



**FEASIBILITY REPORT**

**PROJECT Z69**

**EAST LYON STREET**

**RECONSTRUCTION PROJECT**

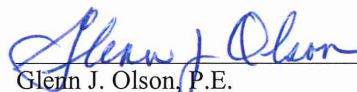
**CITY OF**

**MARSHALL, MINNESOTA**

**March 12, 2019**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

By:



Glenn J. Olson, P.E.

Registration No. 41557

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**FEASIBILITY REPORT**  
**PROJECT Z69**  
**EAST LYON STREET RECONSTRUCTION PROJECT**  
**CITY OF**  
**MARSHALL, MINNESOTA**

**1.0 SCOPE**

This Feasibility Report as authorized by the City Council, covers the following proposed improvements: Reconstruction of East Lyon Street from TH 23 east approximately 800 feet to near the city limits. Minor sanitary sewer manhole adjustments will be necessary.

**2.0 BACKGROUND / EXISTING CONDITIONS**

**Street**

East Lyon Street is currently a 24'-33' wide gravel surfaced roadway adjacent to two commercial businesses, one residential property, and properties located outside the city limits on the south side East Lyon Street.

TH 23 was recently modified to include a J-turn intersection with an asphalt surface extending to near the right-of-way of TH 23 on East Lyon Street.

No hard surface improvements have ever been constructed on East Lyon Street past the TH 23 right-of-way. Portions of the gravel roadway near the east end of the project have organic material located within 4' of depth of the finished surface.

There is no sidewalk adjacent to the street and, in accordance with the requirements for Complete Streets, we have reviewed and are not proposing sidewalks there at this time. Sidewalks may be installed at a future time, if adjacent property owners request.

The existing gravel surface has become a nuisance for both dust control and corduroy surface requiring frequent chloride dust control application and blading.

**Utilities**

There are two existing sanitary sewer manholes on the trunk sewer line that must be adjusted during the construction project.

Marshall Municipal Utilities currently has a watermain near the south right-of-way line of East Lyon Street. It is relatively new PVC pipe and in good condition.

Storm sewer includes minor approach culverts with drainage from west to east in the existing ditch.

### **3.0 PROPOSED IMPROVEMENTS**

#### **Street**

American Engineering Testing (AET) has completed soil borings within the project area and has provided a geotechnical engineering review to City staff that provides recommendations for roadway section design. A copy of the report is attached to this feasibility report.

As this is a roadway providing access to commercial properties, the recommended roadway section will be 6" of bituminous pavement over 12" of Class 5 gravel, over 12" of select granular fill with a width of 28' with 2' gravel shoulders.

The residential cost will be based upon 4" of bituminous surfacing and 12" of Class 5 gravel.

#### **Utilities**

There are two existing sanitary sewer manholes on the trunk sewer line that must be adjusted during the construction project.

No improvements necessary for the watermain.

A new culvert at the existing driveway to the communications tower will be necessary.

### **4.0 STATEMENT OF PROBABLE COST**

The estimated costs to complete the proposed improvements are shown below. The estimated construction costs include a 10% allowance for contingencies and a 16% allowance for administrative and engineering costs. The unit prices for each item of work used in determining the estimated cost of construction is based on previous projects similar in nature and is subject to change.

Street and Curb and Gutter	\$171,940.00
Sanitary Sewer Replacement	\$1,000.00
Storm Sewer Replacement	<u>\$7,460.00</u>
Subtotal Estimated Construction Cost	\$180,400.00
Contingencies (10%)	<u>\$18,040.00</u>
Total Estimated Construction Cost	\$198,440.00
Estimated Engineering, & Administration (16%)	<u>\$31,750.00</u>
Total Estimated Project Cost	<u><u>\$230,190.00</u></u>

### **5.0 PROPOSED ASSESSMENTS**

The adjustments to the sanitary sewer main manholes will be funded by the Wastewater Department.

Costs for the street replacements and storm sewer drainage replacements will be partially assessed, partially funded by the Surface Water Management Utility fund, with the remaining costs funded by ad valorem.

A preliminary assessment roll showing the estimated assessments for each benefiting parcel and City participation will be prepared at a later date for consideration by the City Council in accordance with the most recent special assessment policy.

The portion of the project adjacent to properties located outside of the city limits will be funded by ad valorem with the potential of reimbursement for a portion of the project from future connection fees to that property.

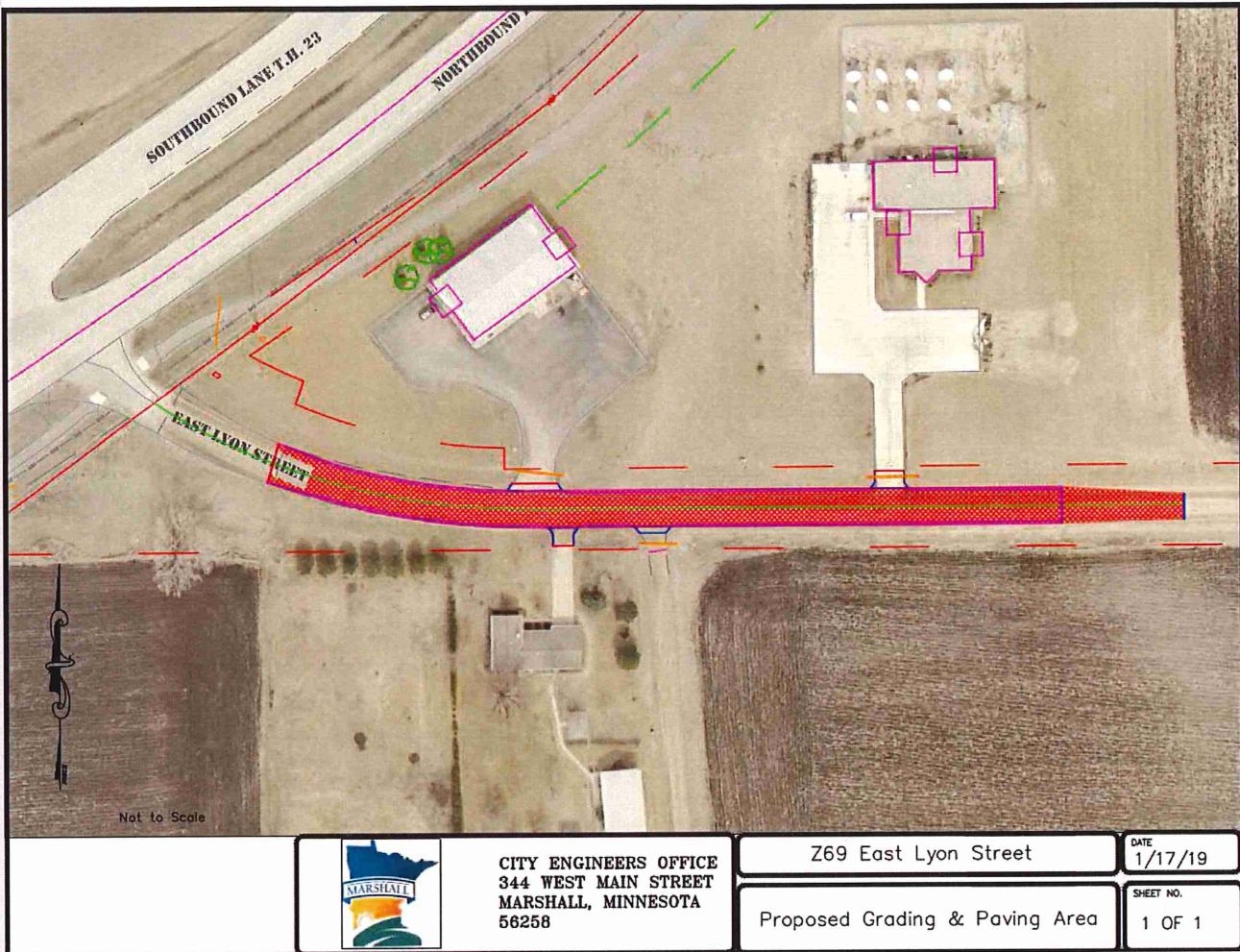
## **6.0 FEASIBILITY/CONDITIONS/QUALIFICATIONS**

The proposed improvements as described in this report are necessary, cost-effective, and feasible from an engineering standpoint. The feasibility of this project is contingent upon the findings of the City Council pertaining to project financing and public input.

## **7.0 PROPOSED PROJECT SCHEDULE**

The following is the anticipated schedule for the project, assuming the City Council elects to proceed with the proposed improvements.

March 26, 2019	Public Hearing on Improvement/Authorize Call for Bids
March 27 & April 5, 2019	Advertise for Bids
April 17, 2019	Bid Opening Date
April 23, 2019	Award Contract
May 2019	Notice to Proceed
May 2019	Begin Construction
August 27, 2019	Public Hearing on Assessment/Adopt Assessment
September 2019	End Construction



**American Engineering Testing, Inc.**  
**Report**



CONSULTANTS  
• ENVIRONMENTAL  
• GEOTECHNICAL  
• MATERIALS  
• FORENSICS

February 13, 2018

City of Marshall  
344 West Main  
Marshall, Minnesota 56258

RE: Proposal for Geotechnical Services  
Proposed East Lyon Street Reconstruction  
Marshall, Minnesota  
AET #13-06543

Dear Mr. Kim Jergenson:

American Engineering Testing, Inc. is pleased to offer you subsurface exploration and geotechnical review services for the above referenced project. This proposal is being submitted per your request of February 8, 2018. This letter is intended to define our scope of work, and to present you with an estimate of our fee, the anticipated schedule and other information regarding our services.

### **Purpose**

The purpose of this geotechnical work is to explore the subsurface conditions at the site, and based on our characterization of the obtained data, to prepare a geotechnical engineering report presenting comments and recommendations to assist you and your design team in planning and construction.

### **Project Information**

We understand that you are planning to reconstruction portions of East Lyon Street in Marshall. We understand the reconstruction will include installation/replacement of subsurface utilities including new watermain, sanitary sewer, and storm sewer. The proposed pavement will be a bituminous mat/aggregate base 10 ton design.

### **Scope**

#### **Field Work**

As requested by you, our subsurface exploration program will consist of the following:

- Perform two (2) standard penetration test borings (ASTM:D1586) to a depth of 14 ½ feet each.
- Arrange clearance of underground public utilities through the Gopher State One Call System. Any private utilities will have to be located by the property owner. A private locator can be hired at an additional cost.

- Seal the boreholes per Minnesota Department of Health requirements.
- Dimension and document boring locations based on the existing surface features.
- Obtain surface elevations at each boring location based on provided/assumed benchmarks.

We have not had an opportunity to observe the project site; we understand that the proposed boring locations will be accessible to our truck mounted equipment.

#### Soil Laboratory Testing

Our services will include index laboratory testing of selected soil samples to aid in judging engineering properties of the soils. The requested laboratory testing is as follows:

<u>Test</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Cost</u>
Moisture Content (ASTM:D2216)	15	\$15.00	\$120.00
		<u>Total Cost</u>	<u>\$120.00</u>

#### Engineering Report

Following the field and laboratory work, a formal engineering report will be prepared and submitted. This report will include logs of the test borings, the laboratory test results, a review of engineering properties of the on-site soils, and our geotechnical engineering opinions and recommendations regarding the following:

- Preparation of the subgrade for pavements
- Pavement section thickness designs
- Recommendations for support of new utilities installed within the streets
- Comments on other items which may affect final performance or constructability, such as frost heave and drainage considerations

The scope of work defined in this proposal is intended for geotechnical purposes only. This scope is not intended to explore for the presence or extent of environmental contamination at the site.

#### Insurance

For the mutual protection of you and American Engineering Testing, we maintain both general and professional liability insurance. Certificates of such insurance can be provided at your request.

#### Project Direction

Services we perform on your project will be done under the direction of an experienced geotechnical engineer registered in the State of Minnesota.

**Fees**

The scope of work defined in this proposal will be performed on a time and materials basis in accordance with the attached schedule of fees. For the scope of work described above, the estimated cost will be as follows:

<b><u>Task</u></b>	<b><u>Cost</u></b>
Mobilization/Demobilization	No Charge
Clear Utilities (Site Meet)	\$100.00
Soil Borings	\$560.00
Laboratory Testing	\$120.00
Report and Project Management	\$600.00
<b>TOTAL</b>	<b>\$1,380.00</b>

We would not exceed \$1,380.00 without prior authorization. If additional drilling is required for proper soil evaluation it would be charged at a unit rate of \$20/foot.

In the event the scope of our work needs to be revised due to unanticipated conditions or for proper evaluation, we will review such adjustments and the associated fees with you, and receive your approval before proceeding.

**Minnesota Department of Health Fees**

Effective July 1, 2017, the Minnesota Department of Health (MDH) has changed the borehole sealing and notification requirements. For sites where borings are drilled to a depth of 15 feet or deeper, all licensed drilling companies are required by law to submit written notification to the MDH prior to drilling along with a fee of \$75. If one or more of the boring depths vary by 25 feet, or more, the MDH requires an additional written notification and fee of \$75 per boring. Projects that span multiple properties will require multiple notifications. The MDH also requires that these borings be grouted and that a Sealing Record be submitted to the MDH, with a copy to you, after the borings are completed. The above fee estimate for our geotechnical services includes the MDH fee for the proposed scope of drilling; however, because final boring depths can change, for example, due to possible unanticipated poor soil conditions, the final MDH fee (including an administrative charge of \$65 per notification) will be added, if necessary, to our final invoice to you.

The MDH Sealing Record requires the Property Owner name and mailing address (the Property Owner will also receive a copy of the Sealing Record). Please provide this information below.

Property Owner's name/company name:

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Property Owner's mailing address:

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**Performance Schedule**

Weather permitting; we anticipate drilling operations can begin within about one (1) to two (2) weeks after receiving authorization to proceed. Verbal results of the drilling activities can be obtained shortly after completion of the drilling. We anticipate the geotechnical report can be prepared within about one (1) week after completion of the field work. We are available to review special schedule needs with you.

**Terms and Conditions**

All AET Services are provided subject to the Terms and Conditions set forth in the Master Service Agreement.

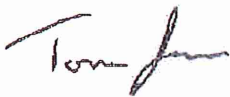
**Acceptance**

AET requests written acceptance of this proposal in the Proposal Acceptance box below, but the following actions shall constitute your acceptance of this proposal together with the Terms and Conditions and Amendments: 1) issuing an authorizing purchase order for any of the Services described above, 2) authorizing AET's presence on site or 3) written or electronic notification for AET to proceed with any of the Services described in this proposal. Please indicate your acceptance of this proposal by signing below and returning a copy to us. When you accept this proposal, you represent that you are authorized to accept on behalf of the Client.

**Remarks**

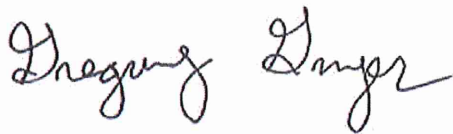
We appreciate the opportunity to submit this proposal to you and look forward to working with you on this project. If you have any questions regarding our services, or need additional information, please do not hesitate to contact me.

Sincerely,  
**American Engineering Testing, Inc.**



Tom James  
Manager – Marshall  
Phone: (507) 532-0771  
Fax: (507) 532-0776  
[tjames@amengtest.com](mailto:tjames@amengtest.com)

City of Marshall  
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February 13, 2018  
AET #13-06543



Gregory A. Guyer, PE  
Manager – Mankato  
Phone: 507-387-2222  
Fax: 507-387-6999  
Email: [gguyer@amengtest.com](mailto:gguyer@amengtest.com)

**Attachments**

Geotechnical Service Agreement – Terms and Conditions

**PROPOSAL ACCEPTANCE**

Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed/Printed Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

Company \_\_\_\_\_