

cityofnovi.org

CITY of NOVI CITY COUNCIL

Agenda Item D
February 2, 2009

SUBJECT: Approval of an engineering contract amendment to FTCH for additional construction engineering services for the Beck Road water main project in the amount of \$8,600 for tasks associated with construction contractor delays.

SUBMITTING DEPARTMENT: Engineering *RA*

CITY MANAGER APPROVAL: *Chen*

EXPENDITURE REQUIRED	\$8,600 (From Water & Sewer Fund)
AMOUNT INCLUDED IN CIP	\$1,048,698
ADDITIONAL AMOUNT REQUIRED	\$8,600
LINE ITEM NUMBER	592-592.00-160.050

BACKGROUND INFORMATION:

FTCH has requested a fee adjustment based on additional costs incurred during the extended construction phase of this project, which entailed extending water main along the east side of Beck Road between Eleven Mile Road and Grand River. FTCH was awarded \$36,480 for construction engineering services based on a fixed 3.8% of the estimated cost of construction of \$960,000. The construction bid awarded to DOC Contracting came in lower at \$633,649; therefore, FTCH would have been entitled to a reduced fee of 3.8% of this actual cost, or \$24,080.

The construction contract required DOC's work to be completed by November 2006, but DOC had several major work items remaining at that time. As shown on the attached Invoice Tracking Table (Exhibit A), by November 2006 FTCH had already invoiced for engineering services up to the awarded amount of \$36,480. DOC did not complete construction work until seven months later in June 2007. During this extended contract time, FTCH continued to provide engineering services totaling an additional 219 hours (as detailed in the attached memorandum from Rob Hayes). Because of its delays, DOC was assessed liquidated damages totaling \$21,000, and this amount was withheld from DOC's final payment processed in November 2007.

From December 2007 through July 2008, Engineering staff negotiated with FTCH a reasonable fee increase: FTCH was originally seeking a fee increase of nearly \$30,000, while city staff felt that the liquidated damages amount of \$21,000 was fair. As discussed above, FTCH has already been reimbursed an additional amount of \$12,400 (\$36,480 minus \$24,080) because the actual construction cost was less than the estimated amount used to compute FTCH's fee. Therefore, we recommend that FTCH receive an additional fee of \$8,600, which is the difference between the \$21,000 amount withheld from DOC's final payment for delayed completion and the \$12,400 previously paid to FTCH.

This project was completed significantly under budget. Including this fee increase, cumulative project costs total \$776,298, which is \$269,400 under the original project budget of \$1,045,698.

RECOMMENDED ACTION: Approval of an engineering contract amendment to FTC&H for additional construction engineering services for the Beck Road water main project in the amount of \$8,600 for tasks associated with construction contractor delays.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Gatt				
Council Member Burke				
Council Member Crawford				

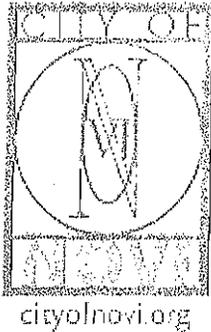
	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				

Fishbeck, Thompson, Carr & Huber
Novi / Beck Road Water Main Replacement

PO # 61292	Design	49,218.00															
	Construction	36,480.00															
Invoice Date	Invoice Number	Services Through	Engineer	Principal	Senior Associate	Senior Engineer	Staff Engineer	Environmental Specialist	Staff Environmental Specialist	Staff Technician	Surveyor	Survey Specialist	Production Support	Reimbursable Expenses	Additional Services	Total Fee	Amount Paid
03/09/2005	144865	02/25/2005	242.00										79.50	11.28		332.78	332.78
04/06/2005	145662	03/25/2005	656.00		216.00	1,130.00				795.00	3,450.00	82.00	132.50	865.88		7,327.38	7,327.38
05/04/2005	146908	04/22/2005	533.00			3,388.00		76.00		1,113.00			238.50	29.08		5,377.58	5,377.58
07/27/2005	150084	07/15/2005	246.00		76.50	10,482.00		1,293.00		2,152.50	568.00		1,219.00	350.73	2,824.00	19,211.73	19,211.98
08/24/2005	151138	08/24/2005	1,500.00										27.50			1,527.50	1,527.50
11/16/2005	154251	11/04/2005	375.00												1,182.50	1,557.50	1,557.50
12/14/2005	155289	12/02/2005	1,250.00										55.00			1,305.00	1,305.00
01/11/2006	156244	12/30/2005				2,000.00										2,000.00	2,000.00
02/08/2006	157212	01/27/2006				3,750.00		39.00		1,210.00			1,705.00	8.41	500.00	7,212.41	7,212.41
04/05/2006	159251	03/24/2006				750.00				110.00			165.00	61.26		1,086.26	1,086.26
05/31/2006	161364	05/19/2006				125.00							742.50			867.50	867.50
05/31/2006	161320	05/19/2006	273.00			500.00				440.00		168.00	825.00	4.51		2,210.51	2,210.51
06/28/2006	162370	06/16/2006											550.00	1,289.24		1,839.24	1,839.24
06/28/2006	162412	06/16/2006				216.00										216.00	216.00
07/26/2006	163453	07/14/2006				1,659.00							28.50	71.18		1,758.68	1,758.68
08/23/2006	164463	08/11/2006				202.00				134.00			228.00	159.04		723.04	723.04
09/20/2006	165508	09/20/2006	1,071.50							1,364.50		696.00	684.00	125.88		3,941.88	3,941.88
10/18/2006	166615	10/06/2006			928.50					11,457.00		1,914.00		1,869.38		16,168.88	16,168.88
11/15/2006	167741	11/03/2006				2,514.00				9,576.00				677.68		12,767.68	11,034.13
01/10/2007	169931	12/29/2006				1,979.00				10,199.00		522.00	456.00	574.41		13,730.41	-
02/07/2007	171028	01/26/2007				252.50				740.00				2.10		994.60	994.60
03/07/2007	172141	02/23/2007				606.00				127.00		522.00	85.50	38.51		1,379.01	-
05/02/2007	174415	04/20/2007				656.50				134.00			57.00	3.01		850.51	-
05/30/2007	175529	05/30/2007				151.50	938.00							47.25		1,136.75	-
06/27/2007	176720	06/15/2007			737.00	101.00	2,847.50							103.91		3,789.41	-
07/25/2007	177893	07/13/2007				520.00	483.00							36.57		1,039.57	-
09/19/2007	180316	09/07/2007				780.00				76.00				13.92		869.92	-
			6,146.50	-	1,221.00	31,762.50	938.00	1,408.00	-	39,552.00	4,018.00	3,904.00	7,278.50	6,343.23	4,506.50	111,221.73	86,692.85
																	24,528.88
	Engineering Construction			25,218.66													
				49,218.00	Design												
				74,436.66	Not to Exceed												

↑ Design Invoices
↓ Construction Eng. Invoices

MEMORANDUM



TO: KATHY SMITH-ROY, FINANCE DIRECTOR
FROM: ROB HAYES, CITY ENGINEER *RH*
SUBJECT: FEE INCREASE REQUEST – BECK RD WATER MAIN
DATE: OCTOBER 20, 2008

This memorandum follows Marina's review of a draft motion sheet I prepared last month for a construction engineering fee increase request from FTCH for the referenced project (August 19, 2008 letter from FTCH is attached).

Background

FTCH's awarded construction engineering fee was a fixed 3.8% of the estimated construction cost, which at the time of award was \$960,000 for a fee of \$36,480. The project's final construction price was \$633,649, which would entitle FTCH to a *lower* fee of \$24,080; however, FTCH has billed up to the awarded amount and has been paid the \$36,480 for construction engineering services. FTCH began exceeding the awarded \$36,480 amount roughly when the construction contractor failed to meet the original final completion date in November 2006.

The unique circumstances that directly impacted FTCH's costs on this project are due to the fact that the construction contractor completed the project ***seven months late*** in June 2007 and was consequently assessed liquidated damages in the amount of \$21,000. During this seven month period, FTCH remained actively involved in the project, and provided these additional services totaling 219 hours:

1. Inspections (141.5 hours):
 - a. Multiple inspections for water main installation work.
 - b. Recurring inspections for water main pressure testing and disinfection tests.
 - c. Multiple inspections of non-compliant restoration work.
2. Surveying (12.0 hours):
 - a. Field surveying of a half-mile of ditch line in response to drainage complaints from two Beck Road businesses.
 - b. CADD drawing preparation to document the results of the ditch survey and to prove that the water main project improved drainage and did not exacerbate the business' drainage issues.
3. Contract Administration (65.5 hours):
 - a. Progress meetings with the contractor and city staff.
 - b. Documentation of non-compliant work.
 - c. Meetings with affected business owners and residents.
 - d. Project recordkeeping and accounting for payment purposes.

Construction Engineering Fee Basis

As you know, in early 2005 City Council directed that construction engineering fees would be based on a fixed percentage of the cost of construction. Since that time, engineering consultants have proposed fixed percentage fees based on an estimate of construction and the

premise that the construction contractor would complete the project in a *reasonable* amount of time. This fixed percentage fee approach has generally worked well except when one of the following conditions occurs:

1. The actual cost of construction is less than what was estimated.
2. A contractor misses the project completion date and extends the consultant's time on the project.

Unfortunately for FTCH, both of these conditions occurred on this project.

To address the first condition, we now wait to award construction engineering services until the construction contract has been awarded. This way the construction price is known up front, as opposed to relying on an early construction estimate to calculate the construction engineering fee.

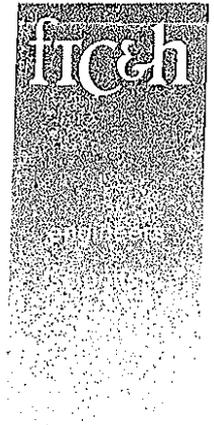
The solution to the second condition is more complex because under the fixed percentage approach, there is not always a linear relationship between the actual cost of construction engineering services and the cost of construction. This is especially true when the construction contractor is late on a project, because when this happens, the engineering firm typically encounters unanticipated expenses during each month the project is extended past its completion date (as was the case on the Beck Road water main project). We plan to develop and present to Council a proposed solution to this problem before the next round of capital projects is awarded for FY 2009/2010.

Recommendation

Given that the construction phase of this project extended seven months longer than anticipated, and that FTCH continued to provide construction phase services during this period, I recommend that FTCH's construction engineering fee be increased. Because an additional \$12,400 amount has already been paid to FTCH (the difference between the \$36,480 awarded amount and what the adjusted fee should have been, or \$24,080), I recommend that the balance of the liquidated damages of \$8,600 (\$21,000 less \$12,400) be reimbursed to FTCH.

If you concur, I will place this recommendation on an upcoming City Council meeting agenda. Please let me know if you have any questions or comments regarding this matter.

cc: Marina Neumaier, Assistant Finance Director
Aaron Staup, Construction Engineer



August 19, 2008
Project No. G05143CI

Mr. Robert Hayes, P.E.
City Engineer
City of Novi
45175 West Ten Mile Road
Novi, MI 48375

Re: City of Novi (City)
Beck Road Water Main Improvements
Project Summary

Dear Mr. Hayes:

Following is a summary of the events that occurred during the Beck Road Water Main project that caused Fishbeck, Thompson, Carr & Huber, Inc. (FTC&H) to exceed the approved budget. The primary issues are caused by the extensions of time granted to the contractor and the associated completion date revisions.

Contract Completion Date Summary

Notice to Proceed was issued to the contractor on August 1, 2006.

	Original Date	Revised Date	Actual Date
Substantial Completion Date	09/15/2006	11/14/2006	12/15/2006
Final Completion Date	11/15/2006	01/14/2007	06/15/2007

Liquidated Damages were charged based on the contract for calendar days from November 14, 2006, through December 15, 2006, plus actual work days in 2007 until final completion was achieved. A total of 42 days (\$21,000) of liquidated damages were assessed.

FTC&H exhausted the original budget amount of \$36,480 on approximately November 15, 2006 (FTC&H Invoice No. 167741), which coincides with the original final completion date of November 15, 2006. Once the budget was exceeded, I discussed the situation with you by telephone and indicated that we would continue to send invoices for our services so you were aware of FTC&H's costs incurred. Between the dates of November 15, 2006, and June 27, 2007 (FTC&H Invoice No. 176720), we incurred additional costs performing inspection and contract administration. The total amount invoiced on June 27, 2007, equaled \$57,521.35. Enclosed for your review is a summary report of the additional hours incurred and of the invoices submitted to date.

In addition to the time incurred in conjunction with the extensions of time and failure of the contractor to complete the project on time, there were questions raised regarding the grades of the proposed ditch which resulted in extra work being performed. FTC&H surveyed the area at the request of the City and addressed numerous complaints from a developer (the Remax building) within the project limits. In addition to the survey time incurred, several onsite meetings were required, as well as distribution of several letters stating our findings. This work occurred prior to June 15, 2007. The work FTC&H performed proved that the developers claims were unfounded and that the Beck Road Water Main project had no adverse impact on the drainage of their property.

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Suite B-25
Farmington Hills, MI
48331
ph: 248.324.2090
fax: 248.324.0930
www.ftch.com



Mr. Robert Hayes, P.E.
Page 2
August 19, 2008

Based on the information as referenced, FTC&H is requesting a fee increase of \$21,000 which is equal to the amount of liquidated damages assessed on the project. This would increase our total fee for the project to \$57,480. The actual costs incurred for FTC&H to complete the work are currently \$65,628.63. We will write off the difference of \$8,148.63.

If you have any questions or require additional information, please contact me at 248-324-2133 or tgray@ftch.com.

Sincerely,

FISHBECK, THOMPSON, CARR & HUBER, INC.


Thomas L. Gray II, P.E.

krn

By e-mail and U.S. Mail

cc: Ms. Karen E. Carnago, P.E. - FTC&H

Beck Road Water Main Project
Additional Hours Summary

Original Contract Completion →

Week Ending Date	Administrative Hours	Inspection Hours	Survey Hours
12/01/06	4.5	43.0	
12/15/06	9.5	19.0	
12/29/06	8.0	6.0	6.0
01/12/07	2.0	10.0	
01/26/07	0.5		
02/09/07	0.5		
02/23/07	9.0		6.0
03/09/07	3.5		
04/06/07	4.5		
04/20/07	1.5		
05/18/07	1.5	14.0	
06/01/07	3.5	28.5	
06/15/07	3.0	14.0	
06/29/07	1.0	7.0	
07/13/07	4.0		
07/27/07	1.0		
08/10/07	1.0		
08/24/07	1.0		
09/07/07	5.5		
10/05/07	0.5		
Total Hours =	65.5	141.5	12.0

Actual Contract Completion →

Σ0 = 130 hours unreimbursed