



CITY of NOVI CITY COUNCIL

Agenda Item G
July 27, 2015

SUBJECT: Approval to award an amendment to the engineering services agreement with Orchard, Hiltz & McCliment for construction engineering services for the Whipple Street Culvert Replacement project in the amount of \$13,459.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division

BTC RA

CITY MANAGER APPROVAL: *[Signature]*

EXPENDITURE REQUIRED	\$13,459
AMOUNT BUDGETED	\$0 (Budget amendment included with construction item)
LINE ITEM NUMBER	210-211.00-865.049

BACKGROUND INFORMATION:

This project involves the replacement of the small culvert/bridge on Whipple Street over the Leavenworth Creek (see attached location map). Staff has been monitoring the bridge for many years. In the most recent inspections, staff observed failing abutments and a small sink hole. It was determined that the bridge required replacement this year and was funded in the 2nd quarter budget amendment (see attached memo from Ben Crod dated October 22, 2014 for additional information).

The budget for the project was originally \$233,000. The project estimate has been reduced in half to \$113,000 through the iterative design process between Engineering staff and the consultants to reduce the project scope and look for innovative, lower cost alternatives.

The construction phase engineering fees are determined using two components: 1) the contract administration fee, which was determined based on the fee percentage in the consultants proposal (since Exhibit B of the Agreement for Professional Engineering Services for Public Projects doesn't have a specific fee for this type of work), and 2) the construction inspection fee determined using a cost per inspection (crew) day from Exhibit B of the consultant's agreement that is then multiplied by the number of days of inspection specified by the contractor. Based on the Road Construction fee curve, the construction phase engineering fees for this project include a contract administration fee of \$5,779 (7.5% of the \$77,054 construction bid) and an inspection fee of \$7,680 (\$640 per crew day, multiplied by the 12 days provided in the contractor's bid) for a total fee of \$13,459.

The Whipple Drive Bridge construction is expected to be completed by this fall or winter. The road will likely be closed at this location to complete the construction. The Engineering Division has informed the adjacent residents that will be affected by the upcoming project.

RECOMMENDED ACTION: Approval to award an amendment to the engineering services agreement with Orchard, Hiltz & McCliment for construction engineering services for the Whipple Street Culvert Replacement project in the amount of 13,459.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Markham				

	1	2	Y	N
Council Member Mutch				
Council Member Poupard				
Council Member Wrobel				

Whipple Street Culvert Replacement

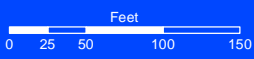
Location Map



Map Author: Croy
 Date: 7/17/15
 Project: Whipple Culvert
 Version #: v2.0

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 232 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



1 inch = 125 feet



City of Novi
 Engineering Division
 Department of Public Services
 26300 Lee BeGole Drive
 Novi, MI 48375
cityofnovi.org

**FIRST AMENDMENT TO THE
SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT**

WHIPPLE BRIDGE RECONSTRUCTION

First Amended Agreement between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and Orchard, Hiltz & McCliment, Inc., whose address is 34000 Plymouth Road, Livonia, Michigan 48150, hereafter, "Consultant," relating to modifications of the fee basis for engineering services. The following sections of the Supplemental Professional Engineering Services Agreement, as made and entered into on March 9, 2015 shall be amended as follows:

Section 2. Payment for Professional Engineering Services, The following Paragraphs shall be amended as follows:

1. Basic Fee.
 - a. *Unchanged*
 - b. Delete 1.b. in its entirety and replace with the following language:
Construction Phase Services: The Consultant shall complete the construction phase services as described herein according to the fee schedule as described below:
 - i. Contract Administration: The Consultant shall complete Contract Administration services for a lump sum fee of \$5,779.05, which is 7.5% of the awarded construction cost for the project (\$77,054) as indicated in the proposal dated February 18, 2015.
 - ii. Construction Inspection: The Consultant shall complete Construction Inspection services for \$640 per crew day as described in the request for proposals. "Crew days" shall be defined by the construction contract documents as an 8 hour day. Crew days shall be billed in 4 hour increments rounded to the next half day, therefore a 10 hour day shall be 1.5 crew days, a 3 hour day is 0.5 crew days, a 6 hour day shall be 1.0 crew days. The minimum crew day charged for a no-show by the contractor shall be 2 hours (0.25 crew days) which is reflective of the actual cost to the Consultant for traveling to the site and traveling back to the office. There will be no payment to the consultant for extra crew days that were not charged to the contractor. The Consultant acknowledges that intent of using crew days for inspection services is to provide a method for the consultant to recoup costs associated with slow progress by the contractor.
2. *Unchanged*

Except as specifically set forth in this First Amendment, the Supplemental Professional Engineering Services Agreement remains in full force and effect.

WITNESSES

Orchard, Hiltz & McCliment, Inc.

By:
Its:

The foregoing _____ was acknowledged before me this ____ day of _____,
20____, by _____ on behalf _____.

Notary Public
_____ County, Michigan
My Commission Expires: _____

WITNESSES

CITY OF NOVI

By:
Its:

The foregoing _____ was acknowledged before me this ____ day of _____,
20____, by _____ on behalf of the City of Novi.

Notary Public
Oakland County, Michigan
My Commission Expires: _____

MEMORANDUM



TO: BRIAN COBURN, PE; ENGINEERING MANAGER
FROM: BEN CROY, PE; CIVIL ENGINEER *BC*
SUBJECT: WHIPPLE STREET BRIDGE
DATE: OCTOBER 22, 2014

The small bridge on Whipple Street has been showing signs of deterioration over the last few years. Primarily, the abutments have shifted significantly, as can be seen in the pictures below. Field Operations staff has been monitoring the bridge since the shifted abutments were first noticed (possibly up to ten years ago). In August 2013, Engineering staff visited the site with a bridge engineer from Orchard, Hiltz, and McCliment (OHM). The bridge was identified as a Jack-Arch type bridge, and although the abutments have shifted, OHM did not see any immediate danger or signs of imminent failure. Therefore, it was determined that closure of the bridge isn't required, but rather observation of the bridge should continue with frequent visual inspections.



West End of Bridge



East End of Bridge

Recently however, a sink hole was observed on top of the bridge (see black patched area in picture below). This is likely a sign that a portion of the bridge between the abutments is failing, and it will likely continue to get worse until it presents a dangerous condition. Therefore, it appears that the bridge should be replaced relatively soon. This course of action was confirmed by OHM, given the uncertainty of the structure below the surface. The replacement could be designed over the winter, with construction taking place in 2015. Until then, the bridge will be closely monitored by Field Operations staff to make sure it remains in stable and safe condition.



Sink Hole Recently Observed

The attached construction cost estimate developed by OHM indicates the bridge replacement would cost approximately \$233,000 including engineering costs (although this may be slightly conservative given the high estimated cost for traffic control). OHM recommends that the bridge be reconstructed with a box culvert, including new wing walls at both ends. Additionally, approximately 50 feet of the pavement would need to be replaced.

Since this project is not funded in the current fiscal year, we will prepare a budget amendment once we identify a potential funding source.