MAYOR & COUNCIL COMMUNICATION

DATE: **August 18, 2015**
CONSENT ITEM # **12**

AGENDA ITEM: 2016 Street Improvements – Approve Proposal for Geotechnical Services

SUBMITTED BY: Ryan Stempski, Project Engineer

THROUGH: Clark Schroeder, Interim City Administrator

REVIEWED BY: Jack Griffin, City Engineer
Cathy Bendel, Finance Director

SUGGESTED ORDER OF BUSINESS *if removed from the Consent Agenda)*:

- Questions from Council to Staff ..... Mayor Facilitates
- Public Input, if Appropriate…….Mayor Facilitates
- Call for Motion ..... Mayor & City Council
- Discussion ..... Mayor & City Council
- Action on Motion ..... Mayor Facilitates

POLICY RECOMMENDER: Engineering.

FISCAL IMPACT: $4,800.

The City of Lake Elmo received a proposal from American Engineering Testing (AET), Inc. dated August 6, 2015 to complete 10 soil borings and provide pavement section design recommendations for the 2016 Street Improvements in the amount of $4,800. The soil borings are necessary to recommend the improvement type and determine an engineer's estimate of cost to complete the 2016 Street Improvements Feasibility Report.

SUMMARY AND ACTION REQUESTED:

The City Council is respectfully requested to consider approving the proposal from AET, Inc. in the amount of $4,800 to complete soil borings for the 2016 Street Improvements. The recommended motion for the action is as follows:

"Move to approve the Geotechnical Services Proposal from American Engineering Testing, Inc. in the amount of $4,800 for the 2016 Street Improvements Feasibility Report."

LEGISLATIVE HISTORY/BACKGROUND INFORMATION:

On August 4, 2015, the City Council authorized the preparation of a feasibility report for the 2016 Street Improvements. The streets to be considered for construction in 2016 include Kirkwood Avenue, Kelvin Avenue and the Stonegate 1st Addition.

The City of Lake Elmo has already obtained the necessary soil borings for Kelvin Avenue, but will need to obtain soil borings for Kirkwood Avenue and the Stonegate 1st Addition to complete the Feasibility Report on these streets.

Kirkwood Avenue is an existing gravel road and soil borings will be necessary to determine the thickness and quality of aggregate material in addition to the stability of the underlying soils. The streets within the Stonegate 1st Addition are scheduled for a reclaim, therefore soil borings are necessary to verify the in-place street section and identify the potential for soil corrections.

AET, Inc. can meet the City's schedule to complete the Feasibility Report. AET, Inc. has prepared several geotechnical reports for the City of Lake Elmo, they are familiar with the City's pavement management program and have provided a high level of geotechnical support service on past projects.

RECOMMENDATION:

Staff is recommending that the City Council approve, *as part of the Consent Agenda*, the proposal from AET, Inc. in the amount of $4,800 to complete soil borings for the 2016 Street Improvements. If removed from the consent agenda, the recommended motion for this action is as follows:

"Move to approve the Geotechnical Services Proposal from American Engineering Testing, Inc. in the amount of $4,800 for the 2016 Street Improvements Feasibility Report."

ATTACHMENT(S):

1. American Engineering Testing, Inc. Proposal dated August 6, 2015

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
• ENVIRONMENTAL
• GEOTECHNICAL
• MATERIALS
• FORENSICS

August 6, 2015

City of Lake Elmo
Department of Public Works
3800 Laverne Avenue North
Lake Elmo, MN 55042

Attn: Ryan Stempski, PE

RE: Proposal for Geotechnical Services
Kirkwood Ave/Stonegate 1st Addition Street Improvements
Lake Elmo, Minnesota

Dear Mr. Stempski:

Per your request, we are submitting this proposal to conduct the following scope:

Scope:

Fieldwork

- Drill and sample 10 standard penetration test borings in the two project areas to depths of 6 feet.
- Clear underground public utilities through the Gopher State One Call system.
- Measure and document the final boring locations. Measuring the surface elevations is not planned.

Laboratory

- Visually-manually classify the soils per the Unified Soil Classification System.
- Conduct water content tests on cohesive samples retrieved.
- Conduct unit price soil index testing ($600 unit price budget, allowing for six sieve analysis tests).

Deliverables

- Prepare an engineering report, which will include:
  - Logs of the test borings, including N-values and laboratory results.
  - Descriptions of the drilling, sampling, testing, and classification methods.
  - Review of soil and ground-water conditions encountered.
  - Recommendations for roadway subgrade preparation, estimated R-value, and comments on design sections.

The scope of work defined in this proposal is intended for geotechnical purposes only, and not to explore for the presence or extent of environmental contamination at the site. However, we will note obvious contamination encountered.

Fee:
Our services will be performed on a time-and-materials basis per the attached fee schedule. For the scope described, we will establish $4,800 as a not-to-exceed fee.

Terms/Conditions:
Our services will be performed per the *Contract Agreement Between the City of Lake Elmo and American Engineering Testing, Inc. for Professional Services*, dated July 20, 2010.

Acceptance:
Please indicate your acceptance of this proposal by endorsing a copy of this proposal and returning it to us.

Sincerely,

Jeffery K. Voyen, PE
Vice President/Principal Engineer
Phone #651-659-1305
Cell #612-961-9186
jvoyen@amengtest.com

PROPOSAL ACCEPTANCE BY:

Signature:_____

Printed Name:_____

Date:_____

Attachments:
2015 Geotechnical Fee Schedule

I. Personnel Hourly Rates

A.	Word Processing Specialist	64.00/hr.
B.	Engr. or Env. Technician I	70.00/hr.
C.	Engr. or Env. Technician II	83.00/hr.
D.	Drill Technician/Geo Lab Technician	93.00/hr.
E.	Senior Engineering Technician	99.00/hr.
F.	Engineering Assistant	109.00/hr.
G.	Engineer I/Geologist I	117.00/hr.
H.	Engineer II/Geologist II/Sr. Engr. Assistant	134.00/hr.
I.	Senior Engineer/Geologist	150.00/hr.
J.	Principal Engineer/Geologist	179.00/hr.

II. Vehicle Mileage

A.	Personal Automobile/Truck	0.75/mile
B.	Auxiliary Truck Vehicle	1.00/mile
C.	Truck with Coring, FWD, or GPR Equipment	1.10/mile
D.	Truck with Warning Sign/Crash Trailer	1.20/mile
E.	1-ton Truck with Drill Rig	1.20/mile
F.	1½ to 2½-ton Truck with Drill Rig	1.35/mile
G.	CPT Truck Rig (20-ton push capacity)	1.60/mile
H.	Tractor/Lowboy Trailer	1.80/mile

III. Equipment Rental

A.	Drill Rig Rental	
1.	Rotary Drill on 1-ton Truck	70.00/hr.
2.	Rotary Drill on 1½ to 2½-ton Truck	80.00/hr.
3.	Rotary Drill on All-Terrain Vehicle	110.00/hr.
4.	Portable, Non-rotary Rig	80.00/hr.
B.	Auxiliary/Specialty Vehicle Rental	
1.	Auxiliary Truck Vehicle	17.25/hr.
2.	Truck with Warning Sign/Crash Trailer	28.00/hr.
3.	Truck with Coring Equipment	44.00/hr.
C.	Cone (CPT) Rig/Equipment Rental	
1.	CPT Rig (Truck or ATV)	143.00/hr.
2.	Electronic Cone w/Computer	41.00/hr.
3.	Soil Sampler	3.50/hr.
4.	Water Sampler	20.00/hr.
D.	Miscellaneous Equipment Rental	
1.	Field Vane Shear	320.00/day
2.	Field Electrical Resistivity	235.00/day
3.	Field Seismic Shear Wave (ReMi)	410.00/day
4.	Inclinometer Reading Equipment	330.00/day
5.	Electronic Transducer Reading	170.00/day
6.	Bore Hole Permeability	
a.	Open End Casing Method	135.00/day
b.	HQ Wireline Packer	330.00/day
7.	Borehole Pressuremeter	69.00/hr.
8.	Iowa Borehole Shear Tester	335.00/day
9.	Double Ring Infiltrometer	260.00/day
10.	Photoionization Detector (PID)	115.00/day
11.	GPS Mapping System	15.25/hr.
12.	Pile Driving Analyzer (PDA)	740.00/day
13.	Calibrated SPT Rod	200.00/day
14.	Pile Integrity Test (PIT)	300.00/day
15.	Portable Concrete Coring Equipment	45.00/hr.
16.	Pavement Testing (includes truck)	
a.	Falling Weight Deflectometer	138.00/hr.
b.	Ground Penetrating Radar (GPR)	78.00/hr.
E.	Geotechnical Software Rental	
1.	Geo Studio Finite Element	55.00/hr.
2.	CAPWAP	30.00/hr.
3.	AutoCAD or Microstation	25.00/hr.
4.	Wave Equation (WEAP)	15.00/hr.
5.	LPILE or GROUP	15.00/hr.
6.	Slope Stability (ReSSA)	15.00/hr.
7.	Stabilized Earth Slopes & Walls	15.00/hr.
8.	Settlement (FoSSA)	15.00/hr.
9.	SHAFT	15.00/hr.
F.	Bit Wear- Rock Coring	
1.	Diamond Bit - Sedimentary Rock	
a)	B, NQ	10.00/foot
b)	HQ	12.00/foot
2.	Diamond Bit - Metamorphic & Igneous	
a)	B, NQ	17.00/foot
b)	HQ	20.00/foot

IV. Laboratory Tests of Soil

A.	Water Content	hourly
B.	Dry Density (includes water content)	56.00/test
C.	Atterberg Limits (ASTM:D4318)	
1.	Plasticity Index	108.00/test
2.	Liquid Limit or Plastic Limit Separately	93.00/test
D.	Sieve Analysis (includes -#200)	100.00/test
E.	Hydrometer Analysis (sieve included)	195.00/test
F.	Thermal Resistivity w/Proctor (ASTM:D5334)	
1.	As Received and Oven Dried (2 pts)	990.00/test
2.	Dry Out Curve (4 pts)	1225.00/test
G.	Electrical Resistivity (ASTM:G57-Soil Box)	96.00/test
H.	Corrosion/Concrete Attack Series*	225.00/series
I.	Consolidation (up to 32 tsf)	
1.	With P-e curves only	470.00/test
2.	With P-e curves, time curves	590.00/test
I.	Unconfined Compression (incl. wc/density)	92.00/test
J.	Hand Penetrometer	10.00/test
K.	Organic Content of Soil	62.00/test
L.	Topsoil Borrow Test (Mn/DOT 3877)	290.00/test
M.	R-value (Hveem Stabilometer)	388.00/test
N.	California Bearing Ratio	
1.	Granular	610.00/test
2.	Cohesive	690.00/test
O.	Proctor Tests (Methods A or B)	
1.	Standard	125.00/test
2.	Modified	135.00/test

*includes pH, choride ion, soluble sulfates, sulfides, redox potential (resistivity not included).

V. Expenses

A.	Direct Project Expenses: includes out-of-town per diem; plowing & towing; special materials & supplies; special travel, transportation & freight; subcontracted services, and miscellaneous costs	Cost + 15%
B.	Equipment Replacement (when abandonment is more feasible than recovery)	Cost
C.	Equipment Recovery (when required by regulatory agencies or project specifications)	Cost + 15%

The rates presented are portal-to-portal with vehicle mileage, expenses and equipment rentals being additional.

Overtime for personnel charged at above cost plus 25% for over 8 hours per day or Saturday; and at above cost plus 50% for Sundays or Holidays. Hazardous work charged at an additional 25%. Night time shift work will include a premium charge of $30.00 per person per shift.