

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (GVS&DD)
BOARD OF DIRECTORS**

REGULAR BOARD MEETING

Friday, February 26, 2021

9:00 A.M.

28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia

[Membership and Votes](#)

A G E N D A¹

A. ADOPTION OF THE AGENDA

1. February 26, 2021 Regular Meeting Agenda

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for February 26, 2021 as circulated.

B. ADOPTION OF THE MINUTES

1. January 29, 2021 Regular Meeting Minutes

That the GVS&DD Board adopt the minutes for its regular meeting held January 29, 2021 as circulated.

C. DELEGATIONS

D. INVITED PRESENTATIONS

E. CONSENT AGENDA

Note: Directors may adopt in one motion all recommendations appearing on the Consent Agenda or, prior to the vote, request an item be removed from the Consent Agenda for debate or discussion, voting in opposition to a recommendation, or declaring a conflict of interest with an item.

¹ Note: Recommendation is shown under each item, where applicable. All Directors vote unless otherwise noted.

1. CLIMATE ACTION COMMITTEE REPORTS

1.1 Hydrothermal Processing Demonstration Facility – Additional Sustainability Innovation Fund Funding Request

That the GVS&DD Board approve additional funding of \$6.13 million from the Liquid Waste Sustainability Innovation Fund for the Hydrothermal Processing Biofuel Demonstration Facility.

F. ITEMS REMOVED FROM THE CONSENT AGENDA

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

I. OTHER BUSINESS

1. GVS&DD Board Committee Information Items and Delegation Summaries

J. BUSINESS ARISING FROM DELEGATIONS

K. RESOLUTION TO CLOSE MEETING

Note: The Board must state by resolution the basis under section 90 of the Community Charter on which the meeting is being closed. If a member wishes to add an item, the basis must be included below.

That the GVS&DD Board close its regular meeting scheduled for February 26, 2021 pursuant to the *Community Charter* provisions, Section 90 (1) (c), (e), (g), (i) and (m) as follows:

“90 (1) A part of a board meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (c) labour relations or other employee relations;
- (e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district;
- (g) litigation or potential litigation affecting the regional district;
- (i) the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose; and
- (m) a matter that, under another enactment, is such that the public may be excluded from the meeting.”

L. RISE AND REPORT (Items Released from Closed Meeting)

M. ADJOURNMENT/CONCLUSION

That the GVS&DD Board adjourn/conclude its regular meeting of February 26, 2021.

**GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
BOARD OF DIRECTORS**

Minutes of the Regular Meeting of the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board of Directors held at 10:10 a.m. on Friday, January 29, 2021 in the 28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:

Burnaby, Chair, Director Sav Dhaliwal	Port Moody, Director Rob Vagramov*
North Vancouver City, Vice Chair Director Linda Buchanan*	Richmond, Director Malcolm Brodie*
Anmore, Director John McEwen*	Richmond, Director Harold Steves*
Burnaby, Director Pietro Calendino*	Surrey, Director Linda Annis*
Burnaby, Director Mike Hurley*	Surrey, Director Doug Elford*
Coquitlam, Director Craig Hodge*	Surrey, Director Laurie Guerra*
Coquitlam, Director Richard Stewart*	Surrey, Director Doug McCallum*
Delta, Director George Harvie*	Surrey, Director Mandeep Nagra*
Delta, Alternate Director Bruce McDonald* for Dylan Kruger	Surrey, Director Allison Patton*
Electoral Area A, Director Jen McCutcheon*	Vancouver, Director Christine Boyle*
Langley City, Director Gayle Martin*	Vancouver, Director Adriane Carr*
Langley Township, Director Jack Froese*	Vancouver, Director Melissa De Genova*
Langley Township, Director Kim Richter*	Vancouver, Director Lisa Dominato*
Maple Ridge, Director Mike Morden*	Vancouver, Director Colleen Hardwick*
New Westminister, Director Jonathan Coté*	Vancouver, Alternate Director Pete Fry* for Kennedy Stewart
North Vancouver District, Director Lisa Muri*	Vancouver, Director Michael Wiebe*
Pitt Meadows, Director Bill Dingwall*	West Vancouver, Director Mary-Ann Booth*
Port Coquitlam, Director Brad West*	White Rock, Director Darryl Walker*
	Commissioner Jerry W. Dobrovolny (Non-voting member)

MEMBERS ABSENT:

None

OTHERS PRESENT:

Belcarra, Councillor Carolina Clark*	Lions Bay, Mayor Ron McLaughlin*
Bowen Island, Councillor David Hocking*	Tsawwassen, Chief Ken Baird*

STAFF PRESENT:

Lauren Cichon, Legislative Services Coordinator, Board and Information Services
Chris Plagnol, Corporate Officer

*denotes electronic meeting participation as authorized by Section 3.6.2 of the *Procedure Bylaw*

A. ADOPTION OF THE AGENDA

1. January 29, 2021 Regular Meeting Agenda

It was MOVED and SECONDED

That the GVS&DD Board adopt the agenda for its regular meeting scheduled for January 29, 2021 as circulated.

CARRIED

B. ADOPTION OF THE MINUTES

1. November 27, 2020 Regular Meeting Minutes

It was MOVED and SECONDED

That the GVS&DD Board adopt the minutes for its regular meeting held November 27, 2020 as circulated.

CARRIED

C. DELEGATIONS

No items presented.

D. INVITED PRESENTATIONS

No items presented.

E. CONSENT AGENDA

At the request of Directors, the following item was removed from the Consent Agenda, for consideration under Section F. Items Removed from the Consent Agenda:

- 2.1 Solid Waste Management Plan Independent Consultation and Engagement Panel: Progress Update

It was MOVED and SECONDED

That the GVS&DD Board adopt the recommendations in the following items as presented in the January 29, 2021 GVS&DD Board consent agenda:

- 1.1 Award of Phase D and E – Construction Support and Post-Construction Services for Northwest Langley Wastewater Treatment Plant River Crossing – Consulting Engineering Services
- 1.2 Award of Contract Resulting from Request for Proposal (RFP) No. 20-131: Installation of the Gilbert Trunk Sewer No. 2 Gilbert Road South Section
- 1.3 Award of Contract Resulting from Tender No. 20-202: Annacis Island Wastewater Treatment Plant Gates and Hydraulic System for Influent Control Chamber Channel
- 1.4 Extension of Contract Resulting from RFP No. 15-092: Biosolids Soil Design, Fabrication, Marketing, Sales and Distribution
- 1.5 Award of Contract Resulting from Standing Request for Expression of Interest SRFOI No. 19-283: Biosolids Management at Fraser Valley Aggregates

- 1.6 Award of Contract Resulting from Standing Request for Expression of Interest SRFOI No. 19-283: Biosolids Management at Copper Mountain Mine
- 2.2 Alternative Fuel and Recyclables Recovery Interim Processing Strategy

CARRIED

The items and recommendations referred to above are as follows:

1.1 Award of Phase D and E – Construction Support and Post-Construction Services for Northwest Langley Wastewater Treatment Plant River Crossing – Consulting Engineering Services

Report dated January 5, 2021, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Marie-Liesse Marc, Director, Major Projects - Northwest Langley Wastewater Treatment Projects, Project Delivery, requesting authorization by the GVS&DD Board to award Phases D and E, Construction Support and Post-Construction Services to the consultant, McMillen Jacobs Associates for the Northwest Langley Wastewater Treatment Plant River Crossing in an amount of up to \$2,440,656 (exclusive of taxes).

Recommendation:

That the GVS&DD Board:

- a) approve the award of Phase D - Construction Support, and Phase E – Post-Construction Services in the amount of up to \$2,440,656 (exclusive of taxes) to McMillen Jacobs Associates, for the Northwest Langley Wastewater Treatment Plant River Crossing – Consulting Engineering Services, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.2 Award of Contract Resulting from Request for Proposal (RFP) No. 20-131: Installation of the Gilbert Trunk Sewer No. 2 Gilbert Road South Section

Report dated January 7, 2021, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Colin Meldrum, Director, Engineering Design and Construction, Liquid Waste Services, advising the GVS&DD Board of the results of RFP No. 20-131: Installation of Gilbert Trunk Sewer No. 2 Gilbert Road South Section and recommending award of the contract in an amount of up to \$25,037,800 (exclusive of taxes) to Jacob Bros. Construction Inc./Stuart Olson Construction Ltd.

Recommendation:

That the GVS&DD Board:

- a) approve the award of a contract for an amount of up to \$25,037,800 (exclusive of taxes), to Jacob Bros. Construction Inc./Stuart Olson Construction Ltd., resulting from RFP No. 20-131, for the installation of

Gilbert Trunk Sewer No.2 Gilbert Road South Section, subject to final review by the Commissioner; and

- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.3 Award of Contract Resulting from Tender No. 20-202: Annacis Island Wastewater Treatment Plant Gates and Hydraulic System for Influent Control Chamber Channel

Report dated January 5, 2021, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Colin Meldrum, Director, Engineering Design and Construction, Liquid Waste Services, advising the GVS&DD Board of the results of Tender No. 20-202: AIWWTP Gates and Hydraulic System for the Influent Control Channel Chamber and recommending award of the contract in an amount of \$7,220,500 (exclusive of taxes) to Maple Reinders Constructors Ltd.

Recommendation:

That the GVS&DD Board:

- a) approve the award of a contract for an amount of \$7,220,500 (exclusive of taxes), to Maple Reinders Constructors Ltd. resulting from Tender No. 20-202: Annacis Island Wastewater Treatment Plant Gates and Hydraulic System for the Influent Control Channel Chamber, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.4 Extension of Contract Resulting from RFP No. 15-092: Biosolids Soil Design, Fabrication, Marketing, Sales and Distribution

Report dated December 8, 2020, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Lillian Zaremba, Program Manager, Utility Residuals Management, Liquid Waste Services, requesting the GVS&DD Board to approve a contract extension resulting from RFP No. 15-092 in an amount of up to \$7,339,000 (exclusive of taxes) to Arrow for the fabrication, marketing, sales and distribution of landscaping soil containing biosolids.

Recommendation:

That the GVS&DD Board:

- a) approve a contract extension in the amount of up to \$7,339,000 (exclusive of taxes) to the current contractor, Arrow Transportation Systems Inc., for biosolids management resulting from Request for Proposal RFP No. 15-092: Biosolids Soil Design, Fabrication, Marketing, Sales and Distribution, subject to final review by the Commissioner; and

- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.5 Award of Contract Resulting from Standing Request for Expression of Interest SRFEOI No. 19-283: Biosolids Management at Fraser Valley Aggregates

Report dated January 7, 2021, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Lillian Zaremba, Program Manager, Utility Residuals Management, Liquid Waste Services, advising the GVS&DD Board of the results of SRFEOI No. 19-283: Biosolids Management, and recommending an award of a contract in an amount of up to \$16,866,000 (exclusive of taxes) to Arrow Transportation Systems Inc., for the beneficial use of biosolids at the FVA gravel pits in Abbotsford.

Recommendation:

That the GVS&DD Board:

- a) approve award of a contract in the amount of up to \$16,866,000 (exclusive of taxes) to Arrow Transportation Systems Inc. for biosolids management at the Fraser Valley Aggregates gravel pits, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and
- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

1.6 Award of Contract Resulting from Standing Request for Expression of Interest SRFEOI No. 19-283: Biosolids Management at Copper Mountain Mine

Report dated December 8, 2020, from Roy Moulder, Director, Purchasing and Risk Management, Financial Services, and Lillian Zaremba, Program Manager, Utility Residuals Management, Liquid Waste Services, advising the GVS&DD Board of the results of SRFEOI No. 19-283: Biosolids Management, and recommending award of a contract in an amount of up to \$10,705,290 (exclusive of taxes) to Arrow, for the beneficial use of biosolids at Copper Mountain Mine.

Recommendation:

That the GVS&DD Board:

- a) approve award of a contract in the amount of up to \$10,705,290 (exclusive of taxes) to Arrow Transportation Services Inc. for biosolids management at Copper Mountain Mine, resulting from Standing Request for Expressions of Interest No. 19-283: Biosolids Management, subject to final review by the Commissioner; and

- b) authorize the Commissioner and the Corporate Officer to execute the required documentation once the Commissioner is satisfied that the award should proceed.

Adopted on Consent

2.2 Alternative Fuel and Recyclables Recovery Interim Processing Strategy

Report dated January 6, 2021, from Terry Fulton, Senior Project Engineer, Solid Waste Services, seeking GVS&DD Board approval to initiate procurement for processing small load waste.

Recommendation:

That the GVS&DD Board approve initiating procurement for the processing of approximately 60,000 tonnes per year of small load waste to recover recyclables and alternative fuel.

Adopted on Consent

F. ITEMS REMOVED FROM THE CONSENT AGENDA

2.1 Solid Waste Management Plan Independent Consultation and Engagement Panel: Progress Update

Report dated January 14, 2021, from Sarah Evanetz, Division Manager, Strategy and Stakeholder Relations, Solid Waste Services, updating the GVS&DD Board on the progress made to date by the Solid Waste Management Plan Independent Consultation and Engagement Panel.

It was MOVED and SECONDED

That the GVS&DD Board receive for information the report dated January 14, 2021, titled "Solid Waste Management Plan Independent Consultation and Engagement Panel: Progress Update".

A member requested further information on the composition of the Solid Waste Management Plan Independent Consultation and Engagement Panel, and the process to appoint members to it, and requested discussion ensue in closed session.

It was MOVED and SECONDED

That the GVS&DD Board consider the composition and appointment process of the Solid Waste Management Plan Independent Consultation and Engagement Panel in the January 29, 2021 GVS&DD Board closed meeting.

CARRIED

G. REPORTS NOT INCLUDED IN CONSENT AGENDA

No items presented.

H. MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

No items presented.

I. OTHER BUSINESS

1. GVS&DD Board Committee Information Items and Delegation Summaries

It was MOVED and SECONDED

That the GVS&DD Board receive for information the GVS&DD Board Committee Information Items and Delegation Summaries, dated January 29, 2021.

CARRIED

J. BUSINESS ARISING FROM DELEGATIONS

No items presented.

K. RESOLUTION TO CLOSE MEETING

It was MOVED and SECONDED

That the GVS&DD Board close its regular meeting scheduled for January 29, 2021 pursuant to the *Community Charter* provisions, Section 90 (1) (a) (e) and (m) as follows:

“90 (1) A part of a board meeting may be closed to the public if the subject matter being considered relates to or is one or more of the following:

- (a) personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the municipality or another position appointed by the municipality;
- (e) the acquisition, disposition or expropriation of land or improvements, if the board or committee considers that disclosure could reasonably be expected to harm the interests of the regional district; and
- (m) a matter that, under another enactment, is such that the public may be excluded from the meeting.”

CARRIED

L. RISE AND REPORT (Items Released from Closed Meeting)

No items presented.

M. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED

That the GVS&DD Board adjourn its regular meeting of January 29, 2021

CARRIED

(Time: 10:20 a.m.)

CERTIFIED CORRECT

Chris Plagnol, Corporate Officer

Sav Dhaliwal, Chair

43467133 FINAL

To: Climate Action Committee

From: Paul Kadota, Collaborative Innovations Manager, Liquid Waste Services Department

Date: February 1, 2021 Meeting Date: February 12, 2021

Subject: **Hydrothermal Processing Demonstration Facility – Additional Sustainability Innovation Fund Funding Request**

RECOMMENDATION

That the GVS&DD Board approve additional funding of \$6.13 million from the Liquid Waste Sustainability Innovation Fund for the Hydrothermal Processing Biofuel Demonstration Facility.

EXECUTIVE SUMMARY

The Hydrothermal Processing Biofuel project has previously received funding from the Liquid Waste Sustainability Innovation Fund (SIF), as well as from external partners. With the initiation of work on the Hydrothermal Processing Biofuel Demonstration Facility, the revised cost estimate is now \$19.38 million. This first-of-its-kind project has proven not surprisingly, to be difficult to scope. With design now complete, a budget shortfall of \$6.13 million exists, based on a number of necessary additional requirements identified by the design consultants. Approval of additional funding would bring the total allocation to this project from the Liquid Waste Sustainability Innovation Fund to \$14.38 million over 6 years. The balance of the costs will be covered by \$5 million of external funds secured from project partners, Parkland Fuel Corporation and the Province of BC.

PURPOSE

To update the Climate Action Committee on the Hydrothermal Processing Demonstration Project cost estimate revised in 2020 and seek GVS&DD Board approval for additional allocation of Sustainability Innovation Funds from reserves.

BACKGROUND

Hydrothermal Processing (HTP) is an emerging technology that can produce low carbon transportation fuels from wastewater biomass, aligning well with the Climate 2050 energy roadmap. At its September 28, 2018 closed meeting, the GVS&DD Board adopted the following resolution, which has subsequently been made public:

That the GVS&DD Board:

- a) Approve funding from the Liquid Waste Sustainability Innovation Fund in an amount up to \$8.25 million for the Hydrothermal Processing Biofuel Demonstration Facility.*

If HTP is proven effective at full scale, there are a number of potential benefits. Given its significantly smaller footprint, HTP should cost less to build, allow for faster processing time, and will dramatically reduce overall residuals, resulting in considerable cost savings when compared against conventional anaerobic digestion. Net present value savings of more than \$60 million have been conservatively estimated for HTP at the Iona Wastewater Treatment Plant alone. The savings do not include a

monetized carbon price, despite HTP being expected to triple the carbon dioxide offsets compared to anaerobic digestion.

Since initial approval, \$5 million in external funding has been secured: \$750,000 from the Province of BC and \$4.25 million from Parkland Fuel Corporation for a currently available total of \$13.25 million.

This first-of-its-kind project involves the design, fabrication, implementation, and testing of a demonstration scale facility to be located at the Annacis Island Wastewater Treatment Plant. Staff and our design consultants underestimated the initial cost of the HTP demonstration during preliminary design, largely due to the wastewater industry’s unfamiliarity of a thermochemical rather than a biochemical process for carbon conversion. The project team is learning and implementing a number of items to take advantage of potential synergies and take additional steps and include redundancies to adapt HTP for the wastewater treatment setting.

One learning example is that some of the non biocrude output of HTP appears well-suited for input to existing anaerobic digesters to produce greater quantities of biomethane, which can be used to displace conventional natural gas. Enabling this concept in the Demonstration Project requires redesigning additional flexibility for returning the non biocrude output to multiple points at the Annacis Island Wastewater Treatment Plant, with associated cost increases.

Another learning example is the need to undertake additional precautionary activities for enhanced safety due to conditions that are more typical for steam refineries than ambient conditions of wastewater bioreactors. To reduce onsite risks, the HTP system will be housed in a temporary enclosure for the purposes of the demonstration, which is not envisioned for a full-scale system. Further, as a demonstration and test facility, the broader range of operating conditions and corresponding safe-guards will need to be accommodated with additional contingencies in the revised budget.

The result of the front end engineering and design completed in 2020 is a project schedule that now extends to 2024 and a revised cost estimate and funding shortfall as follows:

Item	Cost	Funding
Engineer’s Estimate	\$19,380,000	
Province of BC		\$750,000
Parkland Fuel Corp.		\$4,250,000
Sustainability Innovation Fund		\$8,250,000
Current funding		\$13,250,000
Shortfall		\$6,130,000

The \$19.38 million in project budget and previously approved reserve applications have been included in the approved 2021-2025 financial plan.

ALTERNATIVES

1. That the GVS&DD Board approve additional funding of \$6.13 million from the Liquid Waste Sustainability Innovation Fund for the Hydrothermal Processing Biofuel Demonstration Facility.
2. That the GVS&DD Board suspend further work on the Hydrothermal Processing Biofuel Demonstration Facility and direct staff to report back with options for an alternate course of action.

FINANCIAL IMPLICATIONS

If HTP proves a capable alternative to conventional anaerobic sludge digestion, an attractive financial case will exist given the smaller footprint of HTP versus digesters, near zero residual production and shorter processing times. For a full scale HTP system at the Iona Island Wastewater Treatment Plant, the positive business case is conservatively estimated at \$60 million.

An additional contribution of \$6.13 million from the Sustainability Innovation Fund would bring the total allocation for this project to \$14.38 million over 6 years, an average of \$2.4 million per year. There are sufficient balances in the Fund to accommodate this expenditure. Given that Sustainability Innovation Funds are held in reserves, there will be no impact on the sewer levy.

Upon completion of the Demonstration Project, the transportable equipment is expected to have salvage value and several smaller communities have expressed interest in potentially purchasing a successfully operating system. If the GVS&DD is able and wishes to dispose of the asset, one option is for proceeds of the sale be used to offset contributions from the Sustainability Innovation Fund.

OTHER IMPLICATIONS

As a means to increase the generation of renewable energy beyond that of current means (anaerobic digestion), HTP is included as a future technology for the new Iona Island Secondary Treatment facility.

The HTP Demonstration Project is gaining international interest as Metro Vancouver received the 2020 Outstanding Subscriber Award for Applied Research and, organizations such as the Commercial Aviation Alternative Fuels Initiative views this technology to align well to their goal of increasing the availability of sustainable aviation fuels.

CONCLUSION

In 2020, the front end engineering and design for the Hydrothermal Processing Demonstration Facility was completed with new information. The project schedule now extends to 2024 and the revised project cost estimate of \$19.38 million has resulted in a funding shortfall. Staff recommends that Alternative 1 be approved.

References

[Liquid Waste Committee Meeting Agenda, July 16, 2020:](#)

- a) Item 5.1: Hydrothermal Processing Biocrude Oil for Low Carbon Fuel (Video)
- b) Item 5.2: Iona Island Wastewater Treatment Plant Project Definition Concept

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COMMITTEE INFORMATION ITEMS AND DELEGATION SUMMARIES

Greater Vancouver Sewerage and Drainage District
Board Meeting Date – Friday, February 26, 2021

This information item, listing recent information received by committee, is provided for the GVS&DD Board's information. Please access a complete PDF package [here](#).

Liquid Waste Committee – February 11, 2021

Delegation Summaries:

No delegations presented

Information Items:

5.1 Results for 2020 Wipe It, Green Bin It Campaign

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