



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: March 22, 2017

From: John Irving, P.Eng. MPA
Director, Engineering

File: 10-6060-03-01/2017-
Vol 01

Re: Metro Vancouver Gilbert Trunk Sewer No. 2 Update

Staff Recommendation

That the report titled "Metro Vancouver Gilbert Trunk Sewer No. 2 Update," dated March 22, 2017 from the Director, Engineering be received for information.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

Att. 2

REPORT CONCURRENCE		
ROUTED TO: Corporate Communications Transportation	CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: CT	APPROVED BY CAO

Staff Report

Origin

Metro Vancouver's Gilbert Trunk Sewer conveys the majority of Richmond's sanitary sewage to the Lulu Island Wastewater Treatment Plant. The existing sewer is showing signs of deterioration due to age, and is currently nearing its full capacity as sewage flow demands continue to increase due to population growth. In 2013, Metro Vancouver began construction of the Gilbert Trunk Sewer No. 2 project (the "Project"). The Project involves constructing a second sewer line adjacent to the existing pipe. This will provide increased conveyance capacity to minimize backups and accommodate future growth in Richmond. Twinning of the sewer will also provide system redundancy, allowing for isolation of pipe sections to better facilitate future maintenance activities and ensure that consistent sanitary sewer service be provided to Richmond's residents.

This report updates Council on progress to date, upcoming construction activities, anticipated traffic impacts, as well as Metro Vancouver's communications strategy.

Analysis

Project Description

The Project is divided into four sections (Attachment 1). Construction of the first section, extending from Metro Vancouver's Bridgeport pump station to the intersection of Gilbert Road and Elmbridge Way, began in spring 2013 and is now complete.

The remaining works involve the construction of approximately 6.2 km of 1500 mm and 1800 mm diameter sanitary sewer pipe installed at a depth of up to 4 m, as well as six concrete diversion chambers approximately 6 m by 6 m in size, located at various intersections along the Gilbert Road corridor. This work will be constructed as three sections:

- **Gilbert Road Sewer North Section** extends along Gilbert Road from Elmbridge Way to the north of the Blundell Road intersection;
- **Gilbert Road Sewer Central Section** extends along Gilbert Road from the Blundell Road intersection to north of the Steveston Highway intersection; and
- **Gilbert Road Sewer South Section** extends along Gilbert Road from the Steveston Highway intersection to the Lulu Island Wastewater Treatment Plant.

Construction of the Project is complex as it involves utility conflicts and the excavation of deep trenches which require dewatering and sheet piling. This will result in significant traffic impacts along Gilbert Road and intersecting roads. Staff is working with Metro Vancouver to minimize public impacts through improving pipeline design, scheduling and traffic planning.

Construction Schedule

Metro Vancouver's planned construction period is from spring 2018 to winter 2020. Construction will be staged around the major intersections on Gilbert Road, with construction at each intersection anticipated to last approximately 6 months. Staff encouraged Metro Vancouver to develop options that maintain traffic flow and avoid disruptions at adjacent intersections. In

general, the proposed traffic plan (Attachment 2) involves working at one major intersection at a time in the North and Central sections to avoid accumulation of traffic impacts in the more populated sections of the route. Construction of the South section is scheduled around other City projects in the area to reduce traffic impacts. Construction of the North section is anticipated to begin in spring 2018, followed by construction of the South section in spring 2019 and the construction of the Central section in summer 2019.

Anticipated Traffic Impacts

Gilbert Road Sewer North and Central Sections

City staff has worked with Metro Vancouver to avoid full road closures in North and Central sections of the project. By improving pipeline alignment and cross over chamber locations, a traffic plan has been developed that facilitates one lane of traffic in each direction along Gilbert Road and intersecting roads. Metro Vancouver has completed detailed traffic modelling to assess the impact of intersection works on local traffic. Based on the results of the analysis, Metro Vancouver recommends prohibiting left turn traffic to maximize through traffic capacity. Results of this analysis have been reviewed and are supported by Engineering and Transportation staff. The traffic alterations described above are expected to be in effect for the full duration of construction at intersections for approximately 6 months.

As construction will involve deep open trench excavations, restricted property access is anticipated for pipeline construction, particularly on the west side of Gilbert Road. Other construction impacts include occasional temporary odour, parking restrictions, frequent construction vehicles and noise. Richmond and Metro Vancouver will work with the public to minimize impacts and accommodate the access requirements of impacted property owners.

Gilbert Road Sewer South Section

Gilbert Road south of Steveston Highway will be closed to through-traffic for approximately 18 months to accommodate Gilbert Trunk Sewer South section construction. The narrow width of Gilbert Road south of Steveston Highway combined with the deep sewer construction does not allow for through traffic on this section during pipeline construction. A rolling closure that moves with pipeline construction is being proposed. Metro Vancouver will work with impacted residents and businesses prior to construction to better understand and accommodate access needs.

A number of the City's Council-approved capital construction projects scheduled for construction in 2017 and 2018 are located within the same traffic footprint as the Gilbert Road Sewer South section. These include:

-
- No. 2 Road Widening Project from Steveston Highway to London Road; and
 - Dike Upgrade Project on Dyke Road from Gilbert Road to No. 3 Road.

Staff are working with Metro Vancouver to coordinate construction of the Gilbert Road Sewer South section after the completion of the construction on No. 2 Road and Dyke Road projects to minimize overall traffic impacts to the area.

Public Communications

Metro Vancouver has developed a Consultation and Communications Strategy for the Gilbert Trunk Sewer project. The strategy outlines Metro Vancouver's approach for engaging stakeholders impacted by construction activities, project team roles and responsibilities, and key contacts for project inquiries. Metro Vancouver's public engagement plan includes:

- A designated Community Liaison Officer to address community concerns regarding the project;
- Communication of information through fact sheets and newspaper advertisements;
- Targeted meetings and discussion with high-impact stakeholders (e.g. Gilbert Road residents and businesses) to provide project information and better understand the needs of the community;
- Project-specific open house events;
- Mobilization newsletters and construction signage posted in advance of construction;
- Attendance at special events, such as the City's Capital Works Open House and Public Works Open House; and
- Twitter and web updates prior to and during construction.

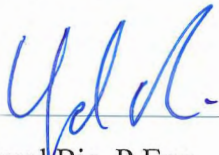
The City of Richmond will support and promote Metro Vancouver's communication efforts via the City's website, social media channels and other methods as deemed beneficial to the public.

Financial Impact

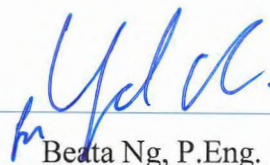
None.

Conclusion

The Gilbert Trunk Sewer No. 2 project is required to improve capacity to accommodate ongoing municipal growth and provide redundancy for the existing Gilbert Trunk Sewer, which services the majority of Richmond's sanitary sewage catchments. Staff are working with Metro Vancouver to establish a construction schedule and traffic management plan that minimizes impacts to property owners and other stakeholders. Staff will continue to assist Metro Vancouver with their Consultation and Communications Strategy to deliver a high degree of stakeholder awareness and identify stakeholder issues before they become critical.



Lloyd Bie, P.Eng.
Manager, Engineering Planning
(4075)



Beata Ng, P.Eng.
Project Engineer
(4257)

Att. 1: Phases of Gilbert Trunk Sewer No. 2 Project
Att. 2: Proposed Intersection Construction Sequence

Attachment 1 – Phases of Gilbert Trunk Sewer No. 2 Project



Attachment 2 – Proposed Intersection Construction Sequence