



CORPORATION OF THE TOWNSHIP OF ESQUIMALT

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Legislation Details (With Text)

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Attachments: 1. Attachment 2 Catchments, 2. Attachment 3 II Reduction Program Costs, 3. Attachment 1 Definitions

Date	Ver.	Action By	Action	Result
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REQUEST FOR DIRECTION

DATE: October 13, 2021 Report No. EPW-21-022

TO: Laurie Hurst, Chief Administrative Officer

FROM: Jeff Miller, Director of Engineering and Public Works

SUBJECT:

Inflow and Infiltration Strategy

ESSENTIAL QUESTION:

How will the inflow and infiltration activities for the private and public portions of the collection system be funded?

RECOMMENDATION:

That the COTW receive Staff Report No. EPW-21-022 for information, provide any additional direction to staff as the COTW considers advisable, and direct staff to prepare a report for Council's consideration.

BACKGROUND:

The term inflow and infiltration (II) is the term to denote the flow of stormwater or ground water into the sanitary collections system. See Attachment 1 for pipe ownership, allocation of II and definitions. This water does not need to be treated before being returned to a receiving water body. Under the Liquid Waste Master Plan (LWMP), the Township has several obligations. These are:

1. Reduce the maximum average daily wet weather flow (ADWF) to less than 4 times the ADWF

- by 2030; and
2. Eliminate overflows less than a 5-year return period.

The Capital Region District (CRD) reports to the Province under the LWMP every two years on II flows within the Core Area Communities. 2021 is a reporting year. The report identifies that the Township has an estimated 5-year II rate of 54,896 L/ha/day. This estimate translates to an overall rating of 6.1 x ADWF.

To lower this rating, the Township and CRD developed an inflow and infiltration master plan (IIMP). The IIMP determined that the various catchments range from 5 to 9 x ADWF with an average flow of 5.7 ADWF. See Attachment 2 for catchment map. Through the IIMP it is anticipated that this rating can be lowered to the 4 x ADWF threshold.

The IIMP will see rehabilitation of sewer mains and laterals (private and public). Each catchment would need to experience rehabilitation of the various components (collection mains, public laterals, private laterals) within the collection system. By carrying out a targeted rehabilitation plan for the first three years, the ADWF would be reduced from 5.7 to 5. Undertaking the next five years of targeted rehabilitation works would reduce the flow to 4.2 x ADWF. Specific replacement of the laterals over this period would see flow reduced to 4.0 x ADWF. Depending on the condition of the laterals, the cost of the program would range from \$11.6 million to \$12.6 million. See Attachment 3 for IIMP breakdown of activities and costs.

ISSUES:

II flows are significant within the Township's sanitary collection system. This is due to the age of the system, condition and pipe materials used in its construction. Efforts to upgrade the system have continued and recently have included:

- Installation of inspection chambers at the property on laterals (various locations for new construction or test/clears)
- Specific location smoke and dye testing (Gosper Crescent cross connections)
- Separation of combined manholes (Uganda)
- Main line replacement (Various locations)
- Spot replacement of main line (Various locations)
- Inspection of the collection system
- Modelling of the collection system

The cost of these activities has been funded by:

- Fees
- Operational line items
 - Modelling - \$50,000
 - IIMP - \$75,000
- Capital projects
 - II - \$150,000
 - Corridor Management - \$250,000
 - Pipe Upgrade - \$250,000

Council has given direction to staff that repairs/upgrades on private portion of laterals would be structured as cost sharing. The Township would pay 50% of the cost to replace a private lateral. The remaining 50% of the cost would be the homeowner's responsibility. On average the cost for repairing/upgraded a private lateral will range from \$10,000 to \$15,000 depending on the length of the lateral, type of methodology utilized and above/below ground conditions. The homeowner would have the option of paying for the work at the time of rehabilitation or repayment over time through taxation against the property.

Currently the Township has two types of taxation with respect to wastewater collection and treatment. The first tax is required to pay for the Township's portion of the capital cost to construct the wastewater plant. All properties within the Township pay this tax. The second tax is to cover the operational costs and maintenance of the wastewater collection system and wastewater plant. This cost is based on actual flows entering the plant and projects. This tax comes in the form of CRD requisition for this work. This tax is applied to all properties within the Township.

Undertaking the planning, public engagement, tendering, construction and project management of the construction will require the work to be either undertaken by staff or a consultant. This cost will be dependent upon which direction/option the Committee chooses to take and will be quantified and included as part of the report that comes back to Council after consultation with the CAO.

There are four funding options to review. They are:

1. Status Quo
2. Long term borrowing
3. Taxation
4. Yearly capital projects

Option 1 - Status Quo

Under this option, funding for IIMP would be obtained through annual budgetary requests. These requests would be approximately \$500,000 per year. The work would be carried out by either Public Works or a contractor depending on size of the project and rehabilitation methodology required.

Requests for funding would be submitted within the budgetary process and would be assessed along with other capital budget requests. Due to capacity of the Capital Projects Reserve Fund, a tax increase may be required to accommodate these projects. This increase would be in the range of 1% to 2% (based on 2021 budget, 1% = \$300,000) each year to cover these requests. Funding for these projects may not be approved due to budget priorities during a specific budget cycle. It is unlikely that the objectives of sufficiently lowering II to below 4 x ADWF would be achieved through this funding model and the Township could face fines or other actions from the Ministry as a result.

Option 2 - Long Term Borrowing

For this option, the Township would apply for a long-term loan to fund this work. The loan would be paid back over a long period (between 6 to 30 years). Due to the requirement to pay back the loan, taxation would be needed to assist this process. This would translate into a 3% to 4% tax increase (based on 2021 budget) each year to supply funding to the Capital Project Reserve Fund to deal with

the repayment. All the funds would be obtained at the beginning of the process and drawn upon as required.

The Township does have the ability to obtain this loan within its borrowing capacity. However, approval for undertaking this option would require the completion of an Alternative Approval Process (AAP). Under this process, the electorate will be requested to approve the request for funding. If 10% of the electorate decide against it, a funding request will not be made for that year and as result no work will be carried out.

Option 3 - Taxation

Under the taxation option, the funding for this program would be acquired through a form of taxation. Two options available to the Township are: local area servicing (LAS) and parcel tax.

The LAS approach will see the establishment of service area(s) within the Township. For this program, these areas would most likely be catchment areas (Colville, Uganda, Forshaw, Devonshire, Kinver) of the sanitary collection system. The Township would present the LAS to the electorate within the service area(s). If 10% of the electorate within the service areas raises objections to the LAS, it would be defeated, and no work would occur. The LAS can be reapplied for in the next year. This approach would only see area(s) defined being responsible for the additional taxation and other properties in Township would not carry this burden. If issues will remain in other catchments which will still require further actions on behalf of the Township to correct.

The parcel tax approach would see a tax applied to all properties within the Township that are currently receiving or have a reasonable opportunity to receive a specific service. This form of tax is separate from property taxes and is generally used to recover fixed capital costs for infrastructure. Established through bylaw, the parcel tax must identify the service, state the basis for the tax (i.e., unit, frontage, area) and specify the years for which the tax is imposed. The revenue gained from this tax would then be used to fund the program.

Option 4 - Yearly Capital Projects

This option is similar to Option 1. The program would establish an annual list of projects that would meet the IIMP objectives requiring funding that year. This project list and estimated costs would be submitted during the budget process for discussion. This project list would be assessed along with other budgetary priorities and projects. Based on the costs the IIMP has identified this would translate to a 4% to 5% (based on 2021 budget) tax increase per year of the program.

With direction from Committee, a funding model can be decided upon and further refined for discussion and execution. With all the funding options, applying for grants from senior levels of government or other sources will be undertaken when these opportunities become available. While these funding opportunities can supplement the IIMP program, the Township will still have to apply and be awarded these grants with direct competition with other applicants. Most funding opportunities generally require cost sharing between the funding agency and the Township. If this is the case, the Township will be required to allocate for their portion of the funding through the budget process.

ALTERNATIVES:

1. That the COTW receive Staff Report No. EPW-21-022 for information, provide any additional direction to staff as the COTW considers advisable, and direct staff to prepare a report for

Council's consideration.

2. That the COTW provide alternate direction to staff.
3. That the COTW request further information from staff.