

Composting Facility Expansion

RECOMMENDATION(S):

That the Infrastructure and Planning Committee recommends that Council:

1. Direct Administration to negotiate and execute all amendments to the Composting Facility Project Agreement to expand the Calgary Composting Facility (the "Facility") to accommodate an additional 60,000 tonnes per year of Single-Family Residential food and yard waste (the "Project").
2. Direct Administration to develop a biogas offtake strategy for the Facility and negotiate and execute any definitive agreements required to implement that strategy.
3. Approve a capital budget appropriation of \$50 million to Program 258 – Facilities and Equipment funded from a combination of sources, including self-supported debt for the expansion of the Calgary Composting Facility.
4. Give first reading to Bylaw 11B2021, being a bylaw authorizing The City to incur indebtedness for financing the Project.

RECOMMENDATION OF THE INFRASTRUCTURE AND PLANNING COMMITTEE, 2022 JANUARY 14:

That Council:

1. Direct Administration to negotiate and execute all amendments to the Composting Facility Project Agreement to expand the Calgary Composting Facility (the "Facility") to accommodate an additional 60,000 tonnes per year of Single-Family Residential food and yard waste (the "Project").
2. Direct Administration to develop a biogas offtake strategy for the Facility and negotiate and execute any definitive agreements required to implement that strategy.
3. Approve a capital budget appropriation of \$50 million to Program 258 – Facilities and Equipment funded from a combination of sources, including self-supported debt for the expansion of the Calgary Composting Facility.
4. Give first reading to Bylaw 11B2021, being a bylaw authorizing The City to incur indebtedness for financing the Project.
5. **Direct Administration to develop a cost estimate for increased storage capacity to mitigate intermittent odour issues.**

HIGHLIGHTS

- The success of Calgary's Green Cart Program has resulted in the Facility processing volumes above its design capacity.
- ***What does this mean to Calgarians?*** Additional processing capacity is required to ensure that the food and yard waste is diverted from the landfill in a financially and environmentally responsible manner.

Composting Facility Expansion

- **Why does it matter?** The City's landfills have a limited capacity and lifespan. They are expensive to construct, operate, and maintain. It will be unlikely and cost prohibitive to find additional landfill capacity in the future as new landfill applications in Southern Alberta have been largely unsuccessful. Diverting materials that can be turned into new products will ensure we maximize the life of our existing landfills.
- A detailed analysis and comparison was completed to determine the best options to address the additional processing requirements. This included expansion of the Facility compared to outsourcing the excess Green Cart material to a private third party to process. This analysis identified expansion as the preferred option. Expanding the Facility provides the best value to The City and allows Calgarians to continue to divert their food and yard waste from landfills.
- The Project will produce a renewable biogas, providing material improvement to the environmental footprint of the Facility.
- The proposed Bylaw 11B2021 authorizes The City to incur indebtedness of up to \$30 million to partially fund the design and construction of the Project between 2022 and 2025. The total project cost is estimated to be \$50 million.
- The incremental operating expenditure and debt servicing will be partially offset with revenue from the sale of biogas. It is estimated that the net impact to the Green Cart Program monthly charge will be an approximate increase of \$0.20 in each of the years of the 2023-26 cycle.
- Administration is recommending the adoption of the Bylaw 11B2021, as per Sections 251 and 258 of the Municipal Government Act (R.S.A. 2000 c. M-26), to authorize The City to incur indebtedness.
- Strategic Alignment to Council's Citizen Priorities: A healthy and green city
- Previous Council Direction is included as Attachment 1.

DISCUSSION

In 2013, Council directed Administration to build a composting facility in anticipation of a City-wide Green Cart Program with an approved budget of \$133 million. The Facility was procured through a Public Private Partnership with a consortium of engineering and construction companies. It resulted in a City-owned, private sector Design-Build-Operate facility with a 10-year operations, maintenance, and rehabilitation contract currently being managed by AIM Environmental Group.

The Calgary Composting Facility was designed with the capability to process 100,000 tonnes of food and yard waste from Single Family residential homes, as well as to allow for expansion in the future. The Facility began operation in 2017, and in each year since, demand for the Green Cart program has exceeded initial forecasts and the Facility is currently processing material in excess of its design capacity.

The Design-Build-Operate project agreement provides that The City has the right to expand, improve or otherwise change the Facility and has the right to include additional quantities.

To determine the best value for Calgarians, Administration compared the expansion of the Facility with outsourcing options available to process an additional 60,000 tonnes of food and yard waste per year.

Option 1: Expand processing capacity of the existing Calgary Composting Facility.

Composting Facility Expansion

Option 2: Outsource the excess organic material to private sector processors.

Administration retained Ernst & Young Orenda Finance Inc. to complete a comprehensive investigation comparing the two options based on industry best practices in investment analysis and cost benefit assessment. The methodology for the development of the business case (Attachment 2) included a jurisdictional review and market sounding to determine how other municipalities have managed their organics and to gauge private sector interest in processing excess food and yard waste from The City's Green Cart program.

This review resulted in a business case that compared the options against four assessment criteria: Strategic, Economic, Financial, and Deliverability & Operations.

Ernst & Young concluded that the expansion of the current Calgary Composting Facility is the best option for The City to manage the excess material collected due to its financial, environmental, and economic benefits.

Next Steps

Administration will commence the change order process described in the Design-Build-Operate project agreement once Bylaw 11B2021 (Attachment 3) contained in this report is valid.

Administration will commence development of a biogas offtake strategy for the Facility to assess the commercial options available to The City for the renewable biogas generated from the Project.

Administration will continue to advocate for funding support from other orders of government, while seeking opportunities to secure financing through the Province of Alberta, Infrastructure Canada, federal crown corporations, financial institutions or capital markets to optimize the financing for the Project.

STAKEHOLDER ENGAGEMENT AND COMMUNICATION (EXTERNAL)

- Public Engagement was undertaken
- Public Communication or Engagement was not required
- Public/Stakeholders were informed
- Stakeholder dialogue/relations were undertaken

Through the Bylaw Approval Process set out in the Municipal Government Act, and the City of Calgary, Bylaw 11B2021 will be included in a public hearing and receive three readings by Council.

IMPLICATIONS

Social

Waste diversion is an integral component to extending the life of our landfills, reducing their impact on climate change, and is a starting point to our transition into a more circular economy where divertible materials can be turned into new products. Expansion of the Facility will ensure the record amounts of organics being diverted by single family residents continues to be processed into nutrient rich compost for use in our gardens and parks.

Composting Facility Expansion

Environmental

Investment in anaerobic digestion technology to pre-process green cart materials will reduce the overall amount to be composted, which will result in lower greenhouse gas emissions from the Facility. The expansion will produce a renewable gas which, when upgraded, can be a direct replacement for natural gas use, further reducing greenhouse gas emissions in the broader environment. The expansion will occur on previously developed land. No new industrial development is required.

Economic

Through quantitative analysis of the options, expansion is found to have the lowest total project cost because it extracts the maximum value of the investment that has already been made in the current facility. As planning for the design and construction begins, Administration will continue to look for opportunities to reduce and mitigate risks and lower the overall cost of the project and sees a unique opportunity to partner with an industry leader to maximize value in refining and marketing the biogas generated from the facility.

Service and Financial Implications

The upfront capital cost estimate (class 4) of expanding the Calgary Composting Facility is \$50 million, anticipated to be spent between 2022 – 2025. The Project will be funded from a combination of sources, including self supported debt as per the table below. Payback of the self supported debt will be over 25 years from the Green Cart program monthly charge. Gas Tax Funding is from Waste & Recycling Services' annual allocation.

Table showing breakdown by year of the \$50M in Program 258:

Source	2022 (\$000's)	2023 (\$000's)	2024 (\$000's)	2025 (\$000's)	Total: (\$000's)
Gas Tax Funding	-	\$5,000	\$5,000	-	\$10,000
Reserve	\$5,300	\$4,700	-	-	\$10,000
Debt	-	\$2,600	\$19,400	\$8,000	\$30,000
Total:	\$5,300	\$12,300	\$24,400	\$8,000	\$50,000

The incremental annual operating expenditure is estimated to be in the range of \$5.5 million to \$6.0 million per annum starting in 2026. The incremental operating costs will be partially offset with revenue from the sale of biogas. Additionally, the debt servicing for the borrowing is estimated to be \$1.8 million per annum once the project is completed, but debt servicing will also be paid through construction as debt is issued.

Composting Facility Expansion

The net impact to the Green Cart program charge due to the expansion of the Composting Facility is approximated to be an increase of \$0.20 on the monthly fee in each of the years of the 2023-2026 cycle. Operating budget and green cart program charge impacts will be brought forward through preparation of the 2023-2026 service plans and budgets.

RISK

See attachment 4 for risks associated with the recommendations proposed.

ATTACHMENT(S)

1. Attachment 1 - Previous Council Direction
2. Attachment 2 - Composting Facility Expansion Business Case
3. **Attachment 3 - Proposed Bylaw 11B2021**
4. Attachment 4 - Risk Summary

Department Circulation

General Manager/Director	Department	Approve/Consult/Inform
Melanie Cooke	Waste & Recycling Services	Approve
Les Tochor	Finance	Approve
Michael Thompson	Utilities & Environmental Protection	Approve
Carla Male	Chief Financial Officer	Approve
Jill Floen	City Solicitor	Inform