



**REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE  
MEETING OF WEDNESDAY, FEBRUARY 28, 2024**

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**SUBJECT**     **Core Area Inflow & Infiltration Program - 2023 Summary**

**ISSUE SUMMARY**

To present a summary of activities and accomplishments of the Core Area Inflow & Infiltration (I&I) Program for the period of 2022 to mid-2023, including infrastructure work carried out by the participating municipalities and efforts related to private property I&I.

**BACKGROUND**

The Core Area Liquid Waste Management Plan (CALWMP) sets out goals and commitments for municipalities, First Nations and the Capital Regional District (CRD) to manage I&I through the Core Area I&I Management Plan. Each year, the Core Area I&I Program presents progress toward meeting these commitments in an annual report that is distributed to each of the core area municipalities and First Nations. This staff report summarizes the highlights of that report, the full report, titled Core Area I&I Program 2023 Report, attached as Appendix A and is available on the public website here:

<https://www.crd.bc.ca/about/document-library/documents/plans-reports/wastewater-stormwater/2023-reports>

Overviews of municipal I&I actions, along with specific actions from this reporting period, are as follows:

- Colwood diligently inspects its new underground infrastructure to manage and prevent I&I. In 2022 to mid-2023, Colwood identified and corrected two cross connections, found two manholes with I&I issues (fixes in progress), and camera inspected 7.6 kilometers of sewer pipe.
- Esquimalt developed a plan for I&I reduction in the Colville Catchment, which was identified as the top priority in its I&I Management Plan. Detailed designs for the work will be prepared in the second half of 2023 with construction to follow. In 2022 to mid-2023, Esquimalt lined 80 meters of sewer main and repaired or replaced 21 sewer laterals and seven stormwater laterals. Working with the CRD Source Control program, Esquimalt removed a cross-connection that was a source of contaminants to the Gorge Waterway.
- Langford has a young sewer system and proactively keeps its I&I low to preserve sewer capacity for future growth. In 2022 to mid-2023, Langford completed numerous inspections in the Happy Valley Catchment and Phelps catchments to ensure that the inspection chambers in low lying areas were tight throughout the wet weather season. Langford also inspected 92 manholes and 5.0 kilometers of sewer main for I&I. Follow-up work included plugging manholes suspected of being sources of I&I during large storms and repairing or upgrading inspection chambers.

- Oak Bay will soon be starting construction of the Uplands Sewer Separation Project. The first phase with focus on the Humber catchment and will include new stormwater infrastructure (mains, manholes, catch basins, laterals) and the relining of three kilometers of sewer main. It's anticipated that construction will start shortly and be completed by December 2025. In 2022/2023, Oak Bay found 18 sewer cross-connections, nine of which have already been fixed. Oak Bay currently has several sanitary/stormwater upgrade projects in progress or in the pipeline. Oak Bay records show that 25 new sewer laterals were installed, and three unused sewer laterals were capped.
- Saanich continues its sewer maintenance and repair program, including camera inspections, sewer relining, smoke testing and flow monitoring. In 2022 to mid-2023, Saanich removed five stormwater cross-connections to the sewer system. It repaired or replaced 2.0 kilometers of sanitary sewer (including 134 new sewer service connections with inspection chambers), 15 sewer connections (with inspection chambers) and 19 manholes. It camera-inspected 18.4 kilometers of sewer main and completed eight spot repairs. Saanich also updated its Sewer Master Plan and sewer model, developed a replacement strategy for "no-corrode" (tarpaper) sewer laterals, and is developing an ongoing camera inspection program for critical sewers and trunk sanitary sewers.
- Victoria continues to manage its sewer repair and replacement work according to its sewer master plan. In 2022 to mid-2023, Victoria relined or replaced 1.5 kilometers of sewer pipe, eight manholes and 63 sewer laterals. T-liner technology, which focuses on sealing the interface of the sewer main and laterals, was used at 27 locations. Victoria camera inspected 34 kilometers of sanitary sewer mains. 470 meters of sewer mains were replaced by open trench excavation along with 16 sanitary laterals.
- View Royal continued its programs related to sewer maintenance and repairs, camera inspections, sewer flushing and flow monitoring. In 2022 to mid-2023, View Royal upgraded the Helmcken Bay pump station, including the addition of a flow meter.
- Esquimalt Nation had its sewer system inspected in 2018. Follow-up work included removing/capping four unused sewer laterals, repairing a manhole, doing a sewer main spot repair, and renewal of the Nation's sewer pump station. The Nation's sewer flows are not currently measured but the CRD plans to install a permanent sewer flow meter for the Nation in 2024. Amongst other things, the meter will be useful for determining if additional I&I reduction work is needed.
- Songhees Nation does routine sewer maintenance and repairs, as needed. In 2015, the Nation hired a consultant to investigate its sewer system for I&I sources and to provide detailed designs for remediation. For years, the work was ready for tender and awaiting funding from Indigenous Services Canada. It's been indicated that construction will start in 2024.

Through the Core Area I&I Program (see Appendix D, map summarizing I&I in the CRD's Core Area), the CRD continues to work with its municipal and First Nations partners on I&I-related management and reduction efforts. This includes regional flow monitoring, standardizing I&I approaches, preparing management plans and annual reports, education programs and private property I&I initiatives. This also involves coordination with municipalities and national

organizations that are dealing with similar issues. Key actions completed in 2022 to mid-2023 included:

- Flow data vetting and analyses (summary in Appendix B) along with a comparison of measured sewer flows to the flow allocations in CRD Bylaw No. 4304 (Appendix C) .
- Supporting the CRD update of Section Five of the CALWMP, which deals I&I and overflows. (The Province required this update as part of its conditional approval of Amendment 12 of the CALWMP.)
- Presenting a 1.5 hour webinar to the Canadian Association of Home and Property Inspectors encouraging the use of the CRD’s educational materials related to “inspecting and maintaining underground pipes to reduce the risk of basement flooding”.
- Work with the Saanich Peninsula municipalities to prepare initial I&I management plans (draft), including pump station derived sewer flow data, using tools and techniques from the Core Area I&I Program. (This work was funded through a separate budget.)

In 2023, CRD staff started work towards a 2024 submission of CALWMP Amendment 13 to the Ministry of Environment and Climate Change Strategy which will update the I&I section with new commitments that better reflect current sewer infrastructure, wastewater treatment and municipal asset management plans.

## **IMPLICATIONS**

### *Environmental & Climate Implications*

The work documented in the report supports CALWMP commitments related to reducing overflows, which will have a positive impact on local creeks, beaches and ecosystems.

### *Intergovernmental Implications*

As a condition of the Ministry of Environment and Climate Change Strategy’s (ENV) conditional approval of Amendment 12 to the CALWMP, the CRD was required to submit an amendment to the commitments pertaining to management of I&I and sanitary sewer overflows.

A Technical and Community Advisory Committee (TCAC) was established in late 2023 to provide recommendations to the Core Area Liquid Waste Management Committee (CALWMC) for CALWMP Amendment 13. This committee has met monthly since October 2023. Kerr Wood Leidal Associates Ltd. has been retained to prepare a report and make recommendations for the TCAC and CALWMC regarding Amendment 13.

First Nations consultation, in collaboration with the CRD’s First Nations Relations team, and referral to all service participants will occur after the CALWMC receives TCAC comments and approves the final package.

### *Social Implications*

Reduced I&I and overflows will reduce the number of beach closures and impacts on the natural environment. Public education and outreach programs for residents and businesses raise awareness of the issues and provide greater understanding of how everyone can contribute to I&I reduction.

*Financial Implications*

The CRD engages with core area municipalities and First Nations to identify and reduce the amount of rain and groundwater that enters the sanitary sewer system. The Core Area Inflow & Infiltration Program budget is \$408,000. The Core Area I&I Program prepares annual reports and management plans, generates sewer flow data for I&I analyses, assist municipalities with tasks related to I&I, develops strategies for addressing private property I&I and education and prepares monthly flow/I&I reports for each core area municipality and First Nation.

Municipal infrastructure repair initiatives are funded by the respective municipality. Monitoring, reporting, strategy and leadership are facilitated by the CRD I&I program.

**CONCLUSION**

This staff report summarizes the Inflow & Infiltration (I&I) related activities and accomplishments of the Core Area I&I Program, participating municipalities and First Nations for 2022 to mid-2023. While much work has been done to date, modelling indicates that sub five-year overflows will continue at the Clover Point long outfall. A Technical and Community Advisory Committee was convened in 2023 to review and make recommendations regarding an amendment to regional and municipal I&I commitments, which will need to be maintained or enhanced to prevent overflows for less than five-year rainfall events and ensure compliance with provincial regulation. The annual report will be forwarded to the core area municipal engineers for use in their I&I reduction programs.

**RECOMMENDATION**

There is no recommendation, this report is for information only.

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

**ATTACHMENT(S)**

- Appendix A: Core Area I&I Program 2023 Report
- Appendix B: Key I&I Stats for the Core Area Municipalities and First Nations
- Appendix C: Table Comparing Measured Flows to Allocated Flows in Bylaw 4304
- Appendix D: Map Summarizing I&I in the CRD's Core Area