



## CITY OF KIRKLAND

Department of Public Works

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[www.kirklandwa.gov](http://www.kirklandwa.gov)

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### MEMORANDUM

**To:** Kurt Triplett, City Manager

**From:** Kathy Brown, Public Works Director  
Jenny Gaus, Surface Water Engineering Supervisor

**Date:** October 23, 2015

**Subject:** Amend the 2014 Surface Water Master Plan with the Totem Lake/Juanita Basin Stormwater Retrofit Conceptual Design Project Final Report, and notification of grant application for the 132<sup>nd</sup> Square Park Stormwater Retrofit Facility

### **RECOMMENDATION:**

It is recommended that the City Council approve the attached Resolution which amends the 2014 Surface Water Master Plan to include the Totem Lake/Juanita Creek Basin Stormwater Retrofit Conceptual Design Project Final Report.

### **BACKGROUND AND DISCUSSION:**

The City Council approved Resolution R-5082 adopting the 2014 Surface Water Master Plan (2014 SWMP) on November 18, 2014. The 2014 SWMP sets priorities and recommends programs and projects for operation of the Surface Water Utility in three goal areas: flood reduction, water quality improvement, and aquatic habitat improvement.

The Totem Lake/Juanita Creek Basin Stormwater Retrofit Conceptual Design Project began in parallel with the 2014 SWMP and was completed in August of 2015 ([Totem Lake Stormwater Retrofit Conceptual Design Final Report](#)). An overview of the project is included below. The importance of managing stormwater runoff in the Totem Lake area is discussed in the 2014 SWMP.

Amending the 2014 SWMP to include this work memorializes the City's interest in pursuing stormwater retrofit projects in the Totem Lake basin in general, and in constructing two specific retrofit facilities: NE 120<sup>th</sup> Street Water Quality Treatment, and 132<sup>nd</sup> Square Park Stormwater Retrofit. Once these projects are included as part of the 2014 SWMP, they can be programmed into the unfunded portion of Surface Water Capital Improvement Program. This will allow staff to pursue funding more aggressively, as we can note these commitments in grant applications.

The Totem Lake/Juanita Creek Basin Stormwater Retrofit Conceptual Design Project (Totem Lake Project) was funded via a grant from the National Estuary Program. The project builds on a project done by King County under a previous grant that developed ecological targets for stormwater retrofit projects, tested various retrofit scenarios against those targets, and developed costs for implementing basinwide retrofits in the Juanita Creek Watershed ([King County Juanita Retrofit Cost Study](#)). The scenario that came the closest to meeting ecological targets was application of the flow control and water quality treatment requirements that are now included in the 2012 Stormwater Management Manual for Western Washington (2012 Ecology Manual).

The Totem Lake Project quantified the overall need for retrofit facilities to meet requirements of the 2012 Ecology Manual at the subbasin scale (the Totem Lake basin is 665 acres of the 3600-acre Juanita Basin). GIS analysis, screening criteria, and field assessment were then used to identify and narrow a list of potential sites for construction of retrofit facilities. Finally, conceptual designs for retrofit projects were developed for the top 2 identified sites: NE 120<sup>th</sup> Street Water Quality Treatment, and 132<sup>nd</sup> Square Park Stormwater Retrofit.

The NE 120<sup>th</sup> Street Water Quality treatment project routes runoff from approximately 4 acres of public street and right of way (the hill leading down from Lake Washington Institute of Technology between 132<sup>nd</sup> Ave NE and Slater Ave NE) into water quality treatment facilities adjacent to the sidewalk on NE 120<sup>th</sup> Street. The estimated cost of design and construction is \$346,000. This estimate will need to be revised to include city staff and administration costs as the project moves forward.

The 132<sup>nd</sup> Square Park stormwater retrofit would provide water quality treatment and flow control/infiltration for almost 50 acres of upstream area. Facilities to be placed underground at the 132<sup>nd</sup> Square Park would include two wet/detention vaults, followed by 21 deep infiltration wells. Parks Department staff provided input on site constraints, and park user needs would be the top design consideration as this project moves forward. The estimated cost of design and construction is \$3.8 million, in the final report. This estimate also will need to be revised to include city staff and administration costs as the project moves forward.

The Washington State Department of Ecology solicited proposals for design and construction of stormwater retrofit projects this fall, with applications due on October 16<sup>th</sup>. Because of the momentum created by the King County and Totem Lake projects, Kirkland has a good chance of receiving funding under this program. It would be to Kirkland's advantage to construct stormwater retrofit projects now using grant funds, as it is likely that retrofit projects will be required in future NPDES Stormwater Permits. The City submitted an application for design and construction of the 132<sup>nd</sup> Square Park Project.

Next steps are to develop CIP summary sheets for inclusion in the unfunded portion of the Surface Water Utility CIP, and to continue to investigate funding and design options for the project. Staff will be presenting the project to the Park Board on November 18<sup>th</sup> for initial thoughts and input. If the grant is awarded, staff would return to Council in late 2016 with a grant agreement and a proposal for how to provide 25% match funds for the grant.

Cc: Rob Jammerman, Development and Environmental Services Manager

RESOLUTION R-5166

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KIRKLAND AMENDING THE 2014 SURFACE WATER MASTER PLAN TO INCLUDE THE TOTEM LAKE/JUANITA CREEK BASIN STORMWATER RETROFIT CONCEPTUAL DESIGN PROJECT FINAL REPORT.

1 WHEREAS, the City Council adopted the 2014 Surface Water  
2 Master Plan via Resolution R-5082 on November 18, 2014; and  
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4 WHEREAS, the goals of the Surface Water Utility include flood  
5 reduction, water quality improvement, infrastructure maintenance, and  
6 fish habitat protection, which collectively are intended to improve safety,  
7 reduce risk to public and private property, and enhance our natural  
8 environment; and  
9

10 WHEREAS, the 2014 Surface Water Master Plan recommends  
11 programs and projects for the next ten years of Surface Water Utility  
12 Operation in accordance with the goals noted above.  
13

14 WHEREAS, the Totem Lake/Juanita Creek Basin Stormwater  
15 Retrofit Conceptual Design Project Final Report supports the goals  
16 above by quantifying the need for stormwater retrofit projects and  
17 developing conceptual design for such projects in the Totem Lake basin  
18 of Juanita Creek; and  
19

20 WHEREAS, amending the 2014 Surface Water Master Plan to  
21 include the Totem Lake/Juanita Creek Basin Stormwater Retrofit  
22 Conceptual Design Project Final Report facilitates inclusion of projects  
23 developed through this work in the Surface Water Capital Improvement  
24 Program;  
25

26 NOW, THEREFORE, be it resolved by the City Council of the City  
27 of Kirkland as follows:  
28

29 Section 1. The 2014 Surface Water Master Plan is amended to  
30 include the Totem Lake/Juanita Creek Basin Stormwater Retrofit  
31 Conceptual Design Project Final Report.  
32

33 Passed by majority vote of the Kirkland City Council in open  
34 meeting this \_\_\_\_ day of \_\_\_\_\_, 2015.  
35

36 Signed in authentication thereof this \_\_\_\_ day of \_\_\_\_\_,  
37 2015.

\_\_\_\_\_  
MAYOR

Attest:

\_\_\_\_\_  
City Clerk