



CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

From: Dave Snider, P.E., Capital Projects Manager
Kathy Brown, Public Works Director

Date: March 5, 2015

Subject: EMERGENCY PURCHASE
STORMWATER PIPE REPLACEMENT AT 99TH PLACE NE

RECOMMENDATION:

Staff recommends that the City Council:

- Authorizes the use of Surface Water Construction Reserve funds for the completion of emergency surface water pipe replacement work on 99th Place NE, near NE 114th Street, and
- Approves the creation of a new Capital Improvement Project (CSD 0086) for the emergency repairs for optimal tracking and capitalization purposes.

BACKGROUND AND DISCUSSION:

On the weekend of December 13, 2014, a major storm brought heavy rains to the region. During that event, a City of Kirkland storm water system on 99th Place NE malfunctioned and overflowed onto the roadway shoulder, causing localized flooding on an adjacent property with multiple rental units. The property address is 11409 99th Place NE (Attachment A). According to the Washington Cities Insurance Authority insurance adjuster who responded to the scene, three families were temporarily displaced by the flooding.

A Public Works Surface Water crew responded immediately, attempting to mitigate impacts. Engineering and maintenance staff remained on-site into the evening and over the following few days to determine the cause of the flooding and to plan appropriate permanent repairs. Through that investigation it was determined that an 18-inch corrugated metal pipe (CMP) had been compromised by corrosion and root intrusion, resulting in a partial collapse and the subsequent flooding incident.

In order to avoid additional impacts to the building structures below the road, and to protect the roadway from failure, engineering staff recommended that an emergency purchase be authorized by the City Manager to allow for an immediate replacement of the entire drainage system, including 110 lineal feet of storm water pipe, attached curb inlets, and catch basin

structures. The damaged pipe was approximately 13-feet deep, crossed under a paved roadway and contained numerous existing utility conflicts. This scope and scale of the work was too large and complex for City crews to accomplish.

On December 18, 2014, an Emergency Purchase was authorized by the City Manager pursuant to Kirkland Municipal Code (KMC) 3.85.210. That same day, Johansen Excavating, Inc. (JEI) was issued a notice to proceed with the emergency drainage system replacement work. JEI already had a presence in Kirkland at that time with readily available heavy equipment and personnel working on the NE 85th Street Corridor project, allowing for a very quick response to the City's immediate need. The public works contract was structured on a labor and materials basis with a not-to-exceed amount of \$350,000.



Staff also contracted with KPG Engineering for providing engineering and construction inspection support for the Project. In compliance with the KMC and State law, the notice pertaining to the emergency work was published in the Daily Journal of Commerce, and City Council received initial information on the purchase through a regular Purchasing Update at the January 20, 2015 City Council meeting.



On December 20, 2014, JEI installed a bypass pumping system to relieve the water pressure in the compromised storm pipe and, with this work complete, the displaced residents were able to return to their homes.

Public Works engineering and public outreach staff also immediately began to notify surrounding residents and businesses of the impending work and associated road closure. Staff visited area residents,

distributed door hangers and communicated through social media to get the word out about the emergency project. The public outreach effort resulted in a very well informed public and the City received zero complaints from the emergency construction activities and subsequent road closure.

At that same time, JEI had also begun to mobilize heavy construction equipment to the site. Traffic control devices were delivered, a detour route was established, and a variable message board was installed to notify motorists.

With the bypass pump system installed prior to December 25, the contractor began excavation work starting on December 26 to excavate and replace the old pipe. In order to accomplish the work in an expedited manner, and to minimize impacts to the surrounding residents and businesses, JEI committed to a work schedule of 12-hour shifts, working weekdays and weekends in order to make the repairs as soon as possible.



The 13-foot deep excavation across the roadway, in very rainy conditions and constrained by the location of multiple buried utilities under the roadway (an 18-inch and 24-inch Metro sewer force mains, a 6-inch PSE gas main, and a 8-inch City water main) proved to be even more complex and challenging than initially anticipated. These complexities caused work to progress slowly at first.



To resolve trench flooding issues, 20,000-gallon holding tanks were brought to the site. Water could then be pumped from the construction area to control the water intrusion and to prevent turbid water from discharging downhill. The Puget Sound Energy (PSE) gas main and the two Metro sewer force mains were also problematic for the new storm pipe alignment because they were not in the location shown by utility locate records. The excavation around the multiple utilities had to be performed with the greatest level of precision in order to not damage the existing utilities. As a

result, the new storm pipe alignment had to be revised in the field to accommodate the unforeseen conditions.

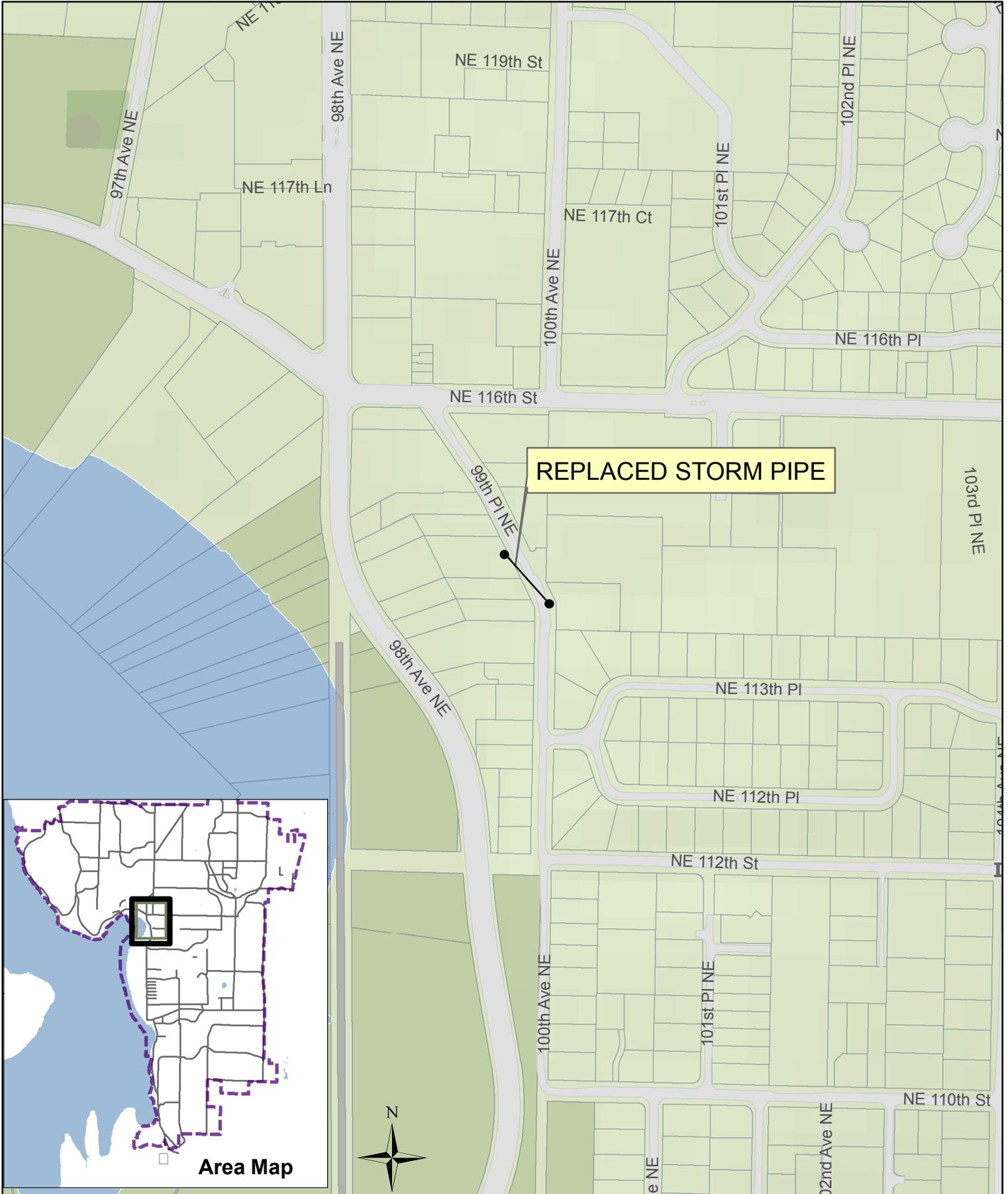
On January 9, 2015, after sixteen working days, the emergency project was substantially completed. The collapsed CMP was replaced by new 18-inch PVC pipe. A new catch basin with curb inlets replaced the existing inlet that had overflowed, and two new 48-inch diameter manhole junctions were also installed. The roadway pavement and concrete sidewalk, driveway, curb, and gutter impacted by construction were all rebuilt. A thickened pavement edge was also installed to the west shoulder of the roadway to better channel street runoff into the new catch basins and inlets.

With all project costs known, the amount earned by the contractor is \$347,786.83. In addition, the emergency project will incur \$34,000 in consultant design and inspection service fees, and approximately \$6,000 in City staff charges for public notifications, outreach and general project management for a total Project expenditure of \$388,000.

Due to the extensive nature of the work, including the installation of a total of 150feet of new pipe, together with new manholes and other surface water infrastructure, staff recommends City Council approval of a new Surface Water Capital Improvement Project, CSD 0086. By doing so, costs for the emergency repair will be appropriately capitalized and the overall Project will be more readily tracked. Staff also recommends the use of Surface Water Construction Reserves as the funding source for the Project (Attachment B).



Attachment A—Vicinity Map
Attachment B—Fiscal Note



Vicinity Map
Emergency Stormwater Pipe Replacement at 99th Place NE

FISCAL NOTE

CITY OF KIRKLAND

Source of Request							
Kathy Brown, Public Works Director							
Description of Request							
Funding of \$388,000 for the 99th Place Stormwater Pipe Replacement CSD 0086 from the Surface Water Construction Reserve. Due to potential flooding issues and possible road failure, an Emergency Purchase was authorized by the City Manager on December 18, 2014.							
Legality/City Policy Basis							
Fiscal Impact							
One-time use of \$388,000 from Surface Water Construction Reserve.							
Recommended Funding Source(s)							
<i>Reserve</i>	Description	2015 Est End Balance	Prior Auth. 2015-16 Uses	Prior Auth. 2015-16 Additions	Amount This Request	Revised 2015 End Balance	2015 Target
	Surface Wtr. Const. Rsv.	7,828,203	389,583	0	388,000	7,050,620	N/A
						0	N/A
Prior Authorized Uses of Surface Water Construction Reserves: 100th Ave NE Corridor (\$204,700), Decant Facility Upgrade (\$125,200), and Park Lane Pedestrian Improvements (\$59,683).							
<i>Revenue/Exp Savings</i>							
<i>Other Source</i>							
Other Information							

Prepared By	Neil Kruse, Senior Financial Analyst	Date	March 5, 2015
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