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CITY of NOVI CITY COUNCIL

Agenda Item H
January 25, 2010

SUBJECT: Approval to award a contract for design engineering services for the Grand River and Ten Mile Road Pressure Reducing Valve Replacement Project to Orchard, Hiltz & McCliment, Inc. (OHM) for a not-to-exceed design fee of \$19,903.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division *BTC*

CITY MANAGER APPROVAL *[Signature]* *R14*

EXPENDITURE REQUIRED	\$19,903
AMOUNT INCLUDED IN CIP	\$0
ADDITIONAL AMOUNT REQUIRED	\$19,903
LINE ITEM NUMBER	To be determined (Water & Sewer Fund)

BACKGROUND INFORMATION:

The purpose of this project is to upgrade the Grand River pressure reducing valve (PRV) located on Grand River east of Main Street, and the Ten Mile PRV located on Ten Mile at the CSX tracks. The locations are shown on the attached map.

The PRVs regulate the water pressure in the southeastern part of the City to keep the system within the recommended pressure range. These PRVs were installed in the early 1970's, and the upgrades have been recommended by the Water and Sewer Division to ensure the pressure in the city's water system is properly maintained. The scope of this project includes equipment upgrades at the Ten Mile PRV, and the abandonment and relocation of the Grand River PRV. The existing Grand River location is being abandoned because the vault is in such poor condition that replacement of the vault made more sense than trying to repair it. Safety improvements and improved access will be provided at both locations. The complete scope is detailed in the attached supplemental agreement. This project was approved in the 07-08 CIP in the amount of \$244,000 but was deferred until the completion of the water study in 2008.

OHM's design and construction administration fees are based on the fixed fee schedule established in the Agreement for Professional Engineering Services for Public Projects. The design fees for this project will be \$19,903 (8.0% of the estimated construction cost, plus \$1,392 for the required electrical engineering design, which is not typical for water main projects and is therefore not part of the fixed fee structure). The construction phase engineering fees will be awarded at the time of construction award and will be based on the contractor's bid and the fee percentage in the Agreement for Professional Engineering Services for Public Projects. OHM's proposed scope of services, estimate and budget and the supplemental agreement are enclosed.

OHM has completed engineering services for the CMOM study, as well as for several road projects. Design engineering for this project will be completed this winter, bids solicited in early spring 2010, and construction completed in summer 2010.

RECOMMENDED ACTION: Approval to award a contract for design engineering services for the Grand River and Ten Mile Road Pressure Reducing Valve Replacement Project to Orchard, Hiltz & McCliment, Inc. (OHM) for a not-to-exceed design fee of \$19,903.

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

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

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 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

City of Novi



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2010 PRESSURE REDUCING VALVE UPGRADES



SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT

**GRAND RIVER AND TEN MILE ROAD PRESSURE
REDUCING VALVE REPLACEMENT PROJECT**

This Agreement shall be considered as made and entered into as of the date of the last signature hereon, and is 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."

RECITALS:

This Agreement shall be supplemental to, and hereby incorporates the terms and conditions of the AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR PUBLIC PROJECTS, and attached exhibits, entered into between the City and the Consultant on September 24, 2009.

The project includes the upgrade of the Grand River pressure reducing valve (PRV) and the Ten Mile PRV. The Grand River PRV will be abandoned and relocated to a nearby location. The Ten Mile PRV upgrade will include valve replacement and upgrade of the existing vault for continued use. Upgrades to site access, electrical systems and other miscellaneous items will be performed at both locations.

NOW, THEREFORE, in consideration of the foregoing, the City and Consultant agree as follows:

Section 1. Professional Engineering Services.

For and in consideration of payment by the City as provided under the "Payment for Engineering Services" section of this Agreement, Consultant shall perform the work described in the manner provided or required by the following Scope of Services, which is attached to and made a part of this Agreement as Exhibit A, all of said services to be done in a competent, efficient, timely, good and workmanlike manner and in compliance with all terms and conditions of this Agreement.

Exhibit A Scope of Services

Section 2. Payment for Professional Engineering Services.

1. Basic Fee.
 - a. Design Phase Services: The Consultant shall complete the design phase services as described herein for a lump sum fee of \$18,511.00, which is 8.00% of the estimated construction cost (\$231,388) as indicated on the design and construction engineering fee curve provided in Exhibit B of the Agreement for Professional Engineering Services for Public Projects.

- b. Electrical Engineering Services: The Consultant shall complete the electrical engineering design services as needed for a lump sum fee of \$1,392.00.
- c. Construction Phase Services will be awarded at the time of construction award, should it occur.

2. Payment Schedule for Professional Engineering Services Fee.

Consultant shall submit monthly statements for professional engineering services rendered. The statements shall be based on Consultant's estimate of the proportion of the total services actually completed for each task as set forth in Exhibit A at the time of billing. The City shall confirm the correctness of such estimates, and may use the City's own engineer for such purposes. The monthly statements should be accompanied by such properly completed reporting forms and such other evidence of progress as may be required by the City. Upon such confirmation, the City shall pay the amount owed within 30 days.

Final billing under this agreement shall be submitted in a timely manner but not later than three (3) months after completion of the services. Billings for work submitted later than three (3) months after completion of services will not be paid. Final payment will be made upon completion of audit by the City.

3. Payment Schedule for Expenses.

All expenses required to complete the scope of services described herein, including but not limited to costs related to mileage, vehicles, reproduction, computer use, etc., shall be included in the basic fee and shall not be paid separately. However, as compensation for expenses that are not included in the standard scope of services, when incurred in direct connection with the project, and approved by the City, the City shall pay the Consultant its actual cost times a factor of 1.15.

Section 4. Ownership of Plans and Documents; Records.

1. Upon completion or termination of this agreement, all documents prepared by the Consultant, including tracings, drawings, estimates, specifications, field notes, investigations, studies, etc., as instruments of service shall become the property of the City.

2. The City shall make copies, for the use of the Consultant, of all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Consultant under this Agreement, and also make available any other maps, records, or other materials available to the City from any other public agency or body.

3. The Consultant shall furnish to the City, copies of all maps, records, field notes, and soil tests that were developed in the course of work for the City and for which compensation has been received by the Consultant.

Section 5. Termination.

1. This Agreement may be terminated by either party upon 7- days' prior written notice to the other party in the event of substantial failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party.

2. This Agreement may be terminated by the City for its convenience upon 90 days' prior written notice to the Consultant.

3. In the event of termination, as provided in this Article, the Consultant shall be paid as compensation in full for services performed to the date of that termination, an amount calculated in accordance with Section 2 of this Agreement. Such amount shall be paid by the City upon the Consultant's delivering or otherwise making available to the City, all data, drawings, specifications, reports, estimates, summaries, and that other information and materials as may have been accumulated by the Consultant in performing the services included in this Agreement, whether completed or in progress.

Section 6. Disclosure.

The Consultant affirms that it has not made or agreed to make any valuable gift whether in the form of service, loan, thing, or promise to any person or any of the person's immediate family, having the duty to recommend, the right to vote upon, or any other direct influence on the selection of consultants to provide professional engineering services to the City within the two years preceding the execution of this Agreement. A campaign contribution, as defined by Michigan law shall not be considered as a valuable gift for the purposes of this Agreement.

Section 7. Insurance Requirements.

1. The Consultant shall maintain at its expense during the term of this Agreement, the following insurance:

- A. Worker's Compensation insurance relative to all Personnel engaged in performing services pursuant to this Agreement, with coverage not less than that required by applicable law.
- B. Comprehensive General Liability insurance with maximum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate and minimum Property Damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- C. Automotive Liability insurance covering all owned, hired, and non-owned vehicles with Personal Protection insurance to comply with the provisions of the Michigan No Fault Insurance Law including Residual Liability insurance with minimum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate minimum property damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.

D. The Consultant shall provide proof of Professional Liability coverage in the amount of not less than \$1,000,000 (One Million Dollars) per occurrence and/or aggregate, and Environmental Impairment coverage.

2. The Consultant shall be responsible for payment of all deductibles contained in any insurance required hereunder.

3. If during the term of this Agreement changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate insurance limits, the Consultant will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be effected at the Consultant's expense, under valid and enforceable policies, issued by the insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.

4. All policies shall name the Consultant as the insured and shall be accompanied by a commitment from the insurer that such policies shall not be canceled or reduced without at least thirty (30) days prior notice to the City.

With the exception of professional liability, all insurance policies shall name the City of Novi, its officers, agents, and employees as additional insured. Certificates of Insurance evidencing such coverage shall be submitted to Sue Morianti, Purchasing Manager, City of Novi, 45175 West Ten Mile Road, Novi, MI 48375-3024 prior to commencement of performance under this Agreement and at least fifteen (15) days prior to the expiration dates of expiring policies.

5. If any work is sublet in connection with this Agreement, the Consultant shall require each subconsultant to effect and maintain at least the same types and limits of insurance as fixed for the Consultant.

6. The provisions requiring the Consultant to carry said insurance shall not be construed in any manner as waiving or restricting the liability of the Consultant under this Agreement.

Section 8. Indemnity and Hold Harmless.

A. The Consultant agrees to indemnify and hold harmless the City, its elected and appointed officials and employees, from and against any and all claims, demands, suits, losses and settlements, including actual attorney fees incurred and all costs connected therewith, for any damages which may be asserted, claimed or recovered against the City by reason of personal injury, death and/or property damages which arises out of or is in any way connected or associated with the actions or inactions of the Consultant in performing or failing to perform the work.

The Consultant agrees that it is its responsibility and not the responsibility of the City to safeguard the property and materials used in performing this Agreement. Further, this Consultant agrees to hold the City harmless for any loss of such property and materials used pursuant to the Consultant's performance under this Agreement.

Section 9. Nondiscrimination.

The Consultant shall not discriminate against any employee, or applicant for employment because of race, color, sex, age or handicap, religion, ancestry, marital status, national origin, place of birth, or sexual preference. The Consultant further covenants that it will comply with the Civil Rights Act of 1973, as amended; and the Michigan Civil Rights Act of 1976 (78. Stat. 252 and 1976 PA 4563) and will require a similar covenant on the part of any consultant or subconsultant employed in the performance of this Agreement.

Section 10. Applicable Law.

This Agreement is to be governed by the laws of the State of Michigan and the City of Novi Charter and Ordinances.

Section 11. Approval; No Release.

Approval of the City shall not constitute nor be deemed release of the responsibility and liability of Consultant, its employees, associates, agents and subconsultants for the accuracy and competency of their designs, working drawings, and specifications, or other documents and services; nor shall that approval be deemed to be an assumption of that responsibility by the City for any defect in the designs, working drawings and specifications or other documents prepared by Consultant, its employees, subconsultants, and agents.

After acceptance of final plans and special provisions by the City, Consultant agrees, prior to and during the construction of this project, to perform those engineering services as may be required by City to correct errors or omissions on the original plans prepared by Consultant and to change the original design as required.

Section 12. Compliance With Laws.

This Contract and all of Consultants professional services and practices shall be subject to all applicable state, federal and local laws, rules or regulations, including without limitation, those which apply because the City is a public governmental agency or body. Consultant represents that it is in compliance with all such laws and eligible and qualified to enter into this Agreement.

Section 13. Notices.

Written notices under this Agreement shall be given to the parties at their addresses on page one by personal or registered mail delivery to the attention of the following persons:

City: Rob Hayes, P.E., Director of Public Services and Maryanne
Cornelius, Clerk, with a copy to Thomas R. Schultz, City Attorney

Consultant: James Stevens, P.E.

Section 14. Waivers.

No waiver of any term or condition of this Agreement shall be binding and effective unless in writing and signed by all parties, with any such waiver being limited to that circumstance only and not applicable to subsequent actions or events.

Section 15. Inspections, Notices, and Remedies Regarding Work.

During the performance of the professional services by Consultant, City shall have the right to inspect the services and its progress to assure that it complies with this Agreement. If such inspections reveal a defect in the work performed or other default in this Agreement, City shall provide Consultant with written notice to correct the defect or default within a specified number of days of the notice. Upon receiving such a notice, Consultant shall correct the specified defects or defaults within the time specified. Upon a failure to do so, the City may terminate this Agreement by written notice and finish the work through whatever method it deems appropriate, with the cost in doing so being a valid claim and charge against Consultant; or, the City may preserve the claims of defects or defaults without termination by written notice to Consultant.

All questions which may arise as to the quality and acceptability of work, the manner of performance and rate of progress of the work, and the interpretation of plans and specifications shall be decided by the City. All questions as to the satisfactory and acceptable fulfillment of the terms of this agreement shall be decided by the City.

Section 16. Delays.

No charges or claims for damages shall be made by the Consultant for delays or hindrances from any cause whatsoever during the progress of any portions of the services specified in this agreement, except as hereinafter provided.

In case of a substantial delay on the part of the City in providing to the Consultant either the necessary information or approval to proceed with the work, resulting, through no fault of the Consultant, in delays of such extent as to require the Consultant to perform its work under changed conditions not contemplated by the parties, the City will consider supplemental compensation limited to increased costs incurred as a direct result of such delays. Any claim for supplemental compensation must be in writing and accompanied by substantiating data.

When delays are caused by circumstances or conditions beyond the control of the Consultant as determined by the City, the Consultant shall be granted an extension of time for such reasonable period as may be mutually agreed upon between the parties, it being understood, however, that the permitting of the Consultant to proceed to complete the services, or any part of them, after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the City of any of its rights herein set forth.

Section 17. Assignment.

No portion of the project work, heretofore defined, shall be sublet, assigned, or otherwise disposed of except as herein provided or with the prior written consent of the City. Consent to

sublet, assign, or otherwise dispose of any portion of the services shall not be construed to relieve the Consultant of any responsibility for the fulfillment of this agreement.

Section 18. Dispute Resolution.

The parties agree to try to resolve any disputes as to professional engineering services or otherwise in good faith. In the event that the parties cannot resolve any reasonable dispute, the parties agree to seek alternative dispute resolution methods agreeable to both parties and which are legally permissive at the time of the dispute. The parties agree to use their best efforts to resolve any good faith dispute within 90 (ninety) days notice to the other party. In the event the parties cannot resolve that dispute as set forth above, they may seek such remedies as may be permitted by law.

WITNESSES

Orchard, Hiltz & McCliment, Inc.

By: James Stevens, P.E.
Its:

The foregoing _____ was acknowledged before me this ____ day of _____,
200__, 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 _____,
200__, by _____ on behalf of the City of Novi.

Notary Public
Oakland County, Michigan
My Commission Expires: _____

EXHIBIT A - SCOPE OF SERVICES

Consultant shall provide the City professional engineering services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as the City's professional engineering representative for the Project, providing professional engineering consultation and advice and furnishing customary civil, structural, mechanical and electrical engineering services and customary engineering services incidental thereto, as described below.

A. **Basic Services.**

[see attached]

B. **Performance.**

1. The Consultant agrees that, immediately upon the execution of this Agreement, it will enter upon the duties prescribed in this agreement, proceed with the work continuously, and make the various submittals on or before the dates specified in the attached schedule. The City is not liable and will not pay the Consultant for any services rendered before written authorization is received by the Consultant.
2. The Consultant shall submit, and the City shall review and approve a timeline for submission of plans and/or the completion of any other work required pursuant to this Scope of Services. The Consultant shall use its best efforts to comply with the schedule approved by the City.
3. If any delay is caused to the Consultant by order of the City to change the design or plans; or by failure of the city to designate right-of-way, or to supply or cause to be supplied any data not otherwise available to the Consultant that is required in performing the work described; or by other delays due to causes entirely beyond the control of the Consultant; then, in that event, the time schedules will be adjusted equitably in writing, as mutually agreed between the City and the Consultant at the moment a cause for delay occurs.
4. Since the work of the Consultant must be coordinated with the activities of the City (including firms employed by and governmental agencies and subdivisions working with the City), the Consultant shall advise the City in advance, of all meetings and conferences between the Consultant and any party, governmental agency, political subdivision, or third party which is necessary to the performance of the work of the Consultant.



Project Understanding

The Request for Proposal (RFP) issued by the City of Novi on February 8, 2008, outlines the services requested by the City. The City requests a scope of work that encompasses the design, bidding assistance; construction administration and construction observation associated with improvements at the Pressure Reducing Valve (PRV) Stations on Grand River Avenue and Ten Mile Road.

A basic description of the requested improvements is as follows:

- Replacement and relocation of the existing station at Grand River. The existing station will be abandoned in place and the station disconnected from the water distribution system. The existing structure will be filled in place with flowable fill to avoid future collapse.
- Removal and replacement of the existing pressure reducing valve (PRV) on Ten Mile Road. The PRV diameter will remain 6-inches. Additionally, the existing structure watertightness will be reviewed and coatings and/or modifications included in the design to improve the structure's watertightness as required.
- The Grand River Avenue replacement station will be a prefabricated steel station with a pressure reducing valve, bypass line, piping, steel structure, access hatches, and accessories (humidifier, sump pump, etc.).
- Isolation valves and manholes will be reused and or added for constructability.
- Provide site access drives to each of the PRV stations for operation and maintenance accessibility. Bituminous pavement will be used at Ten Mile Road, while a grass paver unit will be specified for Grand River Avenue.
- Replace the existing electrical systems at each of the stations from the existing electrical meter box to the station. Upgrade of the electrical service is not anticipated.

Project Approach

Design Phase Services

Upon authorization by the Novi City Council and City Engineer we will initiate the design of the improvements to the Grand River Avenue and Ten Mile Road Pressure Reducing Valve stations. The scopes of services included within each task are listed below:

1. Review the background information available for the stations.
2. A topographic survey for each of the PRV station sites will be conducted. Survey will include a tree survey indicating type, size and condition of trees measuring 6-inch or larger. Existing utilities, road right-of-ways and easements will be added to each of the topographic surveys to create background drawings for design.
3. The Ten Mile Road PRV station is located near a wetland area but is not anticipated to impact the wetlands. However, we will flag the wetland areas and include the delineation on the drawings.
4. Develop 30% design layouts each of the stations and review with the City. Layouts will include the major design components (station, gate structures, bypass and access drive) for consideration. We anticipate having a design review meeting at this stage with the City to review the City's comments.
5. Prepare 90% plans and specifications incorporating any input from the 30% review meeting. These documents will be submitted to the City for review and comments amongst the various departments. Following the City's review we would meet to discuss the final comments.
6. Construction cost estimates would be provided at both the 30% and 90% design submittals for



Project Understanding and Approach

discussions with the City and/or adjustments to the project if required.

7. A permit application to the Road Commission of Oakland County would be submitted for the access drive of the Grand River Avenue station. OHM will prepare the permit application and submit the application on the City's behalf. Permit fees would be paid for by the City.
8. Prepare and submit the Part 399 permit application to the City for distribution to Oakland County and the MDEQ. We have assumed that there will be no wetland or floodplain permit applications required for these projects. Permits will need to be obtained prior to any construction beginning.
9. A soil erosion and sedimentation control plan for the project will be created and included in the 90% review set to the City. Any permitting fees will be the responsibility of the City.
10. Assistance during the bidding phase will also be provided. OHM will prepare and distribute the bidding document to prospective bidders.
11. OHM will coordinate and conduct a mandatory pre-bid meeting with prospective bidders. We would request that Engineering, Construction and DPW staff be available for field visits after the pre-bid meeting.
12. Bids received will be tabulated and reviewed. A letter of recommendation to the City will be prepared and distributed to the City.

Construction Administration and Inspection Services

During this phase of the work, OHM will provide construction administration services to the City that will include the following services:

1. Regular communication and consultation with the City regarding the progress and status of the project will be provided.
2. Upon award by the City Council, contract documents will be prepared and distributed to the Contractor. Insurance documents and bonds will be reviewed once submitted by Contractor.
3. Attend the pre-construction meeting. OHM will provide coordinate the date of the meeting with the City, prepare invitations to interested parties and manage the meeting. Meeting minutes will be prepared after the pre-construction meeting.
4. Construction inspection during active construction by a full time inspector will be provided.
5. OHM will review the PRV station and associated shop drawings for conformance with the contract documents.
6. Interpretation of plans and specifications when questions arise during the construction phase will be addressed.
7. Construction staking for stations will be provided.
8. Preparation of daily reports during active construction and/or when OHM personnel visit the sites will be done.
9. Attend progress meetings and coordination meetings as required.
10. Prepare a final punch list for each site.
11. Coordination of the start up services provided in the construction documents with the general contractor.
12. Preparation and certification of contractor pay estimates on a monthly basis.
13. Diligence in attending to resident concerns and complaints as they become known, as well as promptly communicating those issues directly with City Engineering.



Project Understanding and Approach

14. As part of our construction phase services, OHM will administer and enforce the soil erosion and sedimentation control plan as an agent for the City of Novi under the Authorized Public Agency (APA) program in compliance with the City of Novi Authorized Public Agency SESC Program Manual. OHM will conduct soil erosion and sedimentation control inspections of the project for compliance with the approved soil erosion and sedimentation control plan. Inspections will be completed by an individual that is certified by the Michigan Department of Environmental Quality under Part 91. Inspections will occur at regular intervals. OHM will institute corrective measures in the field to prevent soil erosion and sedimentation as required.
15. Following substantial completion of construction, this phase will include submittal to the City Engineering Department the project reports and documents, as well as a recommendation regarding final acceptance of the project. Within this phase, OHM will prepare construction record (as-built) drawings and transmit one (1) digital copy of as-built plan in .tif format (400 dpi minimum), two (2) plan copies, and a CD containing the digital file (AutoCad file) of the record drawing in City format to the Engineering Department within three (3) months following substantial completion of the project.

The construction phase services also include providing on-site observation during active construction to document that the construction is completed in compliance with the plans, specifications, and contract documents. OHM will witness below grade construction efforts, as well as critical items, such as equipment unloading, electrical upgrades, station installation, and underground piping connections. Items that are above grade and of a non-critical nature will be witnessed on a part-time inspection effort. Several assumptions were made in preparing the construction engineering budget for this project. Variations in these assumptions may impact the proposed fee for this project. These assumptions are as follows:

1. The construction period was assumed to be completed in 3 months.
2. Active construction observation as described above was assumed to be 37 days total.
3. Shop drawing effort was determined by assuming two submittals of information (one initial and one re-review submittal).
4. Review of up to 3 pay estimates was included.
5. Processing up to 1 contractor change orders was included. Redesign work associated with change orders is not included.



Proposed Project Schedule

Engineering Services for
Pressure Reducing Valve Structure Improvements
at Grand River Avenue and Ten Mile Road

Time Schedule

Task		Duration	2010				
			February	March	April	May	June
Task 1:	Survey	2/1-2/12	■				
Task 2:	Preliminary Design	2/15-3/1		■			
Task 3:	a. Final Design	3/8-3/30		■			
	b. MDEQ Permit	4/6-4/28			■		
	c. Bidding	4/28-5/20				■	
	d. Const. Contract Award	6/7					■
Task 5:	Construction	6/8-9-8					■



**Project Summary
Engineer's Opinion of Probable Project Costs**

Owner: City of Novi Michigan
 Project: PRV Station Replacement
 Work: Improvements at Grand River and Ten Mile Stations
Reuse Ten Mile Vault

Date: 12/28/2009
 Project No. 0163-10-0041
 Prepared By: S. Wright
 Reviewer:
 Current ENR: 8641.45

Item No.	Item Description	Est. Quantity	Unit	Unit Price	Total Cost
1	Traffic Control	1	LS	\$8,000.00	\$8,000.00
2	Soil Erosion and Sedimentation Control	1	LS	\$4,000.00	\$4,000.00
3	Sheeting, Shoring & Bracing	200	LF	\$80.00	\$16,000.00
4	Clearing	1	LS	\$5,000.00	\$5,000.00
5	Excavation	50	CY	\$50.00	\$2,500.00
6	Backfill	25	CY	\$30.00	\$750.00
7	Cast-in-Place Concrete Slab	10	CY	\$550.00	\$5,500.00
8	Prefabricated PRV Vault	1	EA	\$66,000.00	\$66,000.00
9	PRV Vault Installation	1	LS	\$9,900.00	\$9,900.00
10	Remove Piping & Valves at Ten Mile	1	LS	\$2,000.00	\$2,000.00
11	Replace Piping & Valves at Ten Mile	1	LS	\$10,000.00	\$10,000.00
12	Isolation Valve Manholes	4	EA	\$8,000.00	\$32,000.00
13	Bypass Piping	60	LF	\$100.00	\$6,000.00
14	Access Drive	600	SF	\$25.00	\$15,000.00
15	15-inch Storm Sewer	200	LF	\$80.00	\$16,000.00
16	Catchbasin	1	EA	\$2,500.00	\$2,500.00
17	Remove and Replace Sidewalk	20	LS	\$5.00	\$100.00
18	Audiovisual coverage	1	LS	\$2,000.00	\$2,000.00
19	Restoration (5%)	1	LS	\$13,000.00	\$13,000.00
TRADES SUBTOTAL					\$216,250.00
CONTRACTUAL REQUIREMENTS					
	General Requirements (Mobilization, Bonds, Permits)	7.0%			\$15,138.00
TOTAL CONSTRUCTION COST:					\$231,388.00
PROJECT COSTS					
	Design Engineering (Based on Watermain Project)	8.0%			\$18,511.00
	Electrical Engineering (PE III)	12	hours	\$116.00	\$1,392.00
	Construction Administration	6.5%			\$15,040.00
	Construction Observation	37	days	\$615.00	\$22,755.00
TOTAL:					\$289,086.00
CONTINGENCIES					
		10.0%			\$21,625.00
	Adjustment of Costs from ENR CCI	1.00			\$310,711.00
ENGINEER'S OPINION OF PROJECT COST					\$310,711.00