff will bring the results of this analysis and seek direction on next steps towards consultation and planning for the long-term biosolids management plan.

ALTERNATIVES

Alternative 1

The Environmental Services Committee recommends to the Capital Regional District Board:

1. That the Capital Regional District (CRD) Board amend its policy to allow non-agricultural land application of biosolids as a short-term contingency alternative; and
2. That staff be directed to update the CRD's short-term biosolids contingency plan correspondingly.

Alternative 2

The Environmental Services Committee provides alternate direction to staff.

IMPLICATIONS

Intergovernmental Implications

In BC, the Organic Matter Recycling Regulation (OMRR) sets requirements for the production of biosolids. The CRD's current practice of landfilling biosolids is out of compliance with the CRD's approved short-term plans, and does not meet the provincial requirement for beneficial use of biosolids.

Social Implications

At the December 14, 2022 Board meeting, a delegation from the Peninsula Biosolids Coalition provided remarks calling for an immediate end to land application of biosolids at Hartland Landfill and requesting storage as a short-term measure (a transcript of these remarks is included as Appendix B). GHD's analysis identified that storage of CRD biosolids at Hartland Landfill for future beneficial use through thermal processing is not a viable contingency alternative in the short term. Appendix C provides the latest CRD Biosolids Production Report from the CRD website for reference. The Province also provides information on biosolids management and associated risks through their website, and through the enabling legislation of OMRR to provide public confidence in land application of biosolids.

Financial Implications

The cost to manage biosolids as engineered cover at Hartland Landfill (approved contingency) was approximately \$1,000/tonne in 2022 and, due to increased costs for sand, wood and labour, is expected to cost approximately \$1,300/tonne in 2023.

Regulatory and mobilization costs to develop non-agricultural land application plans and initiate delivery for the portfolio of emergency contingency alternatives is expected to cost \$65,000. The beneficial use cost per tonne varies by site and is dependent on the tonnage of material delivered, however remains lower (i.e., <\$650/tonne) than managing biosolids at Hartland Landfill as engineered cover. These costs can be managed within the existing budget for biosolids management, provided the proposed contingency land application options are prioritized above the current contingency plan.

Service Delivery Implications

The evaluation of short-term contingency alternatives has identified a portfolio of non-agricultural land application options located on Vancouver Island that together could address the CRD's contingency requirements, including:

- Silviculture: forest fertilization through standard land application at a site under an existing land application plan near Nanaimo, BC that is already accepting municipal biosolids;
- Mine Reclamation: generation of a blended growing medium used for reclamation of a gravel pit site near Nanaimo, BC under a new land application plan;
- Land Reclamation: fabrication of biosolids growing media to address topsoil nutrient deficiencies, and aid in reclamation of disturbed areas at a forestry site near Nanaimo, BC.

Any land application contingency alternative would include regular sampling to confirm compliance with OMRR criteria.

Due to the CRD's contingency volume requirements, site constraints and seasonal availability, the short-term contingency plan would include all three identified contingency alternatives. To keep options viable and available for when they are needed, the CRD may be required to guarantee a minimum or regular/monthly delivery; however, combustion of biosolids in cement production would remain the CRD's primary beneficial use strategy until development and approval of the long-term biosolids management plan is complete.

CONCLUSION

The CRD urgently requires an additional biosolids short-term contingency alternative that meets the Province of BC regulatory requirement of beneficial use. If the CRD Board policy were amended to allow limited land application as an approved emergency contingency alternative, there are available contingency alternatives on Vancouver Island that have capacity to meet the CRD's contingency needs and could accept CRD biosolids in the immediate near-term and at lower cost than the current approved contingency. If directed, staff will immediately work to secure additional biosolids contingency capacity and modify the approved short-term contingency plan.

RECOMMENDATION

The Environmental Services Committee recommends to the Capital Regional District Board:

1. That the Capital Regional District (CRD) Board amend its policy to allow non-agricultural land application of biosolids as a short-term contingency alternative; and
2. That staff be directed to update the CRD's short-term biosolids contingency plan correspondingly.

Submitted by:	Glenn Harris, Senior Manager, Environmental Protection
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ATTACHMENTS

Appendix A: Letter to Minister Heyman - December 16, 2022

Appendix B: Hugh Stephens – Delegation on Biosolids – December 16, 2022 – CRD Board Meeting

Appendix C: Summary of Biosolids Production and End Use – 2022