

Notice of Meeting and Meeting Agenda Core Area Liquid Waste Management Committee

Wednesday, March 22, 2023

1:30 PM

6th Floor Boardroom
625 Fisgard Street
Victoria, BC V8W 1R7

C. Coleman (Chair), D. Kobayashi (Vice Chair), M. Alto, S. Brice, J. Brownoff, J. Caradonna,
Z. de Vries, B. Desjardins, S. Goodmanson, K. Murdoch, D. Murdock, C. Plant, L. Szpak,
D. Thompson, S. Tobias

The Capital Regional District strives to be a place where inclusion is paramount and all people are treated with dignity. We pledge to make our meetings a place where all feel welcome and respected.

1. Territorial Acknowledgement

2. Approval of Agenda

3. Adoption of Minutes

3.1. [23-180](#) Minutes of the July 23, 2022 and October 12, 2022 Core Area Liquid Waste Management Committee Meetings

Recommendation: That the minutes of the Core Area Liquid Waste Management Committee meetings of July 23, 2022 and October 12, 2022 be adopted as circulated.

Attachments: [Minutes - July 27, 2022](#)
[Minutes - October 12, 2022](#)

4. Chair's Remarks

5. Presentations/Delegations

The public are welcome to attend CRD Board meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application at www.crd.bc.ca/address no later than 4:30 pm two days before the meeting and staff will respond with details.

Alternatively, you may email your comments on an agenda item to the CRD Board at crdboard@crd.bc.ca.

6. Committee Business

6.1. [23-246](#) Core Area Liquid Waste Management Committee - Service Orientation

Recommendation: There is no recommendation. The presentation is for information only.

Attachments: [Presentation: CALWMC - Service Orientation](#)

6.2. [23-061](#) 2023 Core Area Liquid Waste Management Committee Terms of Reference

Recommendation: There is no recommendation. This report is for information only.

Attachments: [Staff Report: 2023 Committee Terms of Reference](#)
[Appendix A: Committee Terms of Reference](#)

6.3. [23-238](#) Wastewater Operations and Capital Plan Update - March 2023

Recommendation: There is no recommendation. This report is for information only.

Attachments: [Staff Report: Wastewater Operations and Capital Plan Update – March 2023](#)
[Appendix A: Core Area Wastewater Treatment Overview Map](#)
[Appendix B: Odour Investigation Action Plan](#)

7. Notice(s) of Motion

8. New Business

9. Adjournment

The next meeting is June 28, 2023.

To ensure quorum, please advise Jessica Dorman (jdorman@crd.bc.ca) if you or your alternate cannot attend.

Meeting Minutes

Core Area Liquid Waste Management Committee

Wednesday, July 27, 2022

1:30 PM

6th Floor Boardroom
625 Fisgard Street
Victoria, BC V8W 1R7

PRESENT

Directors: D. Blackwell (Chair), M. Sahlstrom (for L. Seaton), S. Brice, B. Desjardins, L. Helps, B. Isitt (EP), J. Loveday (EP), R. Mersereau, E. Zhelka (for K. Murdoch) (EP), C. Plant (EP), N. Taylor, G. Young

Staff: L. Hutcheson, General Manager, Parks and Environmental Services; T. Robbins, General Manager, Integrated Water Services; G. Harris, Senior Manager, Environmental Protection; M. Lagoa, Deputy Corporate Officer; J. Dorman, Committee Clerk (Recorder)

EP - Electronic Participation

Regrets: Director(s) F. Haynes, R. Martin, K. Murdoch, L. Seaton, D. Screech

The meeting was called to order at 1:30 pm.

1. Territorial Acknowledgement

Chair Blackwell provided a Territorial Acknowledgement.

2. Approval of Agenda

MOVED by Director Helps, **SECONDED** by Director Brice,
That the agenda for the July 27, 2022 Core Area Liquid Waste Management
Committee meeting be approved.
CARRIED

3. Adoption of Minutes

- 3.1. [22-494](#) Minutes of the March 23, 2022 Core Area Liquid Waste Management
Committee Meeting

MOVED by Director Brice, **SECONDED** by Director Mersereau,
That the minutes of the Core Area Liquid Waste Management Committee
meeting of March 23, 2022 be adopted as circulated.
CARRIED

4. Chair's Remarks

There were no Chair's remarks.

5. Presentations/Delegations

There were no presentations or delegations.

6. Committee Business

6.1. [22-490](#) Bowker Sewer Rehabilitation Recommendation to Award Contract 2022-743

T. Robbins spoke to Item 6.1.

Discussion:

- which participants pay for the work
- coordination to minimize disruptions

**MOVED by Director Mersereau, SECONDED by Director Desjardins,
That the Core Area Liquid Waste Management Committee recommends to the
CRD Board:**

**That Contract No. 2022-743, Bowker Sewer Rehabilitation, be awarded to
Insituform Technologies Ltd. for an amount of \$7,500,000 (excluding GST) and
authorize staff to expend up to an additional \$500,000 in contract contingency
funds as required during the execution of the project.**

CARRIED

6.2. [22-496](#) Core Area Wastewater System Commissioning and Operations Update and Capital Program Status Report

T. Robbins presented Item 6.2 for information.

Discussion:

- provincial land application
- cost implications of carbon filters and additional maintenance/optimization
- design modifications to eliminate cover removal
- modification impacts on operational costs
- odor performance criteria and testing by HRP
- holdbacks due to performance/warranty

7. Notice(s) of Motion

There were no notice(s) of motion.

8. New Business

There was no new business.

9. Adjournment

**MOVED by Director Mersereau, SECONDED by Director Helps,
That the July 27, 2022 Core Area Liquid Waste Management Committee meeting
be adjourned at 2:08 pm.**

CARRIED

CHAIR

RECORDER

Meeting Minutes

Core Area Liquid Waste Management Committee

Wednesday, October 12, 2022

9:30 AM

6th Floor Boardroom
625 Fisgard Street
Victoria, BC V8W 1R7

Special Meeting

PRESENT

Directors: D. Blackwell (Chair), L. Seaton (Vice Chair), S. Brice, B. Desjardins, L. Helps, B. Isitt (EP), J. Loveday, R. Mersereau, K. Murdoch (EP), C. Plant, D. Screech (EP), N. Taylor, G. Young

Staff: R. Lapham, Chief Administrative Officer; N. Chan, Chief Financial Officer; L. Hutcheson, General Manager, Parks and Environmental Services; T. Robbins, General Manager, Integrated Water Services; S. May, Senior Manager, Facilities Management and Engineering Services; M. Lagoa, Deputy Corporate Officer; T. Pillipow, Committee Clerk (Recorder)

EP - Electronic Participation

Regrets: Director(s) F. Haynes, R. Martin

The meeting was called to order at 9:30 am.

1. Territorial Acknowledgement

Chair Blackwell provided a Territorial Acknowledgement.

2. Approval of Agenda

MOVED by Director Loveday, **SECONDED** by Director Helps,
That the agenda for the October 12, 2022 Core Area Liquid Waste Management
Committee special meeting be approved.
CARRIED

3. Presentations/Delegations

There were no presentations or delegations.

4. Special Meeting Matters

4.1. [22-599](#)

McLoughlin Point Wastewater Treatment Plant - Performance Period
Closeout

T. Robbins presented Item 4.1. for information.

Discussion ensued on the following:

- concerns from Esquimalt and Vic West residents regarding the odour control system performance
- whether there are provisions in the contract to address the issue of cross connections at property lines
- the corrosion of existing fixtures in the public washrooms at the treatment plant
- the Clover Point pump station contract

Motion Arising:

MOVED by Director Desjardins, **SECONDED** by Director Plant,
That the committee request that staff return with a report prior to signing off that outlines the work and commitment that will be done to alleviate odour issues at this plant, and that the zoning odour standards are met as per expectations and that the expectations within the Township of Esquimalt letter is addressed.

MOVED by Director Plant, **SECONDED** by Director Desjardins,
That the motion arising be amended to remove the wording "prior to signing off" after the words "return with a report".

DEFEATED

OPPOSED: Brice, Desjardins, Helps, Isitt, Loveday, Murdoch, Screech, Seaton, Taylor, Young

The question was called on the Motion Arising:

MOVED by Director Desjardins, **SECONDED** by Director Plant,
That the committee request that staff return with a report prior to signing off that outlines the work and commitment that will be done to alleviate odour issues at this plant, and that the zoning odour standards are met as per expectations and that the expectations within the Township of Esquimalt letter is addressed.
CARRIED

4.2. [22-227](#)

Wastewater Treatment Project (WTP) Final Funding and Financing
Strategy Performance

N. Chan presented Item 4.2. for information.

Director Murdoch left the meeting at 10:27 am.

This report was received for information.

4.3. [22-573](#) Core Area Inflow & Infiltration Program - 2022 Summary

S. May presented Item 4.3. for information.

Discussion ensued on the following:

- implications of allocated wet and dry weather flow quotas not being met
- advocating for inspections of properties whose pipes are aging

This report was received for information.

5. Adjournment

**MOVED by Director Plant, SECONDED by Director Helps,
That the October 12, 2022 Core Area Liquid Waste Management Committee
special meeting be adjourned at 10:41 am.
CARRIED**

CHAIR

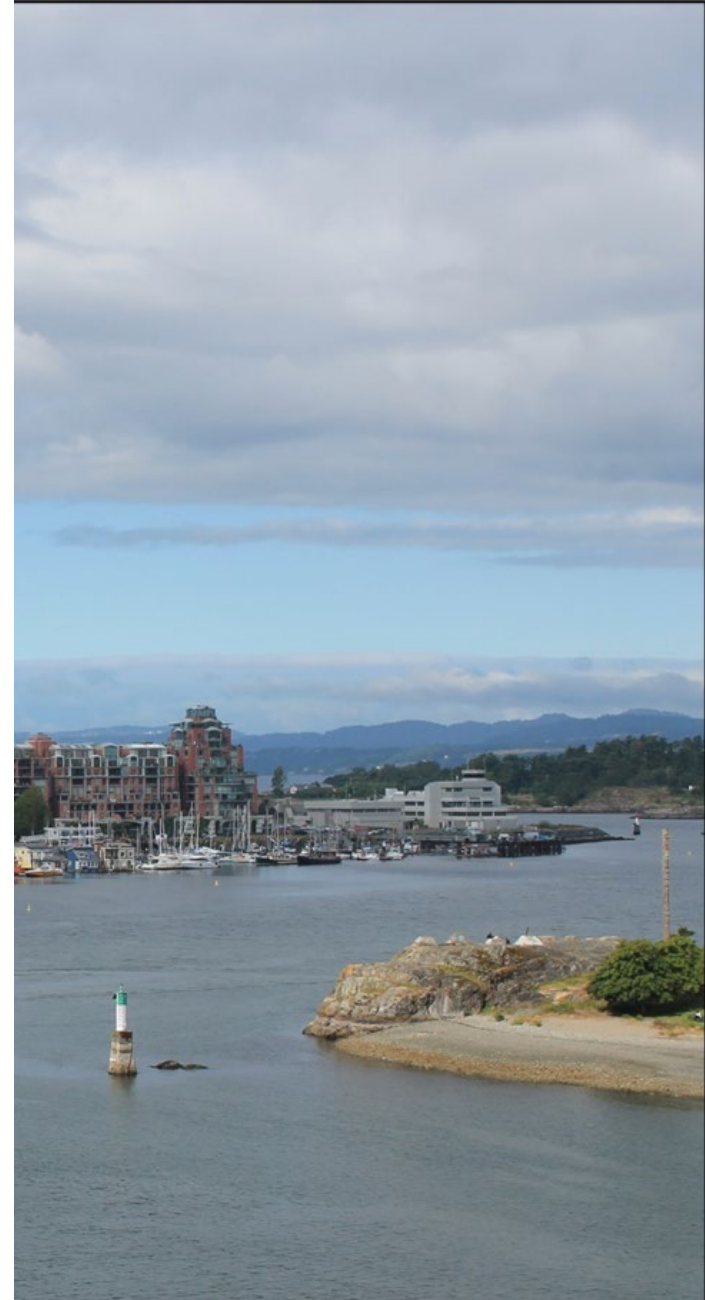
RECORDER

Core Area Liquid Waste Management Committee

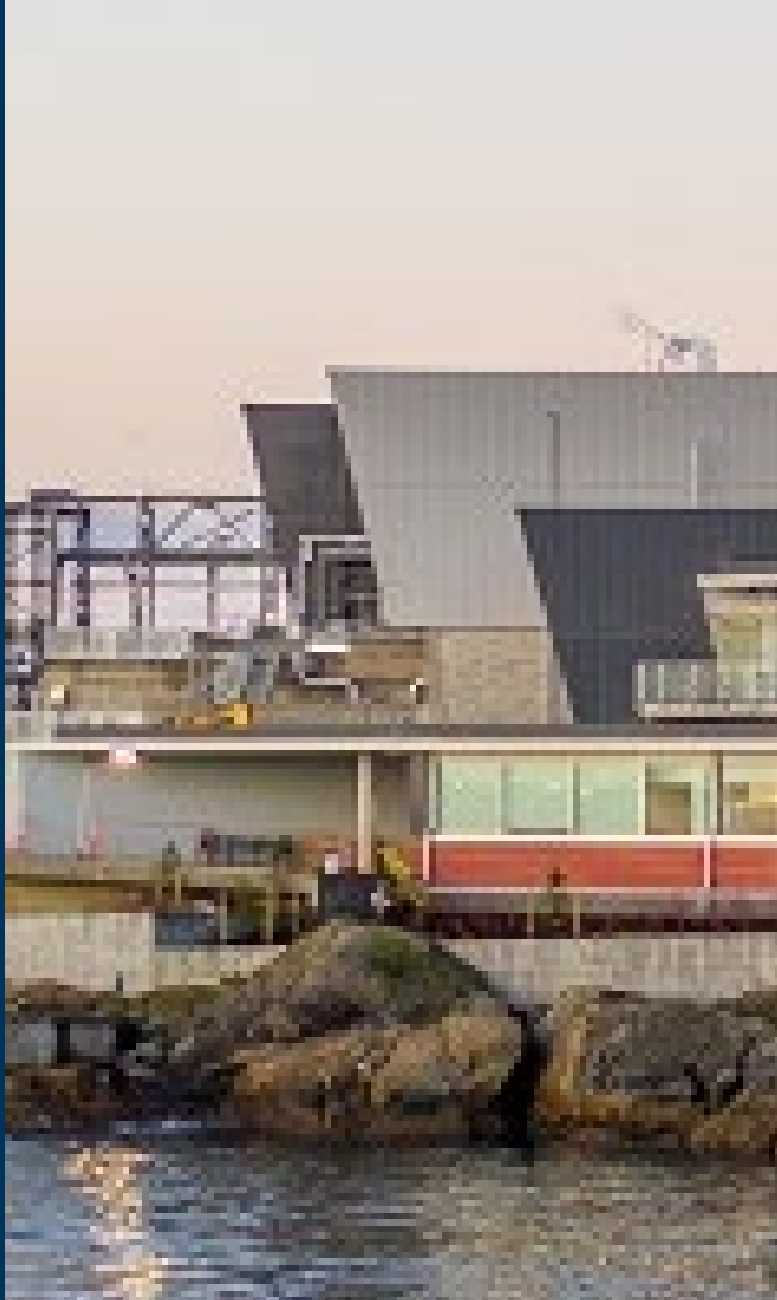
March 22, 2023

Agenda

1. Introduction
2. Governance and Service Overview
3. Service Levels and System Overview
4. Key Trends
5. Budget
6. Key Initiatives



Governance Overview



Core Area Wastewater Service

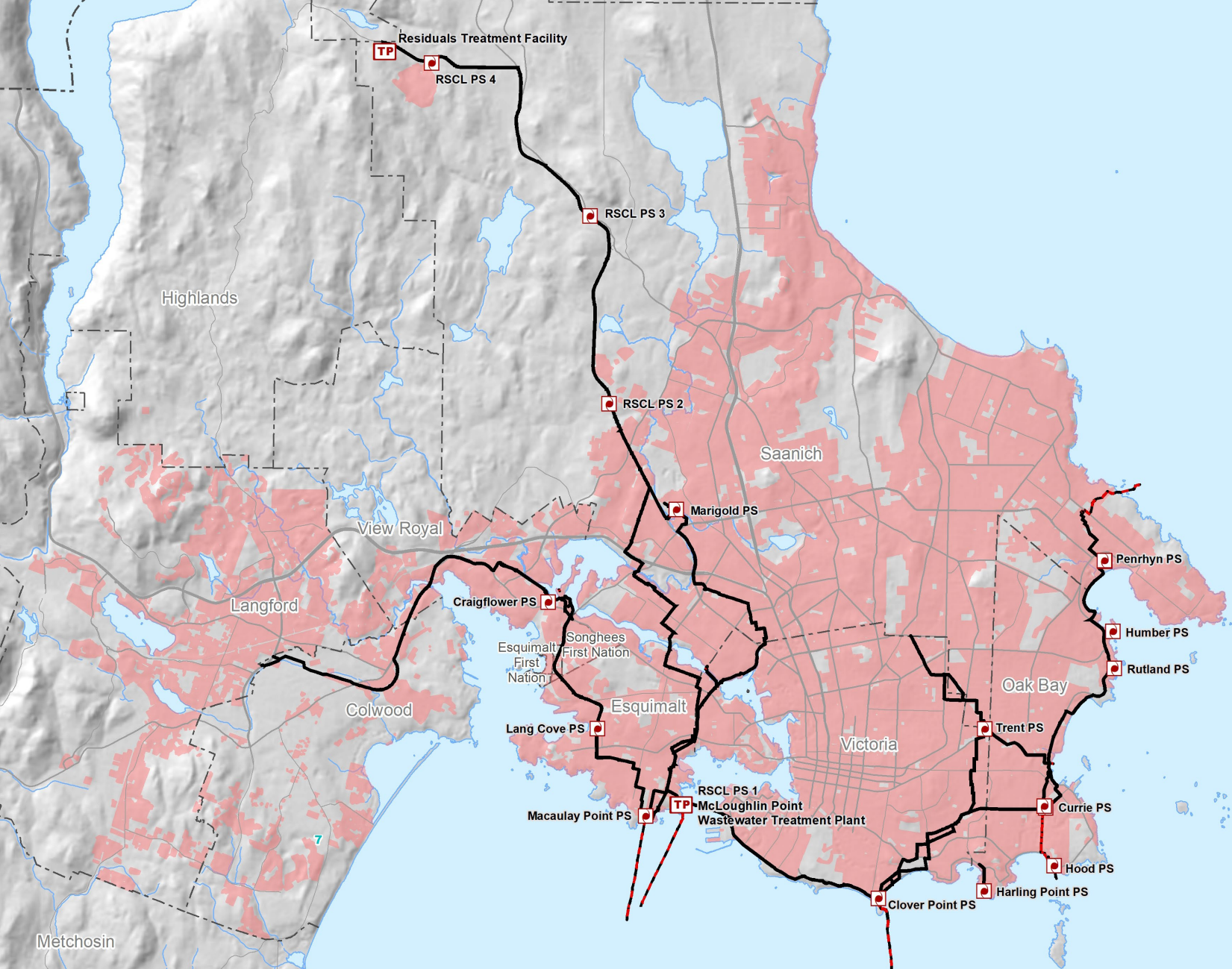
- Bylaw No. 2312 – LWM Core Area and Western Communities Service Establishment Bylaw No. 1, 1995 – Consolidated, Amendment Bylaw No. 3028 & 3319
- Terms of Reference and CRD Bylaws
- Core Area Liquid Waste Management Committee (16 members)

Service Overview



Core Area Wastewater Service

- Provides trunk system transmission for wastewater generated in the municipalities of Saanich, Oak Bay, Victoria, Langford, View Royal and Colwood as well as the Esquimalt and Songhees First Nations
- Provides secondary and primary treatment and disposal for Core Area wastewater generation
- Provides residual solids treatment and disposal for treated Core Area wastewater



System Overview

- McLoughlin Treatment Plant
- Residual Treatment Facility
- 12 Large Pump Stations
- 6 Small Pump Stations
- 21.2 km of gravity pipe
- 61.3 km of pressure pipe
- 9.3 km of outfall/overflow pipe
- Arbutus Attenuation Tank
- 205 Manholes

Service Levels



Core Area

- Operational management for the transmission, treatment and disposal of wastewater and residual solids generated from the municipalities of Saanich, Oak Bay, Victoria, Esquimalt, View Royal, Langford and Colwood as well as the Esquimalt and Songhees First Nations.
- Engineering and planning support
- Asset management and maintenance planning

Service Levels



Environmental Monitoring

Wastewater Monitoring

- Evaluate compliance with Provincial and Federal Authorizations for the seven treatment plants
- Inform Regional Source Control Program initiatives
- Inform optimization of wastewater system operations

Environmental Monitoring

- Assess potential human health and environmental effects of CRD wastewater discharges
- Complete regulatory and public reporting

Service Levels



Environmental Regulatory Oversight

- Facilitate Liquid Waste Management Planning in the Core Area and Saanich Peninsula
- Liaise with Provincial and Federal regulators to support:
 - Improvements to infrastructure that safeguard human health and the environment
 - Permitting and regulatory compliance for new initiatives and projects

Key Trends

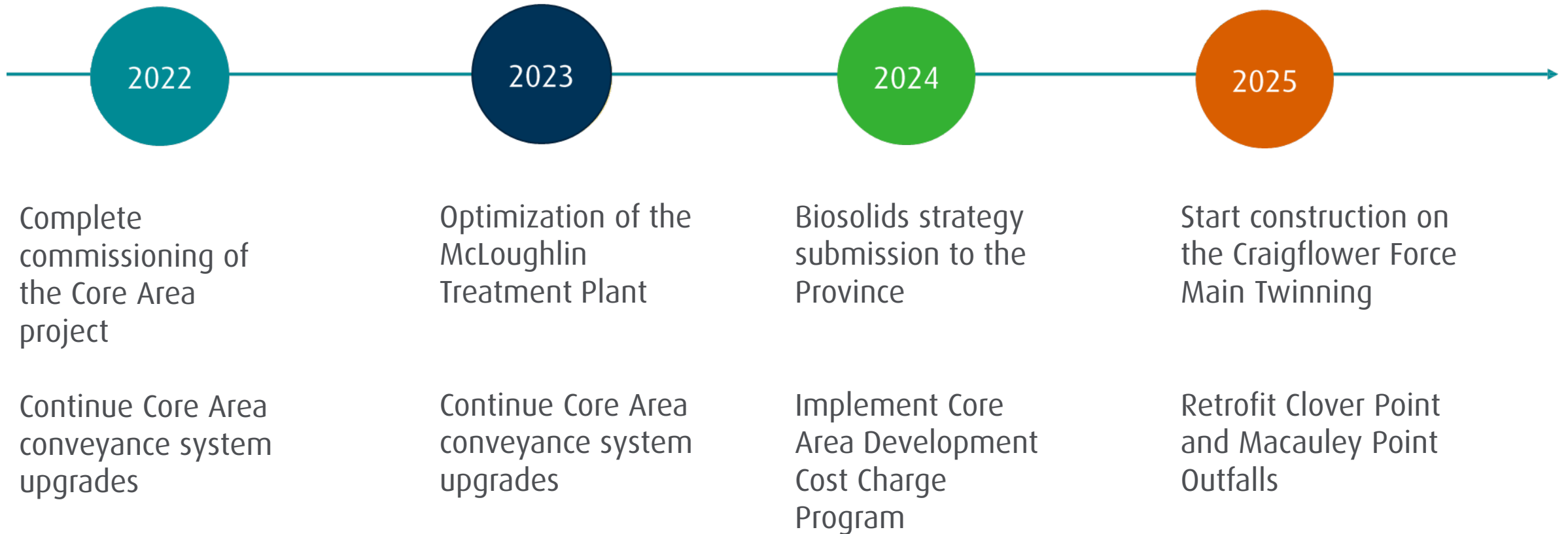
- Ongoing commissioning and optimization of new Core Area wastewater infrastructure including the Residuals Treatment Facility
- Operating and maintenance of other assets in region ongoing; several renewal investments planned to ensure regulatory compliance
- **Biosolids:** biosolids beneficial use options will be presented to committee in 2023, with the finalized long-term biosolids strategy to be submitted for provincial approval no later than June 18, 2024



Core Area Budget

- The Core Area Wastewater Service Budget is funded entirely by tax requisition to the member municipalities of Saanich, Oak Bay, Victoria, Esquimalt, View Royal, Langford and Colwood as well as the Songhees and Esquimalt First Nations
- The operating budget for 2023 is estimated at **\$30.5 million**
- The capital budget for 2023 is estimated at **22.2 million**
- Capital projects are funded by a combination of reserves and long-term debt

Key Initiatives





Thank you

How to contact us:

Ian Jesney, Acting General Manager,
Integrated Water Services
ijesney@crd.bc.ca | 250.360.3061

Larisa Hutcheson, General Manager,
Parks & Environmental Services
lhutcheson@crd.bc.ca | 250.360.3085



@crdvictoria



Capital Regional District



CRDVictoria



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**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, MARCH 22, 2023**

SUBJECT **2023 Core Area Liquid Waste Management Committee Terms of Reference**

ISSUE SUMMARY

This report is to provide the 2023 Core Area Liquid Waste Management Committee Terms of Reference for the Committee's review.

BACKGROUND

Under the *Local Government Act* and the CRD Board Procedures Bylaw, the CRD Board Chair has the authority to establish standing committees and appoint members to provide advice and recommendations to the Board.

On December 14, 2022, the Regional Board approved the 2023 Terms of Reference for standing committees. Terms of Reference (TOR) serve to clarify the mandate, responsibilities and procedures of standing committees and provide a point of reference and guidance for the Committees and members.

This year there were no changes to the defined purpose of the Committee's TOR, attached as Appendix A.

The TOR are being provided for review by the Committee. Any proposed revisions to the TOR will require ratification by the Board.

CONCLUSION

Terms of Reference serve to clarify the mandate, responsibilities and procedures of committees and provide a point of reference and guidance for the committees and their members.

RECOMMENDATION

There is no recommendation. This report is for information only.

Submitted by:	Marlene Lagoa, MPA, Manager, Legislative Services & Deputy Corporate Officer
Concurrence:	Ian Jesney, P. Eng., Acting General Manager, Integrated Water Services
Concurrence:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: 2023 Core Area Liquid Waste Management Committee Terms of Reference

Terms of Reference



CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE

PREAMBLE

The Capital Regional District (CRD) Core Area Liquid Waste Management Committee (CALWMC) is a standing committee established by the CRD Board and will oversee and make recommendations to the Board regarding the Core Area Liquid Waste Management Plan and certain aspects of the Core Area Wastewater Treatment Project (CAWTP).

The Committee's official name is to be:

Core Area Liquid Waste Management Committee

1.0 PURPOSE

- a) The mandate of the Committee is to oversee and make recommendations to the Board regarding the:
 - i. Administration and regulatory reporting for the Core Area Liquid Waste Management Plan
 - ii. Core area trunk sewers and sewage disposal systems
- b) The Committee will act as the steering committee of the Technical and Community Advisory Committee, as outlined in Appendix A.

2.0 ESTABLISHMENT AND AUTHORITY

- a) The Committee will make recommendations to the Board for consideration.
- b) The Board Chair will appoint the Committee Chair, Vice Chair and Committee members annually.

3.0 COMPOSITION

- a) The membership is comprised of all directors on the CRD Board from the following municipalities that are participants in the Core Area Liquid Waste Management Plan:
 - Colwood
 - Esquimalt
 - Langford
 - Oak Bay
 - Saanich

- Victoria
 - View Royal
 - An elected representative and alternate from each of the Songhees Nation and Esquimalt Nation Councils (Board Procedures Bylaw No. 3828)
- b) All Board members are permitted to participate in standing committee meetings, but not vote, in accordance with the CRD Board Procedures Bylaw; and
- c) First Nation members are permitted to participate in standing committee meetings at their pleasure, in accordance with the CRD Procedures Bylaw, where the Nation has an interest in matters being considered by the committee.

4.0 PROCEDURES

- a) The Committee shall meet quarterly and have special meetings as required at the call of the Committee Chair;
- b) The agenda will be finalized in consultation between staff and the Committee Chair and any Committee member may make a request to the Chair to place a matter on the agenda through the Notice of Motion process;
- c) With the approval of the Committee Chair and Board Chair, Committee matters of an urgent or time sensitive nature may be forwarded directly to the Board for consideration
- d) A quorum is a majority of the Committee membership and is required to conduct Committee business

5.0 RESOURCES AND SUPPORT

- a) The General Manager, Integrated Water Services and General Manager, Parks & Environmental Services will act as a liaison to the Committee with support from other departments, as required; and
- b) Minutes and agendas are prepared and distributed by the Corporate Services Department.

Approved by CRD Board December 14, 2022

APPENDIX A

**STEERING THE TECHNICAL AND COMMUNITY ADVISORY COMMITTEE
CORE AREA AND WEST SHORE SEWAGE TREATMENT**

In accordance with the Terms of Reference of the [Technical and Community Advisory Committee Core Area and West Shore Sewage Treatment](#) (TCAC) approved by the Capital Regional District Board (CRD), August 14, 2013, the Core Area Liquid Waste Management Committee (CALWMC) will steer the TCAC as follows:

- Make recommendations to the CRD Board to appoint TCAC members
- Make requests to TCAC for appropriate technical and community consultation advice and input in order to facilitate informed decision-making in a variety of CAWTP matters that have not been delegated to the CAWT Project Board
- Dissolve the TCAC at the end of the planning stage of the Core Area and West Shore sewage treatment project or at a time determined by the CALWMC

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF WEDNESDAY, MARCH 22, 2023**

SUBJECT **Wastewater Operations and Capital Plan Update – March 2023**

ISSUE SUMMARY

To provide the Core Area Liquid Waste Management Committee (Committee) with Core Area Wastewater System (System) operations update and capital program status report.

BACKGROUND

CAPITAL PROGRAM UPDATE

There are two major capital programs associated with the System. One is the overall asset renewal for all the System components and is reflected in the 5-year capital plan. The second is the Core Area Wastewater Treatment Project (Project) which delivered nine major components (location map in Appendix A) and, with the exception of the Residual Solids Treatment Plant, have been completed and accepted operationally by the Capital Regional District (CRD).

Core Area Wastewater Treatment Program

This capital program reflects the first year of the planned capital spending for the next five years and forms part of the annual service budget that is approved in March each year by CRD Board. In 2023, 36 projects have been identified with an expenditure estimated at \$22,235,000. General project groupings are as follows:

Category	Description	# of Projects	Capital Budget
Pump Station Upgrades	<ul style="list-style-type: none"> includes asset renewal and upgrades to six pump stations 	7	\$3,360,000
Gravity Sewers & Manholes	<ul style="list-style-type: none"> trunk sewer upgrades including asset renewal and replacement primary expenditure is relining two kilometers of pipe estimated at \$8.3 million 	6	\$10,125,000
Pressure Pipes & Appurtenances	<ul style="list-style-type: none"> assessment of two siphons initial design for twinning a major forcemain upgrade of a major siphon chamber 	4	\$1,390,000
Flow Meters	<ul style="list-style-type: none"> asset renewal of seven flow meters 	7	\$1,050,000
General	<ul style="list-style-type: none"> asset management program development development of a Core Area Development Cost Charge Program miscellaneous system upgrades SCADA monitoring and security upgrades 	12	\$6,040,000
		36	\$22,235,000

Core Area Wastewater Treatment Project (Project)

The Project has an estimated budget of \$775 million and with all the warranty periods ending by the end of 2023 there is expected to be remaining unallocated funds that will be used for optimization of McLoughlin Treatment Plant including but not limited to odour control optimization and investigating alternative chemical applications.

Initial projects that have been identified to manage optimization and performance are:

- 1) Mist/Grease eliminator.
- 2) Upgrade H₂S sensors.
- 3) Scum removal system upgrade.
- 4) Odour dispersion modeling.

The above projects are currently being scoped and budgets determined.

OPERATIONS UPDATE

Aside from the Residual Solids Treatment Plant, which is pending Final Acceptance, the remainder of the system has minimal unexpected operational issues. However, as was reported to the CRD Board on December 14, 2022, there continues to be some odour concerns that are being investigated further and addressed in accordance with the action plan attached as Appendix B. A recap of odour issues reported to the CRD Board follows:

- While the treatment plant has been certified compliant by third party documentation, there still remains occasional odour issues. In addition to further odour investigations and increased odour monitoring and analysis efforts, initial thoughts to remediating these issues are currently focused on optimization of the odour control systems and developing improved operational processes to address odour releases when maintenance activities require unsealing the plant.
- The CRD remains committed to achieving the performance criteria set out for the McLoughlin Point Wastewater Treatment Plant (WWTP) and assisting the other municipalities in determining other potential sources and infrastructure issues. If, through the work outlined above it is determined that the odour control systems at the WWTP require modification, there is adequate funding available in remaining unallocated Core Area Wastewater Treatment Program budget to implement the work.

The four initial projects identified previously are all expected to positively impact odour results and support an ongoing odour management program.

Compliance

As part of day-to-day operations, compliance monitoring is carried out to ensure regulatory requirements are being met and reported on.

A summary of non- compliance events in 2022 follows:

Month	# of times out of Compliance	Reasons for Non-Compliance
January	9	Discharge of blended effluent (9 times)

Month	# of times out of Compliance	Reasons for Non-Compliance
February	3	Discharge of blended effluent (2 times); average TSS and CBOD exceeded permitted levels
March	2	Discharge of blended effluent (1 time); average TSS and CBOD exceeded permitted levels
April	3	Discharge of blended effluent (2 times); average TSS and CBOD exceeded permitted levels
May	1	Average TSS and CBOD exceeded permitted levels
June	2	Maximum TSS and CBOD exceeded permitted levels; Rainbow trout toxicity testing failed
July	1	Average CBOD exceeded permitted levels
August	1	Average CBOD exceeded permitted levels
September	1	Average CBOD exceeded permitted levels
October	5	Discharge of blended effluent (4 times); maximum TSS and average CBOD exceeded permitted levels
November	2	Discharge of blended effluent (1 time); maximum and average TSS and CBOD exceeded permitted levels
December	5	Discharge of blended effluent (4 times); missed sample due to problem with sampler so noncompliant with requirement for 5 samples/week
Annual Total:	35	Discharge of blended effluent (23 times); average or maximum exceedance for CBOD and/or TSS (10 times), other (2 times)

- McLoughlin Treatment Plant had at least 1 non-compliance every month in 2022.
- Effluent quality compliance (TSS/CBOD) is likely the most significant non-compliance issue from the regulator's perspective.
- Premature discharge of blended effluent was also common. This is when the plant discharged primary plus tertiary blended effluent when it was not actually raining and should have been able to treat everything to tertiary. However, when these events happened, they were mostly short duration and didn't necessarily negatively affect effluent quality.
- A missed sample and failed rainbow trout toxicity test were the last two non-compliance situations.

As plant optimization and operational performance refinement continues it is expected that compliance issues should decrease.

CONCLUSION

This report provides the Core Liquid Waste Management Committee with updates on both ongoing capital programs for the Core Area Wastewater System and the Core Area Wastewater Treatment Project. In addition, information has been provided regarding operational issues and non-compliance events.

RECOMMENDATION

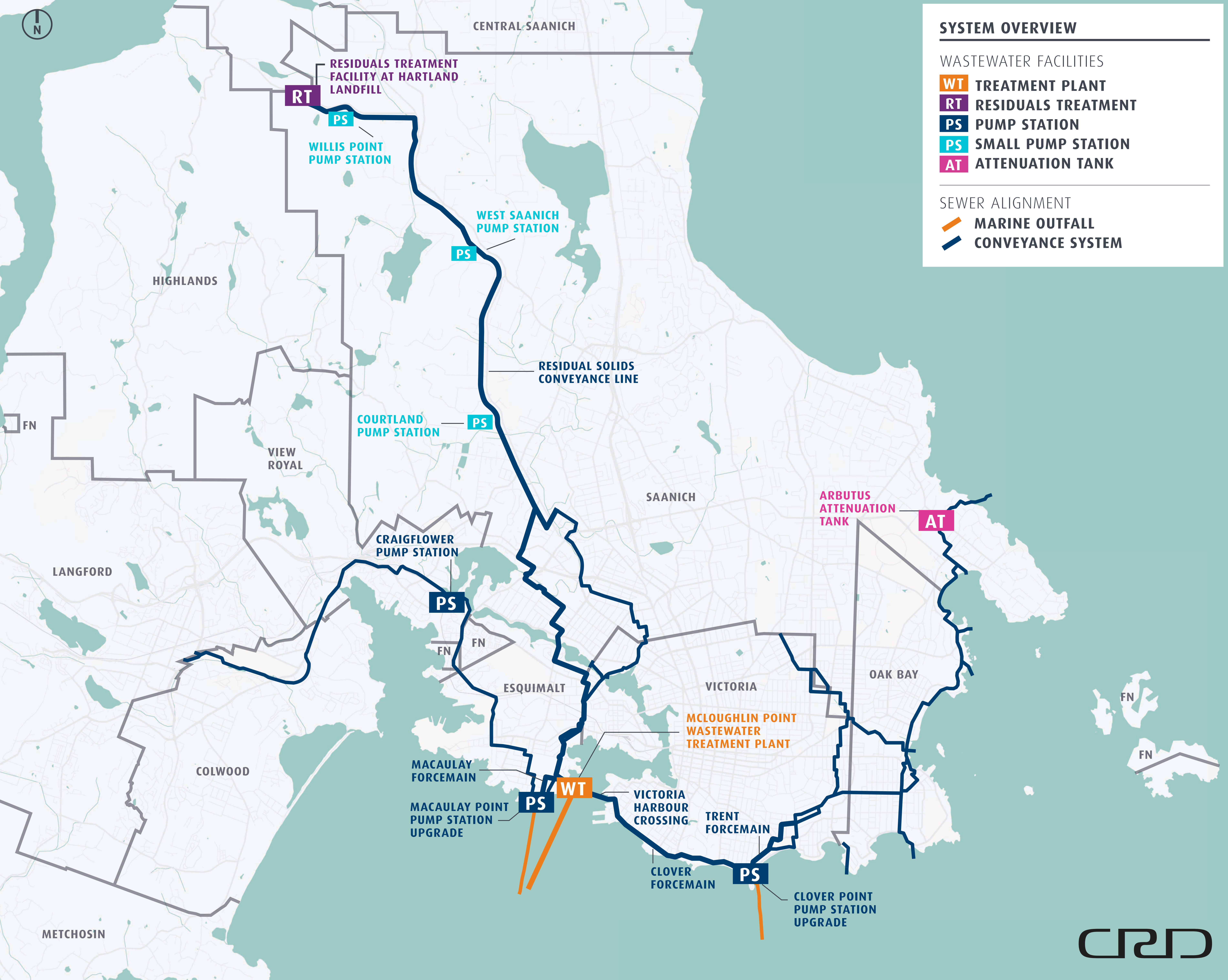
There is no recommendation. This report is for information only.

Submitted by:	Ian Jesney, P. Eng., Acting General Manager, Integrated Water Services
Concurrence:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Core Area Wastewater Treatment Overview Map
Appendix B: Odour Investigation Action Plan

Core Area Wastewater Treatment Overview Map



ODOUR INVESTIGATION ACTION PLAN

Summarize and analysis of previous odour complaints (last two years and background)				STATUS UPDATE
1	Summary of odour regulations in other jurisdictions	Crystal/Chris	Nov-04	Complete
2	Analyze complaints’ trends as well as geographical and seasonal distribution	Crystal/Sadra	Nov-11	Complete
3	Correlate complaints with operating conditions (wet weather, DensaDeg vs. plate settler tanks in use, etc.) or maintenance activities (cleaning tanks, scrubber media replacement, etc.)	Crystal/Denis	Nov-18	Complete
4	Summarize all finding in a TM	Crystal/Chris	Dec-02	Complete

Confirm the performance of the odour control systems				STATUS UPDATE
<i>Audit of the odour collection system:</i>				
1	Field investigation to confirm the integrity of the tank covers, note deficiencies and document recommendations	Crystal/Sadra	Nov-04	Complete
2	Review existing H2S data and create a detail scope of future field investigation as highlighted below	Crystal/Sadra	Nov-18	Complete
3	Field investigation to measure negative air pressure under all covers	Crystal/Denis	Jan-31	Complete
4	Field investigation to measure H2S under all covers and at some untreated sources (HVAC units, vents, etc.)	Crystal	Jan-31	Complete
5	Field investigation to measure the velocity of foul air extraction from each tank	Denis/Contractors	Q2-2023	In progress
6	Confirm 6 CFM air extraction from each tank is met	Martina/Sadra	Jan-31	Complete
7	Identify “possible” improvements to the foul air collection system - Recommendations will need to be further assessed	Sadra	Q2-2023	In progress
<i>Audit of the treatment system:</i>				
1	Confirm the design parameters identified for all units are met	Sadra	Nov-04	Complete
2	Review water quality and quantity in the BTF	Sadra/Crystal	Nov-04	Complete
3	Review all operating variables for treatment systems (differential pressures, online H2S, air flow rate data, runtime, etc.)	Sadra	Nov-11	Complete
4	Confirm the performance of mist eliminators	Sadra/Dave	Nov-11	Complete
5	Assess the condition of carbon media in ACFs	Sadra/Denis	Jan-31	Complete
6	Review maintenance records and summarize findings	Sadra/Crystal/Dave	Nov-18	Complete
7	Collect samples for odour and air quality analysis at the inlet and outlet of each online scrubber (BTF or ACF) to confirm the performance of the units comply with the design objectives			
	a. Develop the scope of sampling, including sample locations and required analysis	Sadra	Oct-28	Complete
	b. Schedule, budget, resources, and procurement for sample collection and analysis	Chris	Q2-2023	In Progress
	c. Analysis of results, if necessary	Sadra	Q4-2023	Planned
8	Identify “possible” improvements to the foul air treatment system - Recommendations will need to be further assessed	Sadra	Nov-25	Complete
9	Summarize all findings in a TM	Sadra	Dec-02	Complete

Measure odour at the fenceline and beyond.				STATUS UPDATE
1	Install a weather station at MPWWTP	Dave/Denis	Nov-28	Complete
2	Collect samples for odour analysis at the fence line to confirm MPWWTP does not exceed 5 odour units / m3			
	a. Develop the scope of sampling, including sample locations	Sadra/Chris	Oct-28	Complete
	b. Schedule, budget, resources and procurement for sample collection and analysis	Chris	Q 2 - 2023	In Progress
	c. Analysis of results, if necessary (Sadra)	Sadra	Q 4- 2023	Planned
3	Finalize and complete the VIU project to measure a large number of emitted chemicals associated with MPWWP in the community	Chris/Sadra VIU	Q 4 - 2023	In progress
4	Update the odor and H2S dispersion model based on the updated plant emission data and the new weather station installed at the plant	Sadra/Consultant/Chris	Q 4 - 2023	In Progress