

**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE
MEETING OF JULY 22, 2026**

SUBJECT **Core Area Liquid Waste Management Committee 2026 Mid-Year Capital Projects and Operations Update**

ISSUE SUMMARY

To provide a mid-year update on the Core Area Wastewater System capital program and operations, including odour mitigation activities.

BACKGROUND

Capital Program Update

The Core Area Wastewater (CAWW) capital program reflects 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 the Capital Regional District (CRD) Board. In 2026, there were 40 capital projects identified, some of which are programs containing several sub-projects. The approved 2026 budget is \$27.8 million. The status of the major projects progressing in 2026 is detailed in Appendix A. This list is not exhaustive as additional smaller projects will also progress based on criticality and the availability of resourcing. Of works currently in progress, 4 projects have noted variances in excess of 5% against the forecasted 2026 spends. These variances are result of project schedule delays and projects moving into 2027.

The total CAWW capital plan for 2026 to 2030 is \$100.5 million. Of this amount, up to \$59.29 million is currently planned to be funded through borrowing, subject to the required approvals.

The CRD anticipates that existing borrowing authority for the service will be fully utilized in 2026. As a result, additional borrowing authority is required to support planned capital investments over the next five years.

The proposed borrowing authority is being advanced through two bylaws:

- Bylaw No. 4750 - \$24.45 million, for capital projects already reflected in the CRD's Liquid Waste Management Plan, which was approved by the BC Ministry of Environment. This bylaw was adopted by the CRD Board on June 10, 2026.
- Bylaw No. 4699 - \$34.84 million, for additional capital renewal and upgrade projects arising since approval of the Liquid Waste Management Plan and therefore requiring elector approval Alternative Approval Process (AAP).

Projects identified in the CRD's approved 2026 Financial Plan that could be funded through bylaw No. 4699 include, but are not limited to:

- Core Area Sewers, Manholes and Chamber Repairs & Upgrades.
- Shoreline Trunk Sewer Upgrade.
- Pump Station Renewal Program.
- Design, site planning, and air quality modelling for introducing carbonization technology at the Residuals Treatment Facility.

The AAP commenced on June 18, 2026, and is scheduled to conclude on July 31, 2026. The results of the AAP are expected to be reported to the CRD Board on September 9, 2026. If the AAP is successful, the Board may proceed with final adoption of Bylaw No. 4699.

Operations Update

Compliance

Compliance monitoring is undertaken to confirm that regulatory requirements are met and appropriately reported. Table 1 summarizes non-compliance events recorded to the end of June 2026.

Table 1: Non-Compliance Events, January-June 2026

Month	# of times out of Compliance	Reasons for Non-Compliance
January	1	Average TSS, cBOD, and max TSS exceeded permitted levels
February	2	Average TSS, cBOD, and max TSS exceeded permitted levels. An equipment error created a hydraulic surge at MPWWTP Feb 2, resulting in the treatment capacity of the facility being overcome.
March	1	Average TSS, cBOD, and max TSS exceeded permitted levels
April	1	Average TSS exceeded permitted levels
May	1	Planned Plant bypass resulting in an exceedance in all permitted levels.
June	0	Waiting for monthly averages
Total to end of June	6	6 non-compliance events due to exceedance of permitted effluent levels, one the result of an equipment error and one due to a planned plant bypass

Year-to-date compliance performance is primarily affected by effluent quality exceedances. The primary driver for these non-compliance events is effluent in the limited performance and availability of the tertiary disc filters. The February event resulted from an equipment error that created a hydraulic surge at MPWWTP and exceeded treatment capacity. The May event was directly related to the planned bypass work.

For comparison, five non-compliance events were recorded through the end of May 2025. These events were similar in nature to the 2026 year-to-date events.

In early June 2026, MPWWTP staff initiated a pilot project to optimize the secondary treatment process through adjustments to chemical dosing, mixing speeds, and recirculation. The pilot is intended to improve effluent quality, reduce turbidity, and lower chemical costs. The project uses a reinforcement learning program designed to support continuous, safe optimization of on-site operations.

Odour Management

The McLoughlin Point Wastewater Treatment Plant (MPWWTP) was designed in accordance with the Project Agreement, which included treatment of all odour-laden air before discharge to the environment. All exhausted air at and beyond the plant boundary property line and the shoreline should have a maximum odour concentration of five odour units per cubic meter (OU/m³). MPWWTP has a sophisticated air collection and handling system, with carbon treatment to manage odour-laden air from the process systems. Despite the state-of-the-art odour control systems, MPWWTP has generated complaints from neighbouring communities since commissioning. As a result, the Capital Regional District (CRD) committed to continued monitoring of the odour control system performance and discharges, and to work directly with equipment suppliers to seek opportunities to further increase potential odour removal.

An internal audit of the odour collection and treatment systems, as well as an analysis of the previous odour complaints, completed at the end of 2022, outlined the odour mitigation steps for future years. These tasks included an odour assessment using dispersion modelling, odour collection upgrades, revisions to plant maintenance procedures, and a recommendation for further review of findings to validate the approach.

Results from the odour modelling work completed by WSP Canada Inc. confirmed the maximum odour concentration at the plant property boundary remains below 5 OU/m³ during normal plant operations. During plant maintenance work, when tank covers are removed, odour concentrations at the plant property boundary and within the surrounding community were observed to exceed the maximum 5 OU/m³.

Staff continue to log and investigate all odour complaints from the community. This information is used to further inform the modelling and understanding of the impact of maintenance activities on odour dispersion.

Preventative maintenance and system upgrades with a higher risk of odour emissions are scheduled outside seasonally warmer periods wherever practicable to reduce potential community impacts. Standard operating procedures require consideration of wind, temperature, and tide conditions to reduce the likelihood of odour emissions extending beyond facility boundaries during maintenance activities.

The MPWWTP's odour control system operates as designed under normal conditions. The CRD completed additional odour mitigation upgrades in 2025 and has further work planned for 2026 and 2027, consistent with the MPWWTP Odour Control System Review and Assessment. These actions are expected to improve regular plant operations and reduce community odour impacts associated with maintenance activities.

Odour Complaints and Public Engagement

In 2025, the Core Area system received 100 odour complaints. Of the 100 complaints, 52 were attributed to MPWWTP, 46 to the conveyance system, and 2 to other sources. Table 2 provides a summary of the complaints recorded since 2021.

Table 2: Summary of Wastewater Odour Complaints Received

Year	Number of days complaints received	Number of complaints	Number of unique complainants
2021	135	222	69
2022	85	101	29
2023	116	151	46
2024	47	73	33
2025	76	100	26
To Date 2026	37	41	7

Each odour complaint is investigated to confirm its nature and potential source. Since commissioning of the MPWWTP in 2021, complaint activity has generally declined from the 2023 peak with fewer unique complainants; however, increases in 2025 and 2026 have been associated with two isolated conveyance system locations, which account for 40% of 2026 complaints to date. To address ongoing concerns, several mitigation initiatives have commenced or been completed as outlined in the following section.

A second MPWWTP bypass was completed from May 22 to 29 in response to unforeseen leakage from a plant valve. The bypass was required to protect plant infrastructure, maintain worker safety, and reduce the risk of uncontrolled system failure. The work was not expected to generate odour impacts, and the two complaints received during this period were not attributed to the project.

Staff continue to engage with the Esquimalt Liaison Committee (ELC) on odour mitigation and upcoming maintenance activities that may generate odour. In 2026, semi-annual ELC meetings are scheduled for March 5 and September 24, with operational updates planned for May 28 and November 26.

Odour Mitigation Initiatives

Conveyance System

In response to identified odour concerns within the conveyance system, the following mitigation measures have been implemented:

- Differential pressure monitoring: Select manholes have been monitored to collect data on the conditions that contribute to gas release (**Ongoing**).
- Installation of new manhole equipment: New equipment has been installed in targeted manholes to treat H₂S emissions and associated odours (**Complete January-2026**).
- Continuous H₂S monitoring: Year-round monitoring is in place to track H₂S levels and identify trends over time (**Ongoing**).
- Increased chemical dosing: Bioxide dosing has been increased to support odour reduction and minimize impacts to nearby residents (**Complete January-2026**).
- Outfall pipe crack repair: Repairs have been completed to seal additional pathways for escaping gas (**Complete-2025**).

- Source control review: The CRD source control team has been engaged to review bylaw requirements and clarify municipal responsibilities related to sulphide discharge into CRD infrastructure (**Complete May-2026**).
- Long-term engineering review: Given the persistent nature of the concern, a third-party engineering firm has been retained to complete a study this summer evaluating additional measures to mitigate odour emissions from CRD infrastructure (**Started June-2026**).

McLoughlin Wastewater Treatment Plant

In addition to administrative controls for maintenance-related odour, the following 2025 upgrades were completed to improve system performance and reduce emissions:

- Secondary Odour Control System Upgrades: Reduced moisture through the pre-filter improves odour removal, extends product life, and reduces maintenance requirements (**Complete December-2025**).
- Densadeg No. 1 Scum Removal System: Improved scum removal eliminates an odour source and reduces the required frequency of Plant Maintenance (**Complete June-2026**).
- MBBR Odour Extraction Ducting Improvements: The addition of mist eliminators and increasing the duct diameter will improve odour extraction from the MBBR tank (**Complete December-2025**).
- Dirty Backwash Tank Odour Treatment System Upgrade: Upgrading the current passive system to a larger fan unit (**Complete May-2026**).

Each of these upgrades are expected to reduce odour impacts in surrounding communities. Localized benefits have already been observed on-site at MPWWTP and should be reflected by fewer complaints during summer 2026 and beyond.

Future Odour Control Related Improvements

The next phase of work will target remaining odour sources in the collection system and process treatment areas.

Table 3: Core Area Odour Projects

Improvement	Purpose	Target Year
Collection system full-service odour control system	H ₂ S monitoring and Bioxide dosing to aid odour reduction.	2026
Primary odour control system mist eliminator upgrades	Improve treatment system performance and reduce odour-related maintenance impacts.	2027
Additional odour extraction points for plate settlers and Densadegs	Increase odour capture in identified process areas.	2027

Budget

Aside from the disc filter performance and compliance matters noted above, the remainder of the system has experienced minimal unexpected operational issues to date in 2026. Operating expenditures remain aligned with budget, except for a \$580,000 variance at the Residual Treatment Facility resulting from a 14% Industrial Price Index increase for quarry disposal of biosolids.

CONCLUSION

This report provides the Core Area Liquid Waste Management Committee with an update on ongoing capital programs for the Core Area Wastewater System and the Core Area Wastewater Treatment Project. It also summarizes key operational matters, non-compliance events, odour management activities, and budget variances.

RECOMMENDATION

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

Submitted by:	Joseph Marr, P.Eng., Senior Manager, Infrastructure Engineering
Submitted by:	Jason Dales, B.SC., WD IV, Senior Manager, Wastewater Infrastructure Operations
Concurrence:	Alicia Fraser, P.Eng., General Manager, Infrastructure and Water Services
Concurrence:	Ted Robbins, B. Sc., C. Tech., Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Core Area Wastewater Capital Program – Current Status