

Policy Discussion Papers - Preliminary Discussion



Request for Recommendation

Sewer Use By-Law - Proposal to Update

Presented To:	Priorities Committee
Presented:	Wednesday, May 21, 2008
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Type:	Policy Discussion Papers - Preliminary Discussion

Recommendations

Whereas the City's existing Sewer Use Bylaw was developed in 1973 and is need of updating.

Therefore be it resolved that staff be authorized to proceed with a substantial rewrite of the Sewer Use Bylaw crafted to facilitate with regulatory requirements and current industry standards and achieve the following specific goals: •Protect municipal staff and infrastructure; •Enable optimum wastewater system efficiency and use; •Prevent stormwater and other 'clear' water from entering the system; •Protect wastewater sludge quality; •Protect public and private property; and, •Protect the natural environment.

All in accordance with the report from the General Manager of Infrastructure Services dated April 22, 2008.

Signed By

Report Prepared By

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Division Review

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Recommended by the Department

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Recommended by the C.A.O.

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Budget Implications

No budget implications at this time. Any future budget implications will be identified.

Policy Implications

Although no direct budget costs are allocated to this recommendation, the updated Bylaw may spawn work programs that are not presently fully budgeted. Should Council authorize the development of additional work programs budget impacts would follow accordingly. At this time however, no specific details of the potential programs and the potential financial impacts are available.

Background

In today's wastewater service reality, with consideration to the increasing environmental awareness and expectations of the community, along with ever tightening regulatory requirements, it is important that our Bylaw and work programs evolve in order to keep pace and deliver on these expectations.

The City's existing Sewer Use Bylaw was developed in 1973 and staff are recommending that as such it is in need of an update in order to more effectively regulate discharges to our wastewater collection systems and facilitate compliance with regulatory requirements and consistency with current industry standards such as outlined in the model Bylaw recommended by the Canadian Council of Minister's of the Environment (CCME).

The basic purpose of the current Sewer Use Bylaw is to regulate discharges to the City's wastewater collection systems, as well as the use of public and private drains that are permitted to be discharged into the City of Greater Sudbury's sanitary sewer system. It defines standards for a number of related activities such as connection approvals, and the discharge of waters and wastes into the City's sewage systems. An updated Bylaw would also target the following goals and objectives:

- Protect municipal staff and infrastructure;
- Enable optimum wastewater system efficiency and use;
- Reduce stormwater and other 'clear' water from entering the system;
- Protect wastewater sludge quality;
- Protect public and private property; and,
- Protect the natural environment.

The new Bylaw would contain provisions to regulate discharges of domestic wastewater; industrial / commercial / institutional wastewater, hauled sewage (including septage), and over strength matter, stormwater, clear water waste, and subsurface water. It would also

provide a framework to measure and address existing gaps in the city's sewer use control programs when compared to recommended industry standards of practice by enabling enhancements to existing programs or the development of new programs. Accordingly, it would also define control instruments, offences, and prescribe penalties for violators of the provisions contained therein.

The updated Bylaw would enable the development of program enhancements necessary to help contain costs and promote the long term sustainability of our wastewater systems and facilities.

For example, inflow and infiltration can substantially add rainwater and 'clear' groundwater to the flows which must be conveyed to and treated at wastewater plants. In Sudbury, extraneous flow can result in an increase in flow of over five times base flow at some facilities. Staff have estimated that annual operating costs associated with the collection and treatment of extraneous flow could be over \$800,000.00 / year (2006).

Inflow / Infiltration (or I/I) can be loosely defined as extraneous flow entering the sanitary sewage collection system. Specifically, **Inflow** is defined as water entering a sanitary collection system from such sources as roof leaders, basements, yards, area drains, foundation drains, drainage from springs or swampy areas, manhole covers, interconnections from storm sewers or structures (catch basins), storm waters, surface runoff, or other drainage. **Infiltration** is water from the ground entering a sewer system including building sewers, defective pipes, pipe joints, connections or manhole walls.

Over time, the reduction of extraneous flow into the sewer systems could provide not only operational economies but also reduce future capital investments and asset management costs for system and facility expansions and maintenance by lowering flows that are conveyed and treated. Although elements of sanitary sewer systems are designed to accommodate additional flow for growth and expansion, as systems age and deteriorate these allowances can be reduced substantially by I/I. Excessive rates of Inflow / Infiltration can substantially affect the performance of related infrastructure by hydraulically overloading the sewage collection system and wastewater treatment plants and as such can have substantive environmental, social, and economic consequences. These may manifest as operational problems such as sewer surcharge events, residential backups, or plant treatment bypasses; which increase the risk of regulatory non-compliance and prematurely create a need for costly upgrade or expansion of system components and treatment facilities.

Conversely, control of I/I can have positive affects on system reliability; help control costs; and minimize operational problems. Typically, I/I control programs are multi stage processes likely containing variations of the following five (5) elements:

1. Assessment of the wastewater collection systems;
 - Gathering information on existing sewer system conditions;
2. Flow Monitoring
 - Monitoring wastewater flows during dry and wet weather conditions to establish

- if the system is subject to excessive flows and I/I;
3. Sewer Assessment and Analysis;
 - Inspecting, testing and flow monitoring sub-basins to locate I/I sources and provide information on the condition of system appurtenances;
 4. System Remediation Plan Development;
 - Establishing priorities for cost effective rehabilitation, repair, or replacement work based on system conditions as well as factors such as environmental impacts, social implications, and treatment, operation, and maintenance costs;
 5. Remediation Plan Implementation;
 - Design and construction of programs and projects followed by monitoring to determine actual field benefits of the remedial work.

An updated Bylaw would define management measures, such as compliance agreements, codes of practice, and pollution prevention plans to deal with specific dischargers or classes of discharger of concern. These management tools would not only enable progress at containing rates of I/I, but also target non-compliant contaminant discharges and other practices that negatively affect our operations and drive operating and capital costs ever higher.

As we move toward sustainable, 'green' wastewater sludge disposal methodologies, it is more important than ever for the updated Bylaw to contain provisions aimed at controlling metals and other contaminants from entering CGS wastewater collection systems at the source in order to protect City staff and facilities, as well as the quality of the potential end products from wastewater sludge treatment systems as well as the quality of the effluent discharged to the environment.

The new Bylaw will provide clear policy direction to staff and a strong foundation for the development of related programs.

Consequently, staff are recommending that we be authorized to proceed with a substantial rewrite of the Sewer Use Bylaw crafted to facilitate compliance with regulatory requirements and current industry standards and achieve the following specific goals:

- Protect municipal staff and infrastructure;
- Enable optimum wastewater system efficiency and use;
- Prevent stormwater and other 'clear' water from entering the system;
- Protect wastewater sludge quality;
- Protect public and private property; and,
- Protect the natural environment.

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