



# CITY of NOVI CITY COUNCIL

**Agenda Item E**  
**April 24, 2017**

**SUBJECT:** Approval to award geotechnical investigative services to Testing Engineers and Consultants, Inc. for the Eleven Mile Rehabilitation (Clark Street to Wixom Road) project in the amount of \$18,470.

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

**CITY MANAGER APPROVAL:**

<b>EXPENDITURE REQUIRED</b>	<b>\$ 18,470</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 18,470</b>
<b>LINE ITEM NUMBER</b>	<b>\$ 6,157 (202-202.00-865.177)</b>
	<b>\$ 6,157 (202-202.00-865.181)</b>
	<b>\$ 6,156 (202-202.00-865.182)</b>

**BACKGROUND INFORMATION:**

In accordance with the Agreement for Geotechnical Engineering Consultant Services for Public Projects, Testing Engineers and Consultants (TEC) has been selected to provide geotechnical investigative testing services for the Eleven Mile Rehabilitation (Clark Street to Wixom Road) project. The geotechnical investigative testing services necessary for this project exceed \$15,000, which requires City Council approval under the City's Purchasing Policy.

The scope of services required for this project has been determined based on discussions with TEC and AECOM (the City's consulting engineer for the project), and is summarized in the attached proposal from TEC. The testing work is necessary to evaluate the pavement, upper soil and ground water conditions along this 2½ mile route and develop recommendations for pavement rehabilitation to the design engineer.

The work on Eleven Mile is being proposed to be split into three distinct construction phases;

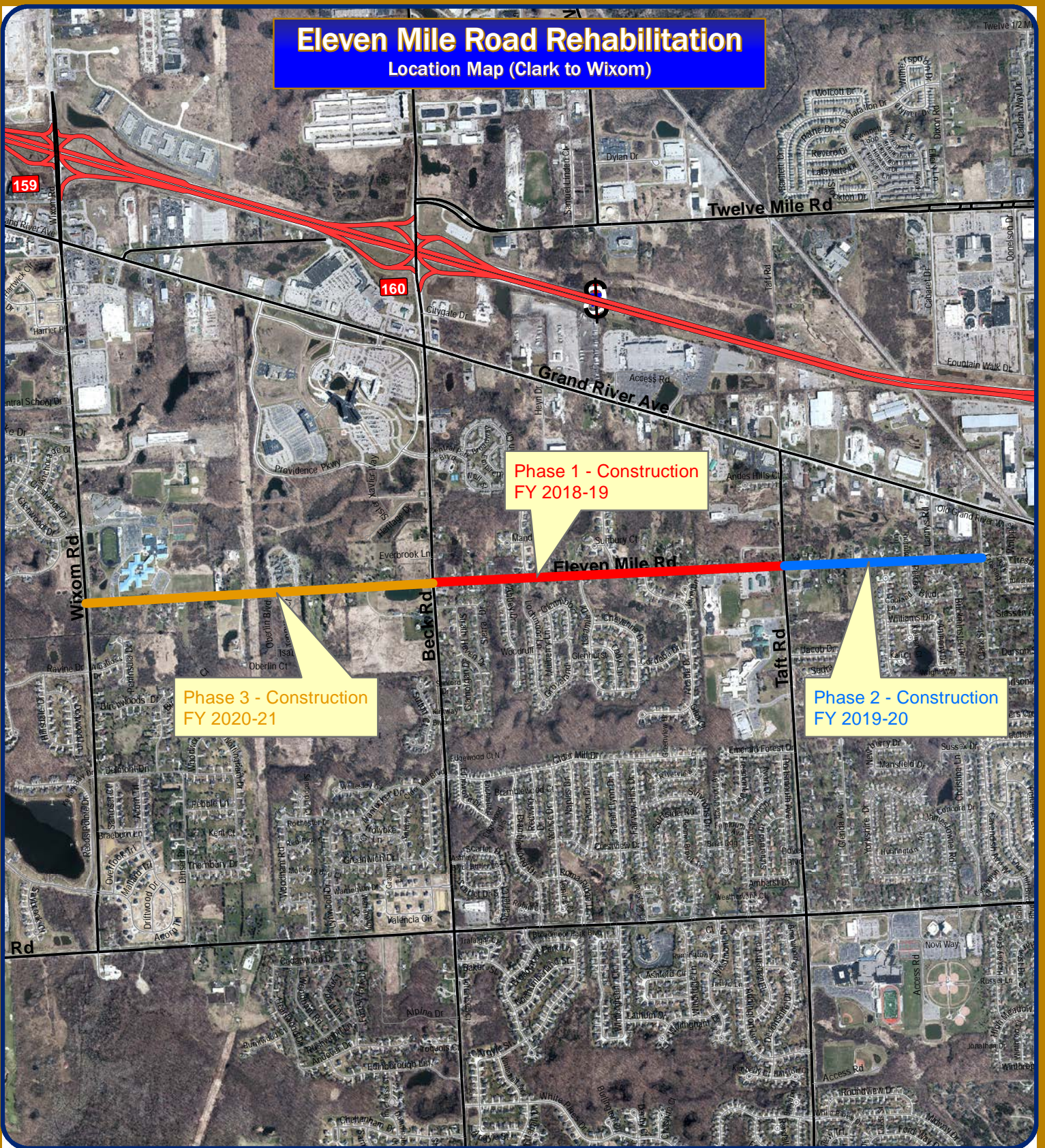
- Taft Road to Beck Road – FY 2020-21;
- Clark Street to Taft Road – FY 2021-22;
- Beck Road to Wixom Road – FY 2022-23

The design for all three segments may start as early as July 2017. Therefore, geotechnical work is being requested in order to gain a full understanding of the condition of the road's base layer and to ultimately arrive at realistic bid price.

**RECOMMENDED ACTION:** Approval to award geotechnical investigative services to Testing Engineers and Consultants, Inc. for the Eleven Mile Rehabilitation (Clark Street to Wixom Road) project in the amount of \$18,470.

# Eleven Mile Road Rehabilitation

## Location Map (Clark to Wixom)



Phase 1 - Construction  
FY 2018-19

Phase 3 - Construction  
FY 2020-21

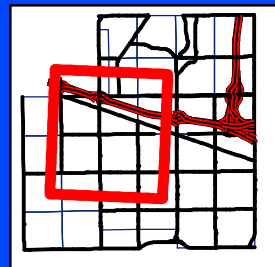
Phase 2 - Construction  
FY 2019-20

Map Author: Aaron J. Staup  
Date: 4-17-17  
Project: 11 Mile Rehab (Clark to Wixom)  
Version #: 1

Amended By:  
Date:  
Department:

**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**  
Engineering Division  
Department of Public Services  
26300 Lee BeGole Drive  
Novi, MI 48375  
cityofnovi.org



1 inch = 1,979 feet





50 years

## Testing Engineers & Consultants, Inc.

1343 Rochester Road • PO Box 249 • Troy, Michigan 48099-0249  
(248) 588-6200 or (313) T-E-S-T-I-N-G • Fax (248) 588-6232  
www.testingengineers.com

TEC Proposal: 060-17-0046

Date Issued: March 5, 2017

Mr. Aaron Staup  
Construction Engineering Coordinator  
City of Novi, Department of Public Services  
Field Services Complex  
26300 Lee BeGole Drive  
Novi, Michigan 48375

Re: Geotechnical Investigation  
11 Mile Road Rehabilitation  
Wixom Rd. to Clark St.  
Novi, Michigan

Dear Ms. Bridges:

In response to your request, Testing Engineers & Consultants, Inc. (TEC) is pleased to submit our proposal for a Geotechnical Investigation of the above referenced project. We have enclosed a scope of work and fee schedule for the recommended services.

TEC looks forward to working with you on this project. We will contact you soon to discuss how we may be of assistance.

Respectfully submitted,

TESTING ENGINEERS & CONSULTANTS, INC.

William J. West, PE  
Manager, Construction Services

Carey J. Suhan, P.E.  
Vice President, Geotechnical  
& Environmental Services

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All services undertaken are subject to the following policy. Reports are submitted for exclusive use of the clients to whom they are addressed. Their significance is subject to the adequacy and representative character of the samples and the comprehensiveness of the tests, examinations and surveys made. No quotation from reports or use of TEC's name is permitted except as expressly authorized by TEC in writing.

CONSULTING ENGINEERS & FULL-SERVICE PROFESSIONAL TESTING AND INSPECTION  
OFFICES IN ANN ARBOR, DETROIT, AND TROY  
FOUNDED IN 1966

## **Testing Engineers & Consultants, Inc.**

Mr. Aaron Staup  
City of Novi, Department of Public Services  
March 28, 2017

TEC Proposal: 060-17-0078

### **PROPOSAL FOR A GEOTECHNICAL INVESTIGATION**

#### **A. INTRODUCTION**

This investigation will provide geotechnical design parameters for the proposed project.

Based on information provided, we understand that the project will consist of improvements to 11 Mile Road from Wixom Road to Clark St. Site reconnaissance indicates that a predominantly HMA pavement with curb and gutter is present along the route, which ranges in width from two lanes to four lanes within the study area. The purpose of this study is to investigate the pavement, upper soil and ground water conditions along the route and to develop recommendations for pavement rehabilitation.

Our recommendations will be based upon the preceding project characteristics (some of which have been assumed by us). We should be advised of any differences because they might affect the recommendations to be included in our report.

#### **B. SCOPE OF WORK**

1. Mobilize and demobilize a drill rig mounted drilling rig.
2. TEC will establish boring locations in the field. TEC will contact Miss Dig for utility clearance with respect to the boring locations.
3. As directed by the client, perform explorations consisting of forty borings with sampling at least five feet into satisfactory support materials. Typically, soil test borings and pavement core samples will be located in alternating lanes at 500 foot intervals, with additional locations where localized widenings, center and right turn lanes are present. It is estimated that thirty six borings along the route will be to 5-foot depth and four borings will be to 10-foot depth.
4. Perform a laboratory investigation to determine the strength, compressibility and physical characteristics of the soils encountered.
5. Analyze the results of the field and laboratory investigation.
6. Document our analysis in a report of the recommended geotechnical design parameters including:
  - A. Evaluation of ground water conditions and its effect on construction and the design of the structure;

**Testing Engineers & Consultants, Inc.**

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March 28, 2017

TEC Proposal: 060-17-0078

- B. Parameters affecting site grading and drainage;
- C. Parameters for excavation slope design;
- D. Recommendations regarding pavement sections and roadway embankment modifications / reinforcements;
- E. Geotechnical factors affecting construction of the project;

The geotechnical design parameters will be implemented into design by other professionals.

**C. FEE SCHEDULE**

The following estimate is based upon information available at this time. Our services will end with the submission of the report as outlined in the scope of work. In the unlikely event that unusual or unforeseen subsurface conditions are encountered or if there is a necessary change in the scope of work, you will be notified before additional services are performed. Additional services will not be performed without first obtaining your approval of the additional costs in excess of 10% of the estimated cost. Additional services and meetings will be at the rates in our current fee schedule. Any variations in work from this estimate will be adjusted accordingly using the unit rates below:

1.	Mobilization 4 days at \$400.00/day	\$1,600.00
2.	Pavement Observation, Boring Layout and Utility Clearance 20 hours at \$85.00/hour	\$1,700.00
3.	Pavement Core Sampling 40 Samples at \$50.00/each	\$2,000.00
	Core Drill, per day 4 days at \$100.00 per day	\$ 400.00
4.	MMUTCD Traffic Control, per day 4 days at \$1,250 per day	\$5,000.00
5.	Drilling and Sampling 0' – 25' Depth: 220' at \$11.00/foot	\$2,420.00

**Testing Engineers & Consultants, Inc.**

Mr. Aaron Staup  
City of Novi, Department of Public Services  
March 28, 2017

TEC Proposal: 060-17-0078

6.	Laboratory Analysis	
A.	Moisture, Density, Unconfined 88 samples at \$10.00/each	\$ 880.00
B.	Pavement Core Inspection, Measurement, Photos 40 samples at \$25.00/each	\$1,000.00
C.	Sieve Analysis 10 samples at \$55.00 each	\$ 550.00
D.	Organic Content 4 samples at \$50.00 each	\$ 200.00
7.	Project Engineer for coordination and overall supervision 8 hours at \$90.00/hour	\$ 720.00
8.	Geotechnical Analysis and Engineering Report	<u>\$2,000.00</u>
		<b>Estimated Total \$18,470.00</b>

**D. TIME FRAME**

The following represents our tentative schedule. If the time frame outlined below does not satisfy your scheduling requirements, we will be happy to make other arrangements to meet your specific time schedule. We plan to begin these studies about two weeks after receipt of written notice-to-proceed. It is estimated that the field work will require approximately four days to complete; the laboratory tests plus engineering analysis and report will require an additional two weeks. If requested, a verbal report of our recommendations will be given to you, then followed with a written report.

**E. TERMS AND CONDITIONS**

Terms and conditions in accordance with City of Novi and TEC agreement.

**Testing Engineers & Consultants, Inc.**

Mr. Aaron Staup  
City of Novi, Department of Public Services  
March 28, 2017

TEC Proposal: 060-17-0078

**F. AUTHORIZATION**

If this proposal meets with your approval, please sign in the spaces provided below and return an executed copy for our files. We will consider this a legal contract and written authorization to proceed.

Accepted By:

CITY OF NOVI  
Firm

38-6032551  
Federal ID No.

  
Authorized Signature

GEORGE D. MELISTAS  
Typed or Printed Name

ENGINEERING SENIOR MANAGER  
Title

4/17/17  
Date