



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: John Irving, P.Eng. MPA
 Director, Engineering
Re: No. 2 Road South Drainage Pump Station

Date: May 23, 2017
File: 10-6340-20-
 P.15305/Vol 01

Staff Recommendation

That the design concept for the No. 2 Road South Drainage Pump Station Upgrade as detailed in Attachment 1 of the staff report titled, "No. 2 Road South Drainage Pump Station," be endorsed.

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

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Parks Services	<input checked="" type="checkbox"/>	
Sewerage & Drainage	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The No. 2 Road South Drainage Pump Station was constructed in the early 1960's. Council approved the replacement of this drainage pump station as part of the 2016 Capital Program. Staff have advanced the preliminary design to the point whereby the general layout and architectural features for the pump station have been identified.

The purpose of this report is to provide Council information regarding the intended pump station layout, including potential architectural features.

This report supports Council's 2014-2018 Term Goal #6 Quality Infrastructure Networks:

Continue diligence towards the development of infrastructure networks that are safe, sustainable, and address the challenges associated with aging systems, population growth, and environmental impact.

Analysis

The City's extensive flood protection and drainage system includes 49 kilometres of dikes, a series of ditches/canals, underground pipe and 41 drainage pump stations. The drainage system is designed to prevent the City from flooding during up to a 1:10 year rainfall event.

The existing No. 2 Road South Drainage Pump Station services areas adjacent to No. 2 Road, roughly bounded by the south dike, Francis Road and Railway Avenue. This station was constructed in the early 1960's, was subsequently upgraded in 1999 and is in need of a pumping capacity increase to adequately meet current flood protection standards.

The design of the upgraded No. 2 Road South Drainage Pump Station has now advanced to a point whereby a preferred new location and layout for the pump station has been identified (Attachment 1). The proposed location is in London's Landing Park at the south end of No. 2 Road.

In general, the pump station has been designed to reflect the location's proximity to the adjacent waterfront park and is consistent with the coupling of dike and pump station infrastructure with the dike trail and waterfront park space throughout the City. In order to preserve the water view corridor along No. 2 Road and from nearby residences, the pump station will be located mostly underground with the exception of the above ground generator enclosure and access stairway located along the west boulevard area. A public look-out/viewing area has also been included on the roof of the generator enclosure.

The above ground pump station elements are visualized to be appealing and complimentary to the existing park and trails while at the same time providing the necessary means for pump station operations and maintenance activities. The pump station will be located within the dike that had been already raised to 4.7 metres geodetic, which is consistent with the City's Long Term Flood Management Strategy to address sea level rise.

Subject to Council's endorsement, a public input process will be initiated shortly to solicit feedback on the proposed pump station concept. It is anticipated that detailed design for No. 2 Road South Drainage Pump Station will be completed by Fall 2017, with construction to follow thereafter.

Financial Impact

Funding to complete the No. 2 Road South Drainage Pump Station upgrade has been approved by Council as part of the 2016 Capital Program.

This project is included in the 2016 Flood Protection Program. The Province of British Columbia is providing the City with \$16.63M for the replacement of 4 drainage pump stations and approximately 1.2km of dike upgrades. The provincial funding is based on a 2/3 to 1/3 provincial to municipal share of eligible costs.

Conclusion

The No. 2 Road South Drainage Pump Station was approved in the 2016 Capital Program. Design has progressed to the point where the proposed preferred waterside location within the No. 2 Road corridor south of London Road and No. 2 Road intersection has been identified. Subject to Council's support and public consultation, work will continue on advancing the design concept to a full detailed design.



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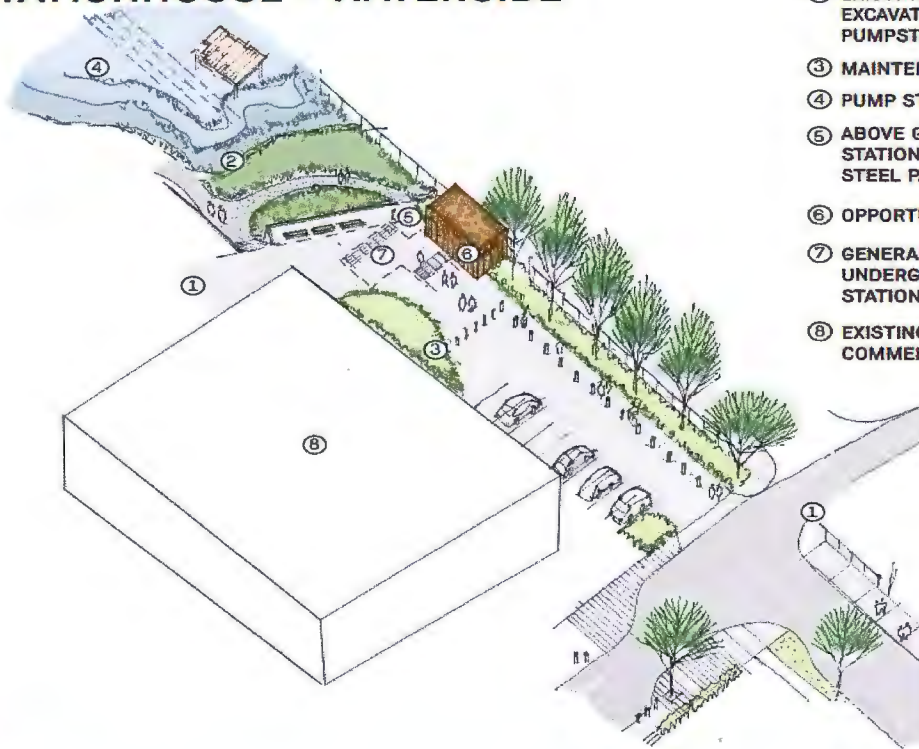
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Att. 1: No. 2 Road South Drainage Pump Station – Design Images

Attachment 1 – No. 2 Road South Drainage Pump Station – Design Images

1. General Site Location

**NO 2 ROAD SOUTH PUMP STATION
STATIONHOUSE - WATERSIDE**



- ① DIKE TRAIL/ACCESS ROAD
- ② EXISTING PARK TO REMAIN, LIMITED EXCAVATION REQUIRED FOR NEW PUMPSTATION
- ③ MAINTENANCE ACCESS
- ④ PUMP STATION OUTFLOW
- ⑤ ABOVE GROUND PORTION OF PUMP STATION WITH CORTEN/WOOD/STEEL PANEL ENCLOSURE
- ⑥ OPPORTUNITY FOR SIGNAGE
- ⑦ GENERAL LOCATION OF UNDERGROUND PORTION OF PUMP STATION
- ⑧ EXISTING RESIDENTIAL/COMMERCIAL BUILDING

2. Viewing Platform and Above Ground Portion of Pump Station (looking west)



3. Site View (Looking South along No. 2 Road)



4. Site View (Looking West Along Dyke Trail)



5. Examples of Corten Screening and Signage

