



# City of Grand Island

Tuesday, January 22, 2019

Council Session

## Item G-11

**#2019-34 - Approving Agreement with Engineering and Research International, Inc. for 2019 Pavement Condition Assessment**

Staff Contact: John Collins, P.E. - Public Works Director

# **Council Agenda Memo**

**From:** Keith Kurz PE, Assistant Public Works Director

**Meeting:** January 22, 2019

**Subject:** Approving Agreement with Engineering and Research International, Inc. for 2019 Pavement Condition Assessment

**Presenter(s):** John Collins PE, Public Works Director

## **Background**

A Request for Qualifications (RFQ) for 2019 Pavement Condition Assessment was advertised in the Grand Island Independent on September 28, 2018. The RFQ was also sent to nine (9) potential proposers by the Engineering Division of the Public Works Department.

The City is required to assess roadway pavement every three (3) years, at a minimum. Such assessment is used to determine roadways that become part of the annual maintenance project, as well as roadways that require more substantial work or rebuild. This information is also used for the City's annual audit and for GASB 34 (GASB 34 provides a comprehensive framework for financial reporting with the objective of making annual reports easier to understand and more useful to the people who rely upon the financial condition contained therein). The most significant aspect of Statement 34 was that for the first time general infrastructure assets (such as roads, bridges and dams) were to be reported together with related depreciation or preservation costs.

## **Discussion**

Five (5) submittals were received on October 18, 2018, with evaluation of each by Public Work staff based on established criteria in the RFQ. The pavement condition assessment and pavement management services were a requirement of the scope of services.

Engineering and Research International, Inc. (ERI) of Savoy, Illinois was selected as the best qualified firm to perform the requested services. An agreement was negotiated for the services to be performed at actual costs with a maximum amount of \$154,542.55. It is anticipated that all work will be completed before the end of this fiscal year.

## **Alternatives**

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

## **Recommendation**

City Administration recommends that the Council approve the agreement with Engineering and Research International, Inc. of Savoy, Illinois for pavement condition assessment and pavement management services to be performed at actual costs with a maximum amount of \$154,542.55.

## **Sample Motion**

Move to approve the agreement.



Stacy Nonhof, Purchasing Agent

*Working Together for a  
Better Tomorrow, Today*

**REQUEST FOR QUALIFICATIONS  
FOR  
2019 PAVEMENT CONDITION ASSESSMENT**

**RFP DUE DATE:** October 18, 2018 at 4:30 p.m.

**DEPARTMENT:** Public Works

**PUBLICATION DATE:** September 28, 2018

**NO. POTENTIAL BIDDERS:** 9

**SUMMARY OF PROPOSALS RECEIVED**

**MDS Technologies, Inc.**  
Park Ridge, IL

**Benesch**  
Grand Island, NE

**IMS Infrastructure Management Services, Inc.**  
Tempe, AZ

**Mandli Communications**  
Fitchburg, WI

**Engineering & Research Int'l, Inc.**  
Savoy, IL

cc: John Collins, Public Works Director  
Marlan Ferguson, City Administrator  
Stacy Nonhof, Purchasing Agent

Catrina DeLosh, PW Admin. Assist.  
Patrick Brown, Finance Director  
Keith Kurz, Assist. Public Works Director

**P2078**

**PROFESSIONAL  
SERVICES CONTRACT**

Between

**CITY OF GRAND ISLAND**  
100 East 1<sup>st</sup> Street  
PO Box 1968  
Grand Island, NE 68802

**And**

**ENGINEERING AND RESEARCH INTERNATIONAL, INC. (ERI)**

THIS CONTRACT IS MADE by and between the City of Grand Island, a Nebraska charter Municipality ("Grand Island") and ERES International, Inc. d/b/a/Engineering and Research International, Inc. (ERI) a Corporation, Incorporated in the State of Illinois (consultant) with a principal mailing address of 1401 Regency Drive East Savoy, IL 61874 each duly authorized.

NOW, THEREFORE, in consideration of the mutual promises, covenants, conditions and terms to be kept and performed, it is agreed by the parties as follows:

**SECTION 1      GENERAL**

The general purpose of this contract, as fully detailed in the below referenced documents, is to provide the Professional Services for 2019 Pavement Condition Assessment (Including Optional Services Requested by the City of Grand Island). All such work or services contained in this Contract are supplemented by the following, which are attached hereto and made a part hereof or incorporated by reference as if fully written out or attached to this Contract:

Notice to Bidders  
Project Specifications including all Addenda if applicable  
Acknowledgment and Acceptance of Conditions  
Consultant's Bid/ Quote/ Proposal

**SECTION 2      TERM**

Unless otherwise specified, this Contract shall be effective as of the date the contract is signed by the Mayor, and shall either (note whichever is applicable):

- a)   X   continue in effect until all obligations are performed in accordance with the Contract not to exceed one year,
- b)        shall expire in (        ) years.

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If there is an option to renew it is as follows:

- a) \_\_\_\_\_ for one year
- b) \_\_\_\_\_ on a month to month basis
- c) \_\_\_\_\_ for the number of years of the original terms
- d) ☒ not applicable
- e) \_\_\_\_\_ other (\_\_\_\_\_).

### **SECTION 3            TIME OF PERFORMANCE**

Consultant shall commence performance of the work under this Agreement upon receipt of an executed copy of this Agreement and shall complete its work within the time specified by the Department in its request for proposals or, if no time is specified, within a reasonable period of time

### **SECTION 4            RESPONSIBILITIES OF THE CONSULTANT**

- A. Consultant shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all services furnished by Consultant under this Agreement and shall perform such professional services as may be necessary to accomplish the work required to be performed under this Agreement, in accordance with this Agreement and any applicable federal, state or local regulations. Consultant shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in the services it performs.
- B. Grand Island's approval of the services or materials furnished under this Agreement shall not in any way relieve Consultant of responsibility for the professional adequacy of its work. Grand Island's review, approval, acceptance of, or payment for any of the services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.
- C. Consultant shall be and shall remain liable, in accordance with applicable law, for all damages to Grand Island caused by Consultant's negligent performance of any of the services furnished under this Agreement, except for errors, omissions or other deficiencies to the extent attributable to Grand Island, Grand Island-furnished data or any third party. Consultant shall not be responsible for any time delays in the project caused by circumstances beyond Consultant's control.

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## **SECTION 5            REQUIREMENTS CONTRACT**

If this contract is a requirement contract it provides that the Consultant will sell the City all of the professional services that are the subject of this contract that the City, in good faith, needs. If the quantity was not specified in the bid or RFP then the City will provide the Consultant with a reasonable estimate of the quantities to be purchased upon request. If the City's needs go unreasonably beyond that which the parties have established as the anticipated quantity the Consultant may provide the goods or services or may decline if it is unable to do so. In that event the City may purchase the goods or services from another vendor.

## **SECTION 6            PAYMENT**

- A. The City of Grand Island shall pay Consultant for the services rendered under this Agreement in accordance with the Consultant's price proposal submission or as negotiated price under this agreement.
- B. Consultant may request monthly progress payments and the City of Grand Island will make them as soon as practicable upon submission of statements requesting payment by Consultant to the City of Grand Island. No payment request shall exceed the purchase Order amount as the estimated value of the work under this Agreement. Consultant shall prepare the estimates of work performed and shall supplement them with such supporting data to include a tabulation of work-hours at the appropriate rates as Grand Island may require. Time billed shall be limited to hours actually worked on the project.
- C. Consultant shall submit separate invoices referencing the purchase order issued for the project. Invoice(s) shall be emailed to [timg@grand-island.com](mailto:timg@grand-island.com) or mailed to **City of Grand Island, Public Works Department, 100 East First Street, Grand Island, NE 68801.**

## **SECTION 7            CHANGE ORDERS**

- A If the City of Grand Island seeks to make any change in the scope of work, including but not limited to changes in the specifications, deliverables or details, it shall request the same from Consultant via written change order. Any increases or decreases in the Consultant's costs, or the time required for the performance of any part of the work under this Contract, shall be clearly articulated and the Contract will be deemed modified as of the change order, which shall be signed by both parties.

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- B. If Consultant needs to seek a change order from the City the same shall be submitted in writing for review. Any approved increase or decrease in costs or change in the time for performance will be indicated and the Contract will be deemed modified as of the change order, which shall be signed by both parties.

## **SECTION 8 REUSE OF DOCUMENTS**

All software specifically purchased and charged to the Project, plans and specifications, maps, drawings, digital data specifications, plots, reports, database scheme, database dictionary, and any other products, materials relating to the Project or prepared in connection with the Project, are the exclusive property of City of Grand Island and shall be delivered to Grand Island in accordance with the Project schedule or upon termination of the Project. The Consultant shall not assert or establish any right or claim under design patent or copyright laws to any of the materials created or produced specifically for, and in conjunction with the Project. The Consultant shall not utilize the data, software, plots, reports or other material related to the Project on other similar projects, for other customers, or for any type of commercial, marketing or promotional purpose without the prior written consent of Grand Island. The Consultant shall retain ownership of Consultant's standard details and specifications used on the Project. City of Grand Island shall not utilize Consultant's standard details and specifications used on the project without the prior written consent of Consultant.

## **SECTION 9 TERMINATION**

- A. Either party may terminate this Contract, in whole or part, in writing, if the other party substantially fails to fulfill its obligations under this Contract through no fault of the terminating party. However, no such termination may be effected unless the other party is given (1) not less than ten (10) calendar days written notice of intent to terminate and (2) an opportunity for consultation with the terminating party before termination.
- B. The City of Grand Island may terminate this Contract, in whole or part, in writing, for its convenience, after issuing thirty (30) days written notice to the Consultant.



- C. If Grand Island terminates for default, an equitable adjustment in the price provided for in this Contract shall be made, but: (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due to Consultant at the time of termination may be adjusted to the extent of any additional costs Grand Island incurs because of Consultant's default. If Consultant terminates for default or if Grand Island terminates for convenience, the equitable adjustment shall provide for payment to Consultant of reasonable expenses incurred before the termination, in addition to termination settlement costs Consultant reasonably incurs relating to commitments that had become firm before the termination.
- D. Upon receipt of a termination action under paragraphs A or B of this section, Consultant shall: (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) deliver or otherwise make available to Grand Island all completed or partially completed supplies and manufacturing materials that the Consultant has specifically produced or acquired for the terminated portion of the Contract.
- E. Upon termination under paragraphs A or B of this section, Grand Island may take over the work and prosecute the same to completion by agreement with another party or otherwise. Any work Grand Island takes over for completion will be completed at Grand Island's risk, and Grand Island will hold harmless Consultant from all claims and damages arising out of improper use of Consultant's work.

## **SECTION 10      AUDIT AND EXAMINATION OF ACCOUNTS**

Consultant shall maintain books, records, documents and other evidence directly pertinent to performance on work under this Agreement in accordance with generally accepted accounting principles. Grand Island shall have access to such books, records, documents and other evidence for the purpose of inspection, audit and copying.

## **SECTION 11      ASSIGNMENT; COMPLIANCE WITH LAW**

Neither party may assign or transfer rights and obligations under this Agreement without the written consent of the other party. Each party agrees that it will perform its obligations in accordance with all applicable laws, rules and regulations now or hereinafter in effect.

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## **SECTION 12      REMEDIES**

- A      All claims, counterclaims, disputes and other matters in question between Grand Island and the Consultant arising out of or relating to this Contract or its breach will be decided in a court of competent jurisdiction in Hall County, Nebraska. This Contract shall be deemed to be executed in the City of Grand Island, Hall County, State of Nebraska and shall be governed in all respects, including validity, interpretation and effect, and construed in accordance with the laws of the State of Nebraska, as applicable to contracts entered into and to be performed entirely within Nebraska. Any litigation arising between Grand Island and Consultant arising under or regarding this Contract shall occur, if in the state courts, in the Hall County court having jurisdiction thereof, or if in the federal courts, in the United States District Court for the Nebraska.

## **SECTION 13      INDEMNIFICATION**

- A.      Consultant, for itself and its related entities, agents, employees, subcontractors and the agents and employees of said subcontractors, agrees to and shall indemnify, hold harmless and defend Grand Island, its successors, assigns, officers, employees, agents and appointed and elected officials, for any claim, cost, loss, damage or obligation whatsoever in nature (including reasonable attorney's fees and expenses) arising out of or through in any way from Consultant's breach of any of the conditions of this Contract; excluding, however, claims arising from Grand Island's negligence, omission or willful misconduct and for which immunity is not provided by the Nebraska Code for such negligence, omission or willful misconduct. This exception shall not extend to acts, omissions, or intentional torts occurring as a result of or in response to any emergency. The indemnification obligation shall not be limited in any way by the insurance requirements but shall be in addition to those requirements.
- B.      If the Consultant subcontracts any part of the work required under this Contract, subject to City of Grand Island written approval of each such subcontract(s), it shall require its subcontractor to indemnify Grand Island in accordance with this section. Consultant shall provide to Grand Island in writing information about each subcontractor as Grand Island shall request from time to time.

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#### **SECTION 14      ASSIGNMENT; COMPLIANCE WITH LAW**

Neither party may assign or transfer rights and obligations under this Contract without the written consent of the other party. Each party agrees that it will perform its obligations in accordance with all applicable Nebraska laws, rules, and regulations now or hereinafter in effect.

#### **SECTION 15      EQUAL EMPLOYMENT OPPORTUNITY**

Consultant agrees that it will not discriminate against any customer, employee or applicant for employment because of race, ancestry, religion, color, sex, age, national origin or disability.

#### **SECTION 16      INDEPENDENT CONSULTANT**

The Contract shall not be construed as creating an employer-employee relationship, a partnership or a joint venture. The Consultant's services shall be those of an independent Consultant. The Consultant agrees and understands that the Contract does not grant any rights or privileges established for employees of the City.

#### **SECTION 17      ENTIRE AGREEMENT**

This Contract, including any subsequent amendments, contains all representations and the entire understanding of the agreement between the parties. No changes to this Contract shall be valid unless made by a written amendment executed and approved by the parties. Time is of the essence of this Contract. The invalidity or unenforceability of any provision of this Contract shall not affect the validity or enforceability of any other provision of this Contract.

#### **SECTION 18      CONFLICTS**

In the event of a conflict between the terms and conditions in the foregoing sections of this Contract and the terms and conditions in any of the Consultant's Bid/Quote/Proposal or other Consultant documents attached or incorporated by reference to this Contract, the foregoing terms and conditions shall control unless Grand Island specifically waives such terms and conditions in writing.

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## SECTION 19      AUTHORITY TO ACT

The signatory or signatories hereto on behalf of the Consultant warrant(s) and represent(s) that they and have the power and authority to enter into this Agreement and to consummate the transactions contemplated hereby on behalf of the Consultant and have been duly authorized to execute this Agreement.

IN WITNESS WHEREOF, City Grand Island and the Consultant have caused this Contract to be executed as of the date of the Mayor's signature listed below.

### **CONSULTANT:**

<b>ERES International Inc.</b> <b>DBA Engineering and Research International, Inc.</b>	<b>217-356-5945</b>
(Corporation Name)	(Phone Number)

<b>Abbas A. Butt</b>		<b>President</b>
(Print Name)	(Signature)	(Title)
<b>1-10-2019</b>	<b><u><a href="mailto:abbas.butt@eriusa.com">abbas.butt@eriusa.com</a></u></b>	
(Date)	(Email Address)	

**CITY OF GRAND ISLAND:**

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(Mayor's Signature)

APPROVED AS TO FORM:

Revised 11/15



Engineering & Research Int'l, Inc.  
1401 Regency Drive East  
Savoy, Illinois 61874 USA  
217-356-5945 (Phone)  
217-356-6347 (Fax)  
eri@erikuab.com  
www.erikuab.com

December 31, 2018  
ERI Ref. No: E2046.CGI.001

Mr. Tim Golka, P.E.  
Project Engineer  
City of Grand Island  
100 East First Street  
Grand Island, NE 68808-1968

**Subject: 2019 Pavement Condition Assessment Study  
Final Project Scope Statement**

Dear Mr. Golka,

Attached is the final ERES International Inc. DBA Engineering and Research International Inc.'s (ERI) project scope statement to provide professional engineering services for the subject project. This final proposal including revised project cost was prepared based on the conference call on December 12, 2018 regarding the project scope of work. The revised project cost incorporates the comments received from the City of Grand Island on December 12, 2018.

Below is a summary of main revisions made to the original cost proposal included in our qualifications dated October 18, 2018:

- Provided cost for the optional project task – Pavement Management Services (Tasks 7 through 11)

We appreciate and thank you for the opportunity to work on this project.

Sincerely,  
Engineering & Research Int'l, Inc.

Abbas A. Butt, Ph.D., P.E.  
President



## Final Project Scope Statement

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### **I. PROJECT OVERVIEW**

The purpose of this submittal is to provide the City of Grand Island with the draft project scope of work and the fee for the completion of the 2019 Pavement Condition Assessment Study. The following sections provide the description of various project tasks, task descriptions, task activities, deliverables, project schedule and project fees.

The 2019 Pavement Condition Assessment Study will examine the overall condition of the City's public road network that will eventually result in the identification of Maintenance and Rehabilitation (M&R) projects and recommended options for maintaining and/or improving the current network-level pavement condition (average OCI). The City of Grand Island, NE public road network consists of approximately 323 segment miles (3,605 pavement segments). The City's current pavement database is maintained in Cartegraph OMS software. ERI team will work closely with the City to provide a process that will result in the development of a regionally-oriented long-term pavement management program that will provide the City of Grand Island a safe, reliable and economic street pavement network.

The project objective of this study is to provide assistance and guidance to the City in the use of the Cartegraph OMS software to determine existing pavement conditions, predict future pavement conditions, predict financial needs, and identify and prioritize pavement maintenance and rehabilitation (M&R) projects as an integral part of a multi-year program for preservation, maintenance and improvement of City streets.

The following tasks will be performed for the 2019 Pavement Condition Assessment Study which include base project tasks and optional project tasks as outlined in the RFQ dated September 2018. The overall work program consists of eleven tasks that are listed below:

#### **Section A. Pavement Condition Assessment**

Task 1: Project Development

Task 2: Background Data Collection

Task 3: Records Review

Task 4: Uniform Pavement Sections

Task 5: Pavement Condition Assessment

Task 6: Value Added Ground Penetrating Radar Data Collection

#### **Section B. Pavement Management Services**

Task 7: Additional Background Data Collection

Task 8: Review of the City's pavement segment data with recommendations for correcting any errors and omissions.

Task 9: Review of the City's historical pavement condition information, construction and maintenance history, etc. and recommendations for necessary changes.



## Final Project Scope Statement

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Task 10: Review of the City's Cartegraph OMS pavement management configuration (i.e. prediction groups, impacts, condition groups, activities, protocols, triggers, etc.) and recommendations for necessary changes.

Task 11: Conduct an on-site workshop, which will provide training for City staff on the use of the Scenario Builder component of Cartegraph OMS and assist the City with creating and running up to five budget scenarios.

The Scope of Work that provides further detail for each task deliverables are described below. The tasks are described in terms of overall objectives, the activities to be completed, and deliverables. The project schedule is also provided that includes milestones, key meetings and events.





## Final Project Scope Statement

### DELIVERABLES

*The 2019 Pavement Condition Assessment Study will entail a number of deliverables. The deliverables are listed below. All technical memorandums and project reports will have drafts and a final version.*

Task No.	Task Description	Activities	Deliverables
<b>Section A. Pavement Condition Assessment</b>			
1	Project Development	<ul style="list-style-type: none"> <li>To initiate the project, a kickoff meeting will be held at City's office between ERI and the appropriate City staff to review the schedule, budget, key milestones, deliverables and other administrative items. Also, request a list of planned construction projects that may impact our field data collection activities</li> <li>Supervision/scheduling, daily staff assignments and task monitoring, monitoring of the project schedule and budget and monthly progress reports</li> </ul>	<ul style="list-style-type: none"> <li><i>Project kickoff meeting minutes</i></li> <li><i>Provide updated Project Schedule</i></li> <li><i>Monthly progress reports</i></li> </ul>
2	Background Data Collection	<p>ERI will obtain the following background data from the City:</p> <ul style="list-style-type: none"> <li>City's existing Cartegraph OMS test Database</li> <li>City's latest road centerline Geodatabase/shapefile</li> </ul>	
3	Records Review	<ul style="list-style-type: none"> <li>Review the City's Cartegraph OMS test database for the existing pavement management inspection configuration (ie., pavement distress definitions as per ASTM D 6433 and FHWA-RD-03-31 and IRI as per ASTM E1926)</li> <li>Review the existing pavement inventory configuration in City's Cartegraph OMS and verify if it matches with the City's latest road centerline shapefile/geodatabase (ie., total number of records, unique identifier used for GIS linkage and whether the required attributes for defining inventory information are complete and available for new pavement segments). If the required attributes are not readily available, then the City will provide the information for successful data load into Cartegraph OMS.</li> </ul>	<ul style="list-style-type: none"> <li><i>Draft and final technical memo of existing pavement distress definitions in City's OMS test database and recommend modifications, if needed</i></li> </ul>
4	Uniform Pavement Sections	<ul style="list-style-type: none"> <li>Identify the final GIS shapefile to be used for Inspection data load</li> <li>Identify the final uniform pavement segments with proper unique identifier and with completed inventory information</li> <li>Create field data collection maps to perform 2019 pavement condition assessment</li> </ul>	<ul style="list-style-type: none"> <li><i>Prepared Draft and final field GIS maps for City's review</i></li> </ul>



## Final Project Scope Statement

5	Pavement Condition Assessment	<p><b>5.1 Field Data Collection</b></p> <ul style="list-style-type: none"><li>○ Mobilize the Automated Pavement Data Collection Vehicle System to Grand Island, NE</li><li>○ Collect high-resolution downward pavement imagery on City's road network of approx. 323 segment miles. The vehicle will be driven once on each segment</li><li>○ Collect simultaneously continuous pavement profile data on City's road network</li><li>○ VALUE-ADDED SERVICE: Collect simultaneously high-resolution forward imagery (two camera views; 1-forward and 1-sign) at 20-foot intervals on City's road network</li><li>○ Perform QC/QA of field data collected and ensure the data was collected on all segments while the crew is still in the field</li></ul> <p><b>5.2 Pavement Distress Data Reduction</b></p> <ul style="list-style-type: none"><li>○ Perform data reduction by conducting pavement distress identification and quantification by review of the pavement images in accordance with the final technical memo submitted under Task 3 and approved by the City</li><li>○ Post process pavement profile data for IRI, rutting and faulting information</li><li>○ Load the pavement condition data into City's Cartegraph OMS test database with the help of Cartegraph and in conjunction with the City's GIS coordinator</li><li>○ Upon City's review, correct all identified issues within Cartegraph OMS after data load, if any.</li><li>○ Upon City's approval, Load the pavement condition data into City's Cartegraph OMS production database with the help of Cartegraph</li></ul>	<ul style="list-style-type: none"><li>○ <i>Provide the list of segments after the completion of field data collection where the pavement data was not collected due to either construction activities, road closed, or doesn't exist in the field due to new developments and/or alignments</i></li><li>○ <i>Load Inspection Data to City's Cartegraph OMS test and production database</i></li></ul>
6	Value Added Ground Penetrating Radar Data Collection	<ul style="list-style-type: none"><li>○ Collect simultaneously Ground Penetrating Radar (GPR) data on City's road network</li></ul> <p><i>GPR data collection will be performed at no additional cost to the City. However, the data will not be processed as part of this project and may be requested as separate project for project level decisions.</i></p>	



## Final Project Scope Statement

Task No.	Task Description	Activities	Deliverables
<b>Section B. Pavement Management Services</b>			
7	Additional Background Data Collection	<p>The following additional background data would be collected with the help of City staff:</p> <ul style="list-style-type: none"><li>○ City's current maintenance and rehabilitation design policies</li><li>○ Construction and maintenance history data for the City streets</li><li>○ Traffic count data for the City street (if available)</li><li>○ Recent Maintenance and Rehabilitation (M&amp;R) cost data based on local practices (if available)</li><li>○ City's previous reports, memorandums and other records related to this project</li></ul>	
8	Review of the City's pavement segment data with recommendations for correcting any errors and omissions	<ul style="list-style-type: none"><li>○ We will identify the road segments with or without curb and gutter and associate the available curb clearance (based on the 2019 pavement condition survey) information to the road segments. This information will be useful in the development of prediction models and Maintenance and Rehabilitation (M&amp;R) program. Based on our experience this classification of road segments will provide a better approach for making project level decisions.</li><li>○ Review the Cartegraph OMS database and identify the road segments (concrete, asphalt, gravel and brick roads) that do not comply with the minimum sample size requirements as per the ASTM D6433. Provide recommendations on how to include these segments in the development of M&amp;R program.</li><li>○ If any discrepancies are found in the City's GIS based on the 2019 pavement condition survey, then we will provide the City with recommendations for correcting any errors and omissions</li><li>○ Compare PCI values from 2019 survey calculated using Cartegraph OMS as well as PAVER software and provide necessary recommendations.</li></ul>	<ul style="list-style-type: none"><li>○ <i>Provide the estimated available curb clearance information to the City in the Cartegraph OMS database</i></li><li>○ <i>Provide the list of segments that do not meet the ASTM minimum sample unit size criteria</i></li><li>○ <i>Provide the list of segments with errors found in segmentation and condition information based on 2019 survey</i></li><li>○ <i>Provide the summary report on the PCI comparison results from Cartegraph OMS and PAVER software</i></li></ul>



## Final Project Scope Statement

		<b><u>Assumptions for Task 8:</u></b> <ul style="list-style-type: none"><li>- The City's street GIS centerline shapefile is accurate and complete. It is also assumed that the GIS and Cartograph OMS is updated to include new road segments and deletion of non-existing road segments.</li><li>- The associated attribute information such as Segment ID, Street Name, Segment Length, Width, Area, Surface Type, Functional class, Council Districts etc., are up to date and accurate.</li></ul>	
9	Review of the City's historical pavement condition information, construction and maintenance history, etc. and recommendations for necessary changes	<b><u>Review of Historical Pavement Condition</u></b> <ul style="list-style-type: none"><li>○ Review the distress rating for 10% of randomly selected sections</li><li>○ Review all sections with a PCI score of 100 – indicates sections that may have been skipped during the data processing phase or verify if the pavement was recently overlaid and/or reconstructed</li><li>○ Identify and Review all sections with no PCI score – indicates either that a section was missed or could not be tested</li><li>○ Review distress types recorded for asphalt and concrete pavements to ensure they are consistent with the ASTM specification and FHWA classification. Particularly, review how the PCC slabs (longer than 30 feet) were rated</li><li>○ Review of sample areas/sizes used in the PCI calculation – ensures that PCI calculation is performed correctly</li><li>○ Review distress types recorded for gravel and brick pavements and the rating method used to compute condition values</li><li>○ Ensure that mapped PCI scores are displaying on the correct section with the correct score – makes sure no data transfer error happens when transferring to OMS database.</li><li>○ Review the profile data (IRI) for 10% of randomly selected sections and compare with the 2019 data collection to define the resolution, accuracy and repeatability of the profile data.</li><li>○ Review City's procedure in combining PCI and IRI to derive OCI and recommend necessary changes</li></ul> <b><u>Review of Construction and Maintenance History</u></b> <p>The last construction date is the date when the pavement was constructed new or when the pavement was reconstructed or</p>	<ul style="list-style-type: none"><li>○ <i>Provide the list of segments with errors found in historical pavement condition data and construction and maintenance history data</i></li><li>○ <i>Provide recommendation for necessary changes in the calculation of OCI, if needed</i></li></ul>



## Final Project Scope Statement

		the pavement received a thicker structural overlay. The maintenance activities such as placing of slurry seal, crack sealing, micro surfacing, and pothole repair or patching etc., do not change the last construction date. The pavement surface type and last construction date for select sections will be reviewed by the review of As-built drawings (if available) and compare with the 2019 condition inspection data. Identify the segments in the City's network for which the last construction date is not available and provide recommendations.	
10	Review of the City's Cartegraph OMS pavement management configuration (i.e. prediction groups, impacts, condition groups, activities, protocols, triggers, etc.) and recommendations for necessary changes	<ul style="list-style-type: none"><li>○ Pavement maintenance and pavement preservation policies that address localized preventive/preservation, localized safety and global preventive/preservation maintenance and rehabilitation (M&amp;R) requirements will be reviewed.</li><li>○ Knowledge about the historic and future condition of the pavement is required for inspection scheduling, life cycle costing, benefit analysis and budget optimization. Individual pavement condition prediction models for each surface type will also be reviewed based on the previous and current OCI and the pavement current construction history data.</li><li>○ The current relationships between OCI vs. localized preventive maintenance cost and OCI vs. M&amp;R cost will be reviewed based on the local M&amp;R cost data for each zone within the City street network. These relationships and M&amp;R decision trees will also be reviewed as part of this task.</li></ul>	<ul style="list-style-type: none"><li>○ <i>Draft and final technical memo with details of pavement treatments available for consideration, recommendation for pavement treatments by category, conditions and triggers to consider for each pavement treatment, and unit cost data</i></li></ul>
11	Conduct an on-site workshop, which will provide training for City staff on the use of the Scenario Builder component of Cartegraph OMS and assist the City with creating and running up to five budget scenarios	<ul style="list-style-type: none"><li>○ Our team will train the City staff in use of the Scenario Builder to develop a multi-year capital improvement program to help determine long-term budget funding constraints, assist the City with creating and running up to five budget scenarios as identified in the RFQ<ul style="list-style-type: none"><li>○ Eliminate Backlog. Eliminate all unfunded major M&amp;R requirements by the year 2025.</li><li>○ Maintain the average OCI of the street system at 74 through the year 2025.</li><li>○ Maintain Current Budget. Assume that the current annual budget is maintained.</li><li>○ Safety Maintenance Only.</li></ul></li></ul>	



## Final Project Scope Statement

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### II. PROJECT SCHEDULE

ERI has prepared a tentative project schedule as shown in **Table 1**. A detailed project schedule will be provided to the City within one (1) week after the project kick-off meeting. The schedule as shown will provide the proposed data collection, analysis and delivery tasks for this project.

TABLE 1: TENTATIVE PROJECT SCHEDULE



TASK #	Project Task Description	February-19				March-19				April-19				May-19				June-19				July-19				August-19				September-19				October-19				November-19				December-19				January-20				February-20			
		W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4								
1	Project Development		KM		PR				PR				PR				PR				PR				PR				PR				PR				PR				PR												
2	Background Data Collection																																																				
3	Records Review																																																				
4	Uniform Pavement Sections																																																				
5	Pavement Condition Assessment																																																				
	* Data Collection																																																				
	* Data Reduction																																																				
	* Data Upload to City's Cartegraph OMS																																																				
6	Value Added Ground Penetrating Radar Data Collection																																																				
7	Additional Background Data Collection and Review																																																				
8	Review of City's Pavement Segment Data																																																				
9	Review of City's Historical Pavement Condition Data and Construction and Maintenance History Information																																																				
10	Review of City's Cartegraph OMS Configuration																																													WR							
11	On-Site Workshop to Train City Staff																																													OW							

Notes:

KM	Kick-Off Meeting
PR	Monthly Progress Reports
WR	Written review of City's Cartegraph Pavement Management Database
OW	On-Site Workshop



## Final Project Scope Statement

### III. PROJECT COST

The Cost Proposal is shown in **Table 2** which lists the tasks described in our proposal and associated cost. The cost of the proposed services will not exceed the estimated cost without prior authorization from the City. The cost for any other additional services will be provided upon request.

**Table 2: Cost Proposal**

Task No.	Task Description	Cost
<b>Section A. Pavement Condition Assessment</b>		
1	Project Development	\$ 1820.00
2	Background Data Collection	\$ 675.00
3	Records Review	\$ 675.00
4	Uniform Pavement Sections	\$ 1075.00
5	Pavement Condition Assessment	\$ 59,398.07
6	Value Added Ground Penetrating Radar Data Collection	\$ 0.00
<b>TOTAL COST Section A</b>		<b><u>\$63,643.07</u></b>
<b>Section B. Pavement Management Services</b>		
7	Background Data Collection and Data Review for Section B Tasks	\$8,200.00
8	Review of the City's pavement segment data with recommendations for correcting any errors and omissions	\$19,227.40
9	Review of the City's historical pavement condition information, construction and maintenance history, etc. and recommendations for necessary changes	\$32,532.08
10	Review of the City's Cartegraph OMS pavement management configuration (i.e. prediction groups, impacts, condition groups, activities, protocols, triggers, etc.) and recommendations for necessary changes	\$17,240.00
11	On-site workshop to Train City Staff	\$13,700.00
<b>TOTAL COST Section B</b>		<b><u>\$90,899.48</u></b>
<b>TOTAL PROJECT COST (Section A + Section B)</b>		<b><u>\$154,542.55</u></b>





## Final Project Scope Statement

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### **Assumptions:**

- It is assumed that the City will provide all necessary clearances to perform the work.
- The actual quantities will be reviewed with the City and adjusted as needed. The quantities (and resulting costs) may therefore be adjusted to fit the actual needs for the City's Pavement Condition Survey Project.
- All costs are based on an assumed quantity of approximately 322.67 segment miles of pavement
- All costs are prepared based on the assumption that No Traffic Control is needed for the Automated Pavement Condition Survey

RESOLUTION 2019-34

WHEREAS, on September 28, 2018 the Engineering Division of the Public Works Department for the City of Grand Island, advertised for Request for Qualifications for Consulting Services for Pavement Condition Assessment and Pavement Management Services; and

WHEREAS, on October 18, 2018 Proposals for such services were opened and evaluated by Public Works staff based on established criteria; and

WHEREAS, the proposal submitted by Engineering and Research International, Inc. of Savoy, Illinois received the highest ranking based on the established criteria; and

WHEREAS, such work will consist of pavement condition assessment and pavement management services; and

WHEREAS, the agreement was negotiated for the work to be performed at actual costs with a maximum amount of \$154,542.55.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the agreement with Engineering and Research International, Inc. of Savoy, Illinois for actuals costs with a maximum amount of \$154,542.55 for pavement condition assessment and pavement management services is hereby approved.

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to enter into such agreement on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, January 22, 2019.

\_\_\_\_\_  
Roger G. Steele, Mayor

Attest:

\_\_\_\_\_  
RaNae Edwards, City Clerk

Approved as to Form	☐ _____
December 12, 2019	☐ City Attorney