



Legislation Details (With Text)

File #: R-1718-9 **Version:** 1 **Name:** Resolution for modification to stream bank along Imhoff Creek
Type: Resolution **Status:** Passed
File created: 7/5/2017 **In control:** City Council
On agenda: 7/25/2017 **Final action:** 7/25/2017
Title: RESOLUTION R-1718-9: A RESOLUTION OF THE CITY OF NORMAN, OKLAHOMA, APPROVING A MODIFICATION TO THE STREAM BANKS OF IMHOFF CREEK SOUTH OF WESTBROOKE TERRACE AS PART OF THE IMHOFF CREEK CHANNEL REPAIR PROJECT.

Sponsors:

Indexes:

Code sections:

Attachments: 1. Text File R-1718-9, 2. R-1718-9, 3. May Rainfall Graph, 4. Damages Map, 5. Location Map, 6. Existing Channel Conditions, 7. 588 Final - Approved, 8. Minutes

| Date | Ver. | Action By | Action | Result |
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| 7/25/2017 | 1 | City Council | | |

RESOLUTION R-1718-9: A RESOLUTION OF THE CITY OF NORMAN, OKLAHOMA, APPROVING A MODIFICATION TO THE STREAM BANKS OF IMHOFF CREEK SOUTH OF WESTBROOKE TERRACE AS PART OF THE IMHOFF CREEK CHANNEL REPAIR PROJECT.

BACKGROUND: From the time period of May 5th to May 24th, 2015, the City of Norman experienced an EF-1 tornado and multiple flash flooding events. The attached graph, prepared by staff at the National Weather Center, illustrates a historic level of flooding in Norman in May 2015, with over 23 inches of rainfall, or nearly 10 more inches of rain than the previous May, 1957 rainfall record in Norman of 13.43 inches.

According to the National Weather Center, at least five of those rainfall events in May 2015 involved flash flooding conditions. Flash floods can be very damaging to the City's infrastructure, particularly roads, bridges and stormwater systems. With each flooding event in May 2015, the City encountered more infrastructure damage and road closures. At one point in May, 35 of Norman's roads were closed to traffic, due to damage or high water. Most of these roadways are located in rural east Norman. The Public Works Department has continually tracked an inventory of damaged roads and bridges. To date, 66 damage locations from the May 2015 storms have been identified, as shown on the attached map. One of these locations identified as Site #17 on the map was the Imhoff Creek Channel Repairs located south of Westbrooke Terrace and east of Berry Road. Damages to the channel included washing out approximately 250 feet of articulated concrete block channel and damage to a concrete block drop structure.

City staff has worked closely since May 2015 with officials from Oklahoma Emergency Management (OEM) and the Federal Emergency Management Agency (FEMA) regarding storm damage assessments and the potential for state and federal disaster relief financing. Mayor Cindy Rosenthal declared a local disaster by resolution on May 19, 2015. Governor Mary Fallin declared a state disaster by resolution on May 26, 2015. President Obama established a Presidential Disaster Declaration for Cleveland County on May 26, 2015 for the period of May 5-24, 2015, making the City eligible for up to 87.5% reimbursement (75%-federal; 12.5% state) for debris removal from the May 6, 2015 tornado and infrastructure repairs caused by the May 5-24, 2015 floods.

On November 24, 2015, City Council approved contract K-1516-71 with Freese and Nichols to provide engineering design services for five infrastructure damage locations, including the Imhoff Creek Channel Repair Project.

On September 14, 2016, Travis King, City Fire Chief and Emergency Manager, signed the FEMA Project Worksheet for the Imhoff Creek Channel, which is the funding mechanism for the reconstruction of the damage caused during the May 2015 disasters.

On June 29, 2017, staff conducted a bid opening for the channel repairs and received three contractor bids. On July 25, 2017, City Council will consider under a companion agenda item the award of Contract K-1617-127 to the low bidder RDNJ, LLC dba A-Tech Paving.

On July 17, 2017, the City Floodplain Permit Committee approved Permit No. 588 for the Imhoff Creek Channel Improvements.

DISCUSSION: A 250 foot segment of the existing articulated concrete block channel and a concrete block structure downstream were severely damaged during the May 2015 flood events. Another 150 feet of channel sustained minor damage during these events. However, during a heavy Spring 2017 rain, this same 150-foot segment of channel sustained major damage. The debris was washed downstream and filled up the plunge pool that was being used to dissipate energy prior to stormwater runoff moving farther downstream in the channel. Currently the debris is acting as a channel restriction instead of a plunge pool. These new damages that occurred after the May 2015 disaster declaration period are not automatically eligible for federal and state funding. Staff did recognize that this segment of channel constructed with the same type of articulated concrete block would be subject to failure during future storms, so dialog was started and documented with FEMA about replacing additional segments of the block channel during the Project Worksheet writing stage. FEMA has a program called Hazard Mitigation Plan (HMP) that enables FEMA to award additional funds up 100% of the amount of original damage as a resiliency program to reduce and hopefully eliminate future damage during other disaster events. Staff is working with Oklahoma Emergency Management (OEM) to start the HMP process in hopes of receiving assistance on this segment of the channel.

Freese and Nichols evaluated the channel and determined that above mentioned channel repairs will result in no change in headwater, because the new channel improvements will for all practical purposes match the existing channel shape and slope.

Since this work will occur in the floodway/floodplain of Imhoff Creek, Section 429.1 Flood Hazard District of the zoning ordinance (commonly referred to as the floodplain ordinance) applies to this project. A floodplain permit for the channel improvements was approved by the City Floodplain Permit Committee on July 17, 2017.

Section 429.1.4(b)(17)(iii) of the floodplain ordinance requires that modifications to the stream banks or flow line obtain City Council approval. More specifically, any modifications of the stream banks or flow line within the area that would be regulatory floodway floodplain, unless the work is being done by the City of Norman staff, as part of a routine maintenance activity, requires City Council approval. This project is not considered routine maintenance. Channel improvements consisting of replacing the failed articulated concrete block channel liner with concrete lined channel is proposed within a 650 foot segment of the channel including replacing the damaged drop structure constructed to protect the channel further to the south. These improvements are located approximately 400 feet south of Westbrooke Terrace (see attached Location Map).

RECOMMENDATION: Staff recommends approval of Resolution R-1718-9 authorizing the proposed modifications of the streambanks for Imhoff Creek Channel Repairs and granting City Floodplain Permit No. 588 as approved by the City Floodplain Permit Committee on July 17, 2017.