



CITY of NOVI CITY COUNCIL

Agenda Item H
August 8, 2011

SUBJECT: Approval to award a contract for engineering services for the Water System Storage Feasibility Study to Orchard, Hiltz & McCliment, Inc. (OHM) in the amount of \$19,300.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division *R24* *BTC*

CITY MANAGER APPROVAL: *[Signature]*

EXPENDITURE REQUIRED	\$ 19,300
LINE ITEM NUMBER	592-592.00-805.000 (Water & Sewer Fund)

BACKGROUND INFORMATION:

A Water System Master Plan for the City of Novi was completed in 2008. One of the study's recommendations is to maintain a consistent water supply from Detroit Water and Sewerage Department (DWSD) and potentially reduce DWSD bulk water rates by constructing an 8 million gallon ground storage tank with an 18.6 million gallon per day pump station on City-owned property near West Park Drive and West Road.

The scope of this engineering award includes a financial/feasibility study of the recommended storage tank and other available options to provide water storage and/or decreased water supply costs from DWSD. These options include:

- Construct the water storage tank and appurtenances as recommended by the 2008 Water Study
- Construct a smaller water storage tank (or tanks) to achieve better water management
- Partner with another DWSD customer(s) (such as Commerce Township, Walled Lake, Wixom, West Bloomfield, Farmington Hills, etc.) to decrease water costs (possibly by constructing a shared water storage tank)
- Join an existing water authority to decrease water costs
- Do nothing

The study will define all possible alternatives and evaluate each for feasibility and financial benefit to the City in order to develop a recommended alternative. The report will also include a financial analysis as a measure of feasibility. This report will be used by the City to develop the final recommendation and present the impact on water rates.

The Agreement for Professional Engineering Services for Public Projects does not contain a fee category for a water system study, so proposals were requested from the City's three pre-qualified engineering firms. City staff reviewed the proposals and recommends that design engineering for this project be awarded to OHM. OHM's proposal and a summary of the review scoring are attached.

Once this feasibility study has been completed and a project alternative identified, Engineering staff will add it as a proposed project in the City of Novi's Capital Improvements Program. When the project's design and construction phases are funded in a future budget year, a Request for Proposals will be prepared for the project's design phase and sent to the City's three civil engineering consulting firms (currently URS, OHM and Spalding DeDecker), and a design consultant will be selected based on an evaluation of the three proposals.

The fee for this project is \$19,300, per the attached proposal. A draft of the Supplemental Professional Engineering Services Agreement for this project is enclosed and includes the project scope.

RECOMMENDED ACTION: Approval to award a contract for engineering services for the Water System Storage Feasibility Study to Orchard, Hiltz & McCliment, Inc. (OHM) in the amount of \$19,300.

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

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

Project Understanding and Approach

PROJECT UNDERSTANDING

The City of Novi is interested in a feasibility study to develop and evaluate alternatives that will result in reduced wholesale water rates from DWSD. In particular, they are interested in examining water storage tank options. The consideration of water storage facilities is important, since many communities have shown significant rate savings and relatively short amortization schedules based on those savings by implementing new storage facilities or revising the operation of existing storage facilities to make them more effective. The rate savings are made possible by the current DWSD rate methodology, which assigns significant cost to the Peak Hour flow usage category.

TECHNICAL APPROACH TO THE PROJECT

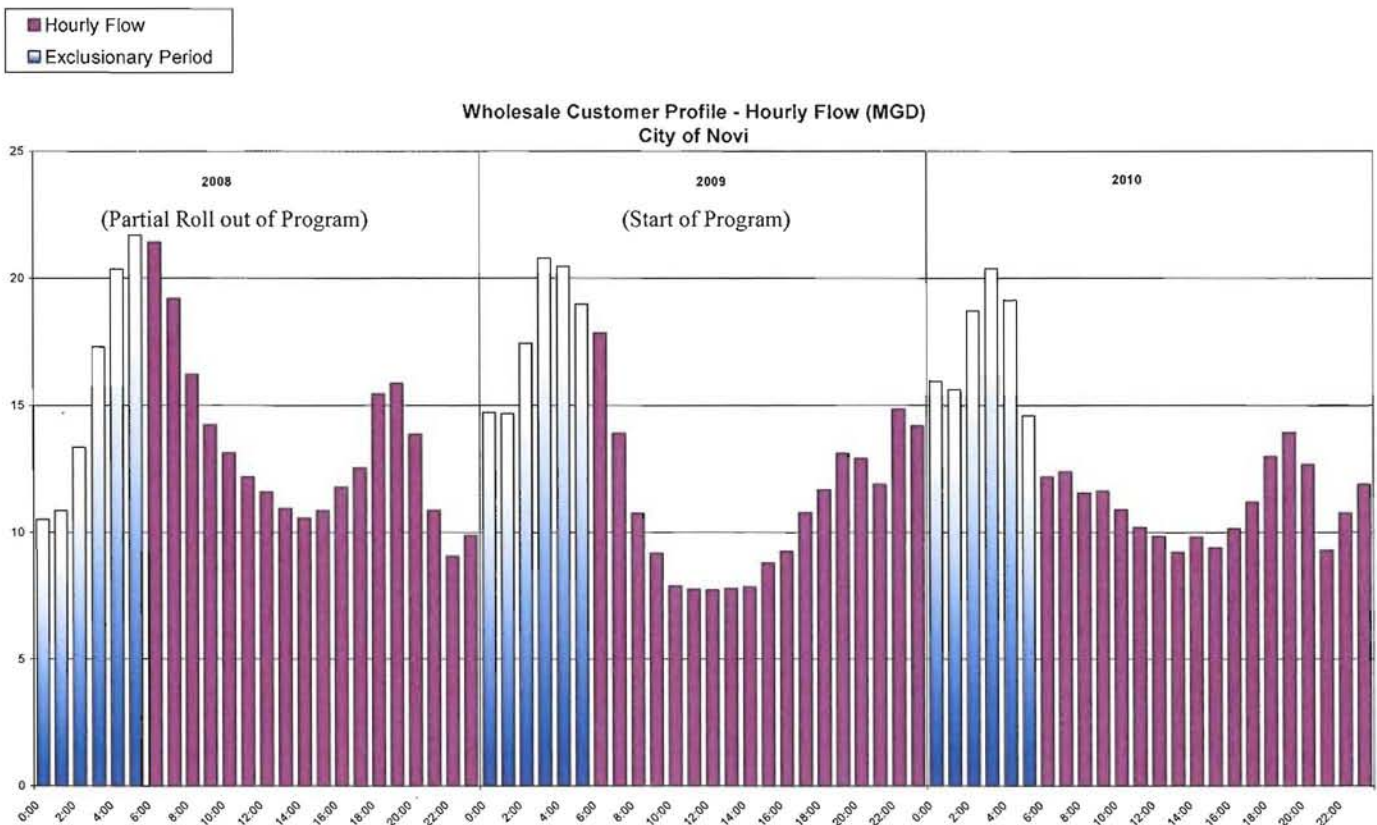
The City of Novi has already completed a large amount of work to address the DWSD rates and is beginning to see some benefit. In 2008 the City of Novi instituted a mandatory ordinance that requires automatic irrigation sprinklers to operate on odd/even days and only between 11pm and 6am. As a result, the City has seen drastic modification to their demand pattern as shown below.

The variability in weather, uncertainty in reliance on actions of so many individuals based on short period of data, and a lack of knowledge about how future economic conditions will impact future

flows makes translation of the results into specific contractual values very difficult. Therefore, consideration of a wide variety of alternatives is appropriate.

Consideration of how the existing demand management program interacts with the other alternatives is important. For example, a storage option sized based on the 2008 implemented demand management plan might be much smaller than that previously sized conventional storage. In addition, this storage may be used primarily to mitigate the risk associated with going over the contractual flows, allowing the City to be more aggressive with setting lower contractual flow values. The operational strategy of the storage could also be significantly different than conventional storage. It is quite feasible that a small elevated tank at a high flow feed from the north could be very cost-effective.

In addition to the typical estimates of construction cost as well and operations and maintenance (O&M), it will be important to calculate the impact on rates. This will require an estimate of flows – annual volume, maximum day flow rate, and peak hour flow rate. These values can be used to estimate the rate impact as a comparison to the FY2011-2012 existing rates for the City of Novi. Although the rates will vary year to year depending on many variables, it is a good relative comparison for the alternatives being considered.



PROJECT SCOPE

Task 1—Evaluate Existing Conditions

We believe it is important for the City to understand the existing demand characteristics within the system. The City has changed the characteristics of their summer usage over the past three years through their demand management program. Specific work efforts for this task include:

- Obtain City flow and pressure data using the Detroit Water and Sewerage Department (DWSD) Wholesale Automated Meter Reading (WAMR) Online Portal for the past 5 years.
- Develop typical demand patterns of summer usage and winter (non-irrigation) usage.
- Review exclusionary usage and constancy of usage under ordinance (i.e. to what degree does hot dry weather affect exclusionary and non-exclusionary periods).
- Calculate equalization volume based on current (2010) conditions as well as pre-Demand Management (2007/Master Plan).

Task 2—Develop Storage Alternatives

This task includes review of the proposed storage alternative in the Water Master Plan. We will revisit the sizing of the storage in the 2008 Master Plan based on the new demand management measures put into place by the City. This task includes the potential for more than one storage tank or elevated storage tank. Preliminary concepts for control of the system will be considered for each alternative. Several communities in the surrounding area are facing the same DWSD rates and are considering similar alternatives. The City of Novi has already been in contact with a few of these communities. The following tasks will be completed:

- Contact neighboring communities that may be interested in partnering to reduce peak DWSD flows.
- Develop combined diurnal curves and preliminary storage volumes for communities interested in partnering.
- Contact SOCWA and Wixom to determine if they are interested in partnering. If so, determine the amount of excess storage volume available and calculate a combined maximum day and peak hour flow rate.
- Provide alternatives for storage size, type and location. These alternatives will include the alternative proposed in the 2008 Water Master Plan and the possibility of constructing smaller storage for water management along with other potential alternatives.
- Determine feasibility of connecting to potential partnering communities.

Task 3—Demand Management

This task will involve an evaluation of the results of the City's current efforts to shift peak usage from grass watering. Currently the City has seen good results from its efforts to modify irrigation behaviors. However, these results have only been reflected in the

water rates to a small degree due to the short period of record. Specific work efforts for this task include:

- Review past system performance for the City and that of other communities to assess the level of risk associated with lowering contract flow rates.
- Discussions with the City over risk management without storage and potential tracking tools, such as H2Ometrics to assist in managing the risk.
- Create alternatives for contractual flow rates based on varying levels of risk.
- Discuss future program options to develop a sense of the program trends.

Task 4 – Alternative Screening

Under this task we will work with the City to narrow down the list of alternatives to two primary storage alternatives. The following tasks will be completed:

- Prepare preliminary cost estimates for the alternatives determined under Task 2.
- Prepare a list of advantages and disadvantages for each of the alternatives.
- Meet with the City to discuss alternatives and to narrow down the list of alternatives to two (2) primary alternatives for further analysis.

Task 5 – Selected Alternatives to Analyze in Detail

For this task, OHM will perform an analysis of the two storage alternatives based on the site options and size identified in Tasks 4. The purpose of this task is to evaluate the different types of storage, and to evaluate the life cycle costs. For this task, we have assumed that we would evaluate up to two (2) site options with an evaluation of ground versus elevated storage at each site. In our experience, for this region ground storage tanks typically require a pumping system and have higher operations and maintenance (O&M) costs, while elevated storage tanks are typically more expensive to construct with lower O&M costs. Elevated tanks usually result in lower life-cycle cost. For this reason, we are proposing to perform a detailed life cycle cost analysis to account for the capital and O&M costs for each alternative. Specific work efforts for this task include:

- Development of schematic figures for each alternative including a preliminary evaluation of the dimensional sizing of storage and pumping requirements.
- Prepare cost estimates for each alternative to include capital costs, engineering costs, other implementation costs, and contingencies.
- Prepare cost estimates for O&M activities over the 50 year life span for each alternative.
- Prepare a life cycle cost analysis for each alternative.

Task 6 – Report

OHM will prepare a report summarizing the analysis and findings from the evaluation of alternatives, including demand management and storage. The report will provide a description of each alternative along with schematic drawings of the alternatives. The report will summarize the hydraulic findings from each alternative and also provide the life cycle costs for each alternative. In addition, hypothetical rate calculations (FY 2011-2012 rate data) will be provided to give the City a sense of the potential rate savings associated with each alternative.

Deliverables

- ✓ Final Report

PROJECT SCHEDULE

It is expected that the proposed study will take two months to complete from time of authorization. The study shall be completed no later than September 30, 2011 assuming authorization by August 1, 2011

FEE PROPOSAL OPTIONS



Scope/Fee

Detailed Breakdown of Proposed Fee

Task	Hourly Rate	Role on Project		Hours per Task	Fee per Task
		Vyto Katnelis, PE Project Manager \$160	Carrie Cox, PE Project Engineer \$115		
1	Evaluation of Existing Conditions	6	24	30	\$3,720
2	Development Storage Alternatives	6	32	38	\$4,640
3	Demand Management	4	4	8	\$1,100
4	Screening of Alternatives	2	16	18	\$2,160
5	Select Alternatives to Analyze in Detail	4	30	34	\$4,100
6	Report	8	20	28	\$3,580
Total					\$19,300



Project Description:

Water Storage Feasibility Study

RANK 1= LOW, 3= BEST

SCORES	<i>Item weight:</i>	10	60	30	Totals	Rank
OHM		12	11	10	1080	1
URS		4	7	6	640	3
SDA		8	6	8	680	2
TOTALS		24	24	24		

SCORING CRITERIA

- 1. Fee (10%)
- 2. Design approach (60%)
- 3. Value-added (30%)

FEE SUMMARY

OHM	\$ 19,300
URS	\$ 28,500
SDA	\$ 26,000

SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT

WATER STORAGE FEASIBILITY STUDY

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 a feasibility study to develop and evaluate alternatives for providing storage and/or decrease water supply costs from DWSD, as discussed in the project's Request for Proposals, and the Consultant's proposal dated June 27, 2011.

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, per the Consultant's proposal dated June 27, 2011, 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 \$19,300, per the Consultant's proposal dated June 27, 2011.
 - b. 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: Vytautas P. Kaunelis, PE
Its: Principal

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

_____.

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: _____

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.