



MONROE COUNTY
R O A D
COMMISSION

840 S. Telegraph Road • Monroe, Michigan 48161 • Phone: (734) 240-5102 • Fax: (734) 240-5101

REQUEST FOR PROPOSALS

FOR

2016 BRIDGE INSPECTIONS & LOAD RATINGS

EAST GROUP

PROPOSALS DUE BY:
Tuesday November 8, 2016 at 12:00 p.m.

BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF MONROE

Paul Iacoangeli, Chairman
Dan Minton, Vice Chairman
Bruce R. Stammer, Jr., Member
Stephen J. Pace, Member
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**MONROE COUNTY ROAD COMMISSION
REQUEST FOR PROPOSALS**

The Monroe County Road Commission invites qualified firms to submit proposals for **2016 Bridge Inspections & Load Ratings, East Group**. Proposals must be received no later than **12:00 p.m.** local time on **Tuesday November 8, 2016**.

Instructions and general conditions for the Request for Proposals may be downloaded from the Road Commission's website at www.mcrc-mi.org/bids.html .

BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF MONROE, MICHIGAN

INSTRUCTIONS
and
GENERAL CONDITIONS

GENERAL INFORMATION

The Monroe County Road Commission (MCRC) is requesting proposals from qualified consulting engineering firms (Consultant) to perform bridge safety inspections and load ratings of MCRC owned structures.

PROJECT MANAGER

The Consultant's principal contact with the MCRC shall be through the Project Manager. The Project Manager for the MCRC is:

Frank Westenkirchner, P.E.
Monroe County Road Commission
840 S. Telegraph Road
Monroe, MI 48161
Phone: 734-240-5103
Email: FWestenkirchner@mcrc-mi.org

DUE DATE FOR PROPOSALS

Proposals, in PDF format, shall be submitted via email to FWestenkirchner@mcrc-mi.org prior to **12:00 p.m., local time, on Tuesday November 8, 2016.**

INQUIRIES

Any questions relative to the scope of services must be submitted by e-mail to the Project Manager at least five (5) working days prior to the due date and time specified above. All questions and answers will be placed on the MCRC website as soon as possible after receipt of the questions and at least three (3) days prior to the proposal due date. The names of vendors submitting questions will not be disclosed.

PROPOSAL REQUIREMENTS

1. Proposals for this project must be submitted electronically in PDF format.
2. Proposals must be assembled and saved as a single PDF file.
3. The proposal must be bookmarked to clearly identify the proposal sections. See the Proposal Format section below.
4. The PDF file must be 5 megabytes or smaller.
5. The PDF file must be submitted via email to FWestenkirchner@mcrc-mi.org.
6. Proposals must be received by the MCRC prior to the due date and time specified in this RFP.
7. Consultants are responsible for ensuring the MCRC receives the proposal on time.

PROPOSAL FORMAT

Please provide a proposal using the following format:

- A. **Understanding of Service.** Provide a brief description of the services to be provided. Other items that may be included in this section include innovations, quality assurance/quality control program, safety program, computer hardware and software, instrumentation, equipment and methods to be used during the performance of the services.
- B. **Qualifications of Team.** Provide a description of the structure of the project team, roles of the key personnel and an organization chart.
 1. **Resumes.** Provide current resumes of the project manager, qualified team leader(s) and field staff where applicable. Each resume shall be two pages or less.
- C. **Past Performance.** Provide references and examples of similar work performed for the MCRC or other governmental agencies.

D. **Pricing Documents.** Provide unit pricing for the services to be provided on the Schedule of Items form included in Appendix A.

E. **Location.** Provide location information for the Consultant and any subconsultants, if applicable

CONSULTANT SELECTION

The MCRC will review the proposals submitted and will select the Consultant considered most qualified to perform the services based on the proposals. The MCRC will utilize scoring criteria and point values for selecting the recommended Consultant. The following five criteria will be considered when scoring the proposals: understanding of service, qualifications of team, past performance, price and location.

TITLE VI ASSURANCE

The Monroe County Road Commission, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC 2000d to 2000d-4) and Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, hereby notifies all bidders that it assures that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, gender, age, or disability in consideration for an award.

PROHIBITION OF DISCRIMINATION

In accordance with Act No. 453, Public Acts of 1976, the Consultant and subconsultants hereby agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, or marital status. Further, in accordance with Act No. 220, Public Acts of 1976 as amended by Act No. 478, Public Acts of 1980, the Consultant and subconsultants hereby agree not to discriminate against an employee or applicant for employment tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants shall be regarded as a material breach of this contract.

INDEMNIFICATION, DAMAGE LIABILITY AND INSURANCE

The Consultant must carry insurance meeting the following requirements during the performance of work on the project(s).

- A. Indemnification. The Consultant must hold harmless, indemnify, defend and represent the Board and its officers, agents and employees against any and all claims for bodily injury or property damage, or any other claim arising out of performance of the work on this contract. The Consultant will not be responsible for claims that result from the sole negligence or willful acts of said indemnitee.
- B. Workers' Compensation Insurance. The Consultant must carry the necessary Workers' Compensation Insurance and submit a certification that it carries Workers' Compensation to the Board.
- C. Bodily Injury and Property Damage. The Consultant must carry adequate insurance, satisfactory to the Board, to afford protection against all claims for damage to public or private property and injuries to persons arising out of performance of the work. Copies of completed certificates must be submitted to the Board.

- 1. General Liability, Bodily Injury and Property Damage. The Consultant must provide the following minimum limits of property damage and bodily injury liability:

Bodily Injury and Property Damage Liability:

| | |
|-----------------|-------------|
| Each Occurrence | \$1,000,000 |
| Aggregate | \$2,000,000 |

- 2. Automobile Liability, Bodily Injury and Property Damage. The Consultant must provide the following minimum limits of property damage and bodily injury liability:

Bodily Injury Liability:

| | |
|-----------------|-------------|
| Each Person | \$500,000 |
| Each Occurrence | \$1,000,000 |

Property Damage Liability:

| | |
|-----------------|-------------|
| Each Occurrence | \$1,000,000 |
|-----------------|-------------|

Combined Single Limit for Bodily Injury and Property Damage Liability:

| | |
|-----------------|-------------|
| Each Occurrence | \$2,000,000 |
|-----------------|-------------|

- 3. Umbrella Policy. The Consultant may meet the requirements of above minimum limits of bodily injury and property damage liability through an umbrella policy.

- D. Additional Insured. The Bodily Injury and Property Damage Policy must include the following endorsements, verbatim:

“Additional Insured: The Board of County Road Commissioners of the County of Monroe, the Monroe County Road Commission and its officers, agents and employees.”

“Provide written notice ten (10) days prior to cancellation, expiration, termination or reduction in coverage for nonpayment of the premium and written notice thirty (30) days prior to cancellation, expiration, termination or reduction in coverage for all other reasons.”

- E. Professional Liability and Valuable Papers Insurance. The Consultant must provide the following minimum limits of professional liability and valuable papers insurance:

| | |
|--------------------------------|-------------|
| Professional Liability | \$1,000,000 |
| Valuable Papers (On Premises) | \$50,000 |
| Valuable Papers (Off Premises) | \$5,000 |

SCOPE OF SERVICES
for
BRIDGE INSPECTIONS & LOAD RATINGS
EAST GROUP

LOCATION

The Monroe County Road Commission (MCRC) owned bridges to be inspected are located at various locations in Monroe County, Michigan. The specific bridge locations are noted on the Bridge Inspection List located in Appendix A.

PURPOSE

In accordance with the Code of Federal Regulations 23-CFR-650, subpart C, each bridge under Monroe County Road Commission jurisdiction is periodically inspected following the Federal Highway Administration's (FHWA) National Bridge Inspection Standards (NBIS). For the bridges identified in Bridge Inspection List, a routine inspection will be performed by a qualified Consultant. There are several steps in the process of this work, and there may be a need for follow-up action.

In addition, there are several bridges in the inspection list that require up to date load ratings performed per the MDOT Tier 3 list by December 31, 2016.

The deliverable for each bridge inspection will be the "Inspection Report". The report will have several components as noted below and will be attested to be accurate and complete under seal of a professional engineer.

MDOT PREQUALIFIED SERVICE VENDOR REQUIREMENTS

The Consultant shall be MDOT prequalified in the following service classifications:

- A. Design - Bridges: Safety Inspection
- B. Design - Bridges: Load Rating

DURATION & SCHEDULE

- A. Schedule of Dates and Milestones

The Consultant is required to develop a project schedule for the inspection of the bridges shown on the attached Bridge Inspection List. The bridge inspections contained in the Bridge Inspection List due in the month of October must be completed and entered into MiBridge within 15 days of commencing work covered by this RFP, bridges due in the months of November and December must be completed and entered into MiBridge within 30 days of commencing work covered by this RFP and or their current due date, whichever is later, unless as otherwise agreed to by the MCRC. All Tier 3 load ratings shall be completed and entered into MiBridge by December 31, 2016. The inspection due dates are shown on the Bridge Inspection List heading "NEXTINSP". The project schedule must be submitted in the form of a list of when the bridges will be inspected, sorted by date.

Any changes to the schedule must be submitted to the MCRC Project Manager (PM) for approval prior to the change. Failure to progress in alignment with the schedule will be considered as failing to meet the terms of this contract and may result in the cancellation of the contract.

The Consultant must be prepared to begin the field inspection work immediately after receiving the notice to proceed or an executed contract.

- B. Meetings

The Consultant is required to attend an initial pre-inspection meeting, and a series of periodic progress meetings and a project closeout meeting.

STAFF QUALIFICATION REQUIREMENTS

Each bridge on the list must be inspected with a Qualified Team Leader (QTL) present. The Consultant is required to have as many teams as necessary to complete the inspections by the required dates.

Following are the minimum qualifications necessary for the required personnel. The staff qualifications must be documented with resumes submitted with the proposal.

A. Consultant Project Manager

1. Administrative manager with authoritative control over the inspection teams and demonstrated project management experience.
2. Primary contact between the Monroe County Road Commission and the Consultant. One of the inspection QTLs may be delegated Project Manager responsibility.
3. Will perform project contract Quality Control.

B. Consultant Qualified Team Leader

1. Must meet the requirements of NBIS for a QTL. See Code of Federal Regulations, 23-CFR-650 §650-309.
2. Registered Professional Engineer licensed to practice in the State of Michigan.
3. Minimum of three years of documented experience in the in-service safety inspections of bridges.
4. Completed the NHI # 130055 "Safety Inspection of In-Service Bridges" class within the last five years. If the QTL(s) attended this class more than five years ago, he/she must have taken the NHI #130053A three day Bridge Inspection Refresher course within the preceding five years, or attended 24 hours of bridge inspection professional development in the preceding five years.

C. Field Staff assisting the Consultant QTL(s)

1. A technical staff person with three years' experience in the inspection, design, or construction of bridges, or
2. A recent graduate engineer working at the staff engineer or entry level position.

D. Load Rating Engineers

1. All load ratings shall be performed and independently checked by Registered Professional Engineers licensed to practice in the State of Michigan.
2. 5 years of design/inspection experience.
3. Knowledge and skills for proper evaluation.

The above listed classes for the QTL(s) are encouraged, but not required, for the field staff.

If the QTL(s) approved under this contract is unable to finish the work of the entire project, the contract may be terminated. The Consultant can submit a backup QTL(s) for approval with the initial submission of the proposal.

DESCRIPTION OF THE WORK

Bridge safety inspections are done to insure the safe use of the structures by the motoring public. To accomplish this, the National Bridge Inspection Standards (NBIS), AASHTO's *Manual for Condition Evaluation of Bridges* and the *Bridge Inspector's Reference Manual* are to be used as guidance to complete the inspection and provide necessary information.

For the purposes of this contract, each bridge inspection is broken into four phases: bridge file review, field inspection of the bridge, completion of the reports, and communication of the findings to Monroe County Road Commission. Each of these phases must be completed for successful completion of each bridge inspection.

A. Bridge File Review

In this phase of the work the Consultant will take several steps to review the documentation for each bridge and register on-line with MDOT to be assigned the forms to complete.

1. The QTL must register on-line with the MDOT MiBridge bridge data collection application at the "New Consultant/Inspector Registration". This person's name will appear on all inspection documents.
2. Find the Monroe County Road Commission's name and add it to the list on the right.
3. Review the bridge files and become familiar with the documentation on the structures and the respective load analysis for each bridge at the Monroe County Road Commission office.
4. Obtain paper copies of the previous inspection reports for use in the field.

B. Field Inspection

The Consultant team will visit each bridge site and perform an inspection according to the NBIS and AASHTO manual description for a "Routine" inspection. This will be done with a visual inspection and non-destructive tests (NDT). Several reports, described below, will be completed by the QTL while performing this inspection.

1. Observations

The Consultant QTL will observe all of the bridge components and record their findings ratings in red ink on the appropriate inspection report. This information will be entered into the respective form using the Web based application MiBridge.

There must be sufficient comments for each element in the reports to outline its condition and to justify the rating given. Some of the previous reports may not have complete comments. The lack of previous information does not exempt the Consultant QTL from providing sufficient comments for each element to outline its condition. Follow the rating guidelines provided in the system, unless there are circumstances, particularly if they are safety related, that in the judgment of the QTL do not fit within these guidelines. In this case, the inspector will document the reason for the deviation in the respective comment section.

NBIS sets a maximum of 24 months between inspection intervals. However, structures in poor condition or with rapidly changing conditions may require inspection sooner than 24 months. It is the responsibility of the Consultant QTL to determine the inspection frequency and notify the Monroe County Road Commission PM when a frequency is to be changed. The *Guidelines for Bridge Inspection Frequencies* will assist the Consultant QTL in setting the frequency.

The Consultant QTL must render a professional judgment as to the need for structural analysis or loading rating of the given structure. It may also be necessary to recommend temporary load restrictions and/or changes to the inspection frequency.

If there is an area of concern that requires traffic control or special inspection/testing, the Consultant must notify the Monroe County Road Commission PM with a "Request for Action" (RFA) form. See "Notification for Unusual Situations" below.

Stream and river bed scour must be evaluated to ensure the foundation for the bridge has adequate support. The Consultant QTL will perform a scour inspection around all structural elements that are located in water up to ten feet deep utilizing the wade and probe or the boat and probe methods. Substructure elements in water over ten feet will be inspected by a diver under a separate contract.

Information on scour must be reported on the Bridge Safety Inspection Report (BSIR). If there is loss of bearing or undermining of a footing that is safety concern, this must be reported to the Monroe County Road Commission PM using the RFA. If the loss of bearing is sufficient to be of immediate concern for the component to structurally support the bridge, the Consultant will notify the Monroe County Road Commission PM on an emergency basis.

Stream Bed Cross Sections will not be performed as part of this request of proposed work.

The Consultant QTL must determine if the structure has been hit by a vehicle and damaged. If the damage has occurred since the last inspection, this damage must be documented with a description and photographs.

During the inspection, the Consultant QTL will evaluate the structure for long and short term maintenance and repairs, and record this information on the "Work Recommendations" form of the Inspection Report.

Bridges requiring Tier 3 Load Rating calculations shall be inspected such that the load ratings shall account for the existing condition of the structure including any and all overlays and other dead loads.

2. Notification for Unusual Situations

One of the primary reasons for bridge inspection is to determine if there are any unusual circumstances or situations that could affect the continued safe operation of the bridge, or where it could be costly if repair action is delayed. The Consultant QTL must determine whether the bridge can safely remain in service until the next inspection date. The Consultant QTL must identify the cause of any unusual circumstances or situations and notify the Monroe County Road Commission PM within a time frame appropriate for the situation.

Communication of these situations is accomplished formally by using a RFA. The Consultant must properly complete this form and deliver it to the Monroe County Road Commission PM in a timely manner to ensure this communication takes place.

This form does not preclude advising the Monroe County Road Commission PM immediately by phone, or other means, of imminent circumstances. However, the Consultant is still obligated to complete the form. If the situation warrants, the form should be delivered on an expedited basis via email, and the Consultant must get confirmation of the delivery.

The RFA should not be used to convey the ordinary information that belongs on the Inspection Report. Below are some of the situations that may trigger a RFA:

a. Deficient Structural Conditions

If a condition exists on a structural component that warrants a structural analysis (see "Load Analysis" below) or further investigation to determine if the capacity of the element in question is capable of safely carrying the intended loads, the Consultant is required to inform the Monroe County Road Commission PM with a RFA form. An example is an exposed or broken pre-stressing strand in PCI beams or box beam super-structures.

b. Functional Conditions

Situations that exist in and around the structure that are not a part of a structural element, but could require immediate attention are termed functional problems. Some of these are damaged approach guardrail, erosion of the shoulder, settled approach pavement, missing load posting or height restriction signs, damaged or broken light poles and sign supports.

c. Suspect Conditions Requiring Further Consideration or Testing

The Consultant QTL will perform the routine inspection in the best manner possible on these structures and document any areas that need further consideration or testing.

The Consultant QTL will inform the Monroe County Road Commission PM using a RFA form of the need to perform supplemental in-depth inspections on structures for such things as:

- Where a portion of the structure cannot be inspected by routine inspection methods.
- Where there are many structural members in need of measurement for excessive loss of section, or need NDT for evaluation.
- Where there is a need to mechanically remove a lot of scale to get measurements.
- Where there is a need to coordinate with others, such as closing a lane, to closely examine the structure.
- If there is a crack or suspected crack in a structural steel component, the Consultant must clearly document this on paper with narrative and photographs.

If testing is to be performed in conjunction with the routine inspection, the Consultant must inform the Monroe County Road Commission PM prior to the testing so arrangements may be made to witness the process. The Monroe County Road Commission PM will not delay the Consultant in performing this work and will not require a return trip to perform the test.

C. Inspection Reports

The deliverable for each bridge inspection will be an Inspection Report. The Consultant will be assigned the structures for inspection in MiBridge. The assignment will last for 90 days.

The Inspection Report has several components that will vary from bridge to bridge, but will include at least the "*Bridge Safety Inspection Report*", MDOT Form 2502 (BSIR), the "*Culvert Safety Inspection Report*" (CSIR), the "*Structure Inventory and Appraisal*", MDOT Form 1717a (SI&A), and the "*Work Recommendations*" report. Additional documents may also be necessary depending on the circumstances at the bridge and its condition. Some of these are the RFA form, field notes, sketches, and pictures. The BSIR, SI&A, and the work recommendations are to be completed and the data saved on-line in MiBridge.

All of the documents created by the inspection for each bridge shall be accompanied with a cover letter stating that the inspections have been performed in accordance with this scope of services, and that all appropriate procedures and guidelines have been followed. This letter will also have the professional registration seal of the QTL or Consultant PM.

The Monroe County Road Commission PM will conduct periodic QC checks on the Consultant's work (approximately five percent of the structures listed). If these evaluations, in the judgment of the Monroe County Road Commission PM, show that the Consultant does not adhere to the policies and guidelines noted above, the contract can be terminated and the balance of the structures to be inspected will not be paid for.

The following documents are typical for each bridge. Other reports may be necessary as conditions warrant.

1. Bridge Safety Inspection Report (BSIR), MDOT Form 2502

This is the primary inspection report form and is incorporated into MiBridge. The Consultant QTL must complete this form in the field at the specific bridge site. This is usually done by red-lining a copy of the previous report. MiBridge has a "Field Copy" print option that creates white space on the previous report for noting changed conditions at the site. It is recommended that the Consultant retain this copy in their records as backup in case of failure of the electronic copy.

A new inspection record is created in MiBridge using the information from the site visit. The Consultant shall print this report to a pdf and save to a usb memory stick using the MCRC file naming conventions.

2. Structure Inventory & Appraisal Form (SI&A), MDOT Form 1717a

A copy of the previous SI&A will be available to the Consultant from MiBridge. The Consultant QTL will verify the information on the SI&A during the inspection. Most of the data on the SI&A is static from inspection to inspection; therefore, MiBridge will bring the data forward for the new inspection. However, the Consultant QTL is responsible and accountable for all the information as though entered directly at the time of the inspection. The Consultant shall print this report to a pdf and save to a usb memory stick using the MCRC file naming conventions.

3. Work Recommendations Report

A key element of the NBI program is the communication of the inspector's judgment of the need for maintenance or rehabilitation work necessary to keep the structure in service. The Work Recommendation Report is completed in MiBridge. The Consultant shall print this report to a pdf and save to a usb memory stick using the MCRC file naming conventions.

4. Photographs and Posting Document

Photographs must be taken and submitted as part of the Inspection Report to document any unusual conditions. The photographs will be digital images and traditional photos, printed on photo quality paper and captioned with a description of what the photo is showing; date, MDOT structure number, facility name and feature crossing. Photos that are over or under exposed so the details in question cannot be seen will be returned to the Consultant, and will have to be taken again until the photos are legible. A copy of the electronic files will also be submitted in jpeg format on usb memory stick with the Inspection Report.

Bridges that are load posted must have a picture taken of the correct load posting sign with the bridge in the background.

5. Request for Action Report

As noted above, the Consultant will use this report to document communication to the Monroe County Road Commission of circumstances that need more urgent attention than otherwise noted in the Work Recommendations. The Consultant shall print this report to a pdf and save to a usb memory stick using the MCRC file naming conventions.

D. Load Rating Analysis

The NBIS requires that all bridges have an initial load rating calculated, and the rating re-evaluated when the condition or loading of the bridge has changed. Deterioration of structural components over time may get to the point where the structure may have to be load restricted. Overlays, attachment of appurtenances, or situations may also trigger the need to re-evaluate the load rating. It is the Consultant QTL's responsibility to assess the overall condition of the structure, render a judgment as to need for a re-evaluation, and document his/her judgment in the general comments section of the BSIR.

Load rating analysis is not required at every routine inspection and is dependent on conditions determined during the inspection. Therefore, the Monroe County Road Commission PM will evaluate the inspector's recommendations and decide on the best course of action based on the circumstances. Only bridges required to have the Tier 3 Load Ratings performed shall be completed as part of the proposed work. For the bridges currently requiring only a safety inspection the Consultant will not proceed with the calculations until authorized by the Monroe County Road Commission PM.

For the bridges noted, that require the Tier 3 Load Ratings. Perform bridge load rating analysis in conformance with National Bridge Inspection Standards (NBIS) and MDOT policies and procedures. The load rating analysis consists of calculating the Federal Inventory, Federal Operating and Michigan Operating ratings, including load posting requirements and Michigan Overload Class.

1. The load rating analysis method shall be:

- a. Allowable Stress Rating for timber super structures.
- b. Load Factor Rating for all other structures built prior to 2011 and or not designed using the Load and Resistance Factor Design method.
- c. Load and Resistance Factor Rating for all structures built after 2010 or designed using the LRFD method.
- d. MDOT Corrugated Metal Pipe Analysis Spreadsheets for metal culverts and arches.

2. Qualifications of Load Rating Engineer

NBIS requires a registered professional engineer be responsible for load rating calculations.

3. Procedure

The procedures in the MDOT Bridge Analysis Guide (BAG), latest edition, will be used to determine the Operating and Inventory ratings.

Load ratings, by LFR and LRFR, to be performed using the current version AASHTO Bridge Rating software BrR, using the bridge exchange file provided by the MCRC.

4. Documentation

An Assumption Sheet and a Summary Sheet will be completed in MiBridge. An original paper Summary Sheet will be sealed by the Professional Engineer doing the calculations. All calculation sheets, computer output sheets, etc. become the property of the Monroe County Road Commission and will be delivered under letter of transmittal for inclusion in the bridge file. The Consultant shall print the reports to a pdf and save to a usb memory stick using the MCRC file naming conventions.

For bridges not currently selected for Tier 3 Load ratings where the QTL determines a load rating is necessary, based on the information provided during the inspection, the Consultant will provide the Monroe County Road Commission PM the information below.

1. Statement of Need

The Consultant QTL will document the deterioration or conditions that are the cause of the need for load rating the structure. This will include all measurements of loss of section and location on the members where the deterioration is evident. This will be recorded in narrative and sketches with dimensions in sufficient detail that the load analysis can be completed.

Photographs will be taken, both panoramic and close-up with a ruler or other object in the frame which will give proportion. The photographs will be annotated with a description of what is in the photo and its location.

2. Statement of Cost

A detailed cost estimate to perform the necessary detailed inspection, testing, load ratings, documentation and MiBridge entry.

CONTRACT ADMINISTRATION

The following meetings are anticipated during this project. Each meeting is expected to take 1/2 day for the Consultant QTL(s) to attend the meeting, including travel, and 1/2 day to complete the associated paperwork. The meeting location will be at a location determined by the Monroe County Road Commission PM if a face-to-face meeting is desired.

The costs and expenses for these meeting shall be considered as included in the unit prices provided for the individual bridge inspections and not be submitted as a separate additional cost to the MCRC.

For all of the periodic meetings listed below, the Consultant will prepare a meeting agenda and submit it to the Monroe County Road Commission PM prior to the meeting. The Consultant will also keep notes of the meeting and distribute meeting minutes within one week after the meeting.

A. Pre-Inspection Meeting

This meeting is intended to exchange information regarding the general procedures for communication, review the schedule, discuss emergency procedures and communication, and discuss any open questions to that point before the first inspection begins.

B. Progress Meetings

The Consultant QTL(s) will meet with the Monroe County Road Commission PM after each month's inspections are completed to review the progress of the inspections and to review the draft inspection reports. The Consultant will have all of the documents completed prior to the meeting and will submit them under letter of transmittal.

The Consultant will include a copy of all the non-emergency Request for Action forms completed during the previous inspection period and will review these in the meeting with the Monroe County Road Commission PM.

The QTL(s) and the Monroe County Road Commission PM will review the QC reports and determine if any changes are necessary to the Consultant's procedures.

C. Project Closeout Meeting

This meeting is intended as a review of any outstanding contract requirements and final presentation of the deliverables. All borrowed bridge file documentation will be returned at this time.

CONSULTANT QUALITY CONTROL PLAN

The Consultant will submit a project quality control plan with their proposal that will accomplish, at a minimum, the following:

- A. Confirm that all QTLs and Load Rating Engineers have the required documents and certificates to substantiate their qualifications.
- B. Confirm that the inspection process and procedures meet the requirements of the NBIS.
- C. Review 5% of the completed work to insure that all reports are complete, accurate, and consistent.

ADMINISTRATIVE REPORTS

In addition to the inspection reports, the following administrative reports are required if they apply:

- A. Inspection Progress Report
- B. Consultant QC Reports

These reports must be completed and submitted to the Monroe County Road Commission PM at the Progress Meeting(s). This information will be used by the Monroe County Road Commission PM to compare progress of the inspections with the schedule.

GENERAL REQUIREMENTS

A. Personal Safety Equipment

The Consultant will be required to provide all personal safety equipment for those people working in the field. Some of the required items are hardhats, safety shoes, safety vests, gloves, safety harnesses, eye protection, flotation devices, etc.

Any person found to not have the required safety equipment will be asked to leave the Monroe County Road Commission right of way. If there are repeated cases of this, the contract with the Consultant will be terminated.

B. Inspection Equipment

The Consultant must provide the following equipment as suitable for the inspection of the bridge. The use of this equipment during the inspection is considered part of the Lump Sum price.

1. Inspection Vehicle

The Consultant will provide a vehicle with high visibility marking and or lighting for use during inspection. This vehicle will provide transportation for the inspection staff and the necessary equipment.

2. Boat

The Consultant is required to have a small boat available for the purpose of inspecting those bridges which are over water and are too deep to wade. This is typically a small aluminum boat or inflatable Zodiac style of boat. A small motor may be helpful at a few locations with larger spans.

The Consultant will be responsible for insuring the boat is safe for operation and is operated in a safe manner utilizing all required safety equipment.

3. Computer

The Consultant is required to have a computer with internet connection. A laptop computer for use in the field would be helpful but is not required.

The computer must have access to a printer to print the report documents for the field and the final report.

4. Non-Destructive Testing (NDT)

The routine bridge inspection process does not require a lot of testing, but spot checking by sounding concrete for delamination, checking for suspected cracks in steel, and measuring for section loss in areas of heavy corrosion is required.

The following equipment is necessary to perform these tests:

- a. Calipers and thickness gauges
- b. Dye penetrant test kit
- c. Chain drag or sounding rod or hammer

5. Cell Phone

While in the field, the QTL must have a cellular telephone. The phone numbers must be provided to the Monroe County Road Commission PM at the Pre-Inspection meeting.

6. GPS

The Consultant must have a handheld Global Positioning Satellite (GPS) locator to determine the latitude and longitude of the bridge. The latitude and longitude will be checked against the values on the preprinted MDOT form and any changes will be penned on to the SI&A form and the consultant shall forward changes onto the MDOT Bridge management Unit for updating.

7. Camera

The Consultant must have a digital camera that can clearly record images of pertinent items found during the inspection. One color copy of the pictures must be given to Monroe County Road Commission as part of the Inspection Report along with the electronic file.

8. Hand Tools

The Consultant must provide the hand tools necessary to complete the inspection. Examples of hand tools needed include, but are not limited to, ladders, waders, hammers, lighting, marking paint, measuring tapes, etc.

C. Traffic Control

Traffic control for closing a lane is not required for this project. The inspection is expected to be done from the shoulders or the median. Some safety equipment for working on the shoulder is necessary such as traffic cones, flashers on the vehicles, flexible roll-up sign for "Men Working Ahead", etc. If the shoulders are too narrow to do the inspection safely, the Consultant is to recommend a supplemental in-depth inspection.

D. Release of Information

The Consultant may not release any information about the bridge or the inspection to anyone outside of Monroe County Road Commission. Failure to abide by this stipulation could result in penalties as a result of the Homeland Security Act.

The Consultant is not allowed to make copies of the information in the bridge files unless given written approval from the Monroe County Road Commission PM.

E. References

The Consultant is to have the following reference material and be familiar with their contents.

1. National Bridge Inspection Standards (NBIS) Federal Code of Regulations, 23 CFR 650.
2. AASHTO Manual for Condition Evaluation of Bridges, latest edition
3. Michigan Structure Inventory and Appraisal Coding Guide, latest edition.
4. FHWA Publications:
 - a. Bridge Inspector's Reference Manual (BIRM), latest edition.
 - b. Culvert Inspection Manual, Report No. FHWA-IP-86-2.
 - c. Inspection of Fracture Critical Bridge Members, Report No. FHWA-IP-86-26.
 - d. Recording and Coding Guide for the Structure Inventory and Appraisal of Nation's Bridges, Report No. FHWA-PD-96-001, December 95.

F. Terms and definitions

The following terms and definitions apply to this Scope of Services

1. Monroe County Road Commission - The local government agency issuing the contract.
2. Monroe County Road Commission PM (Project Manager) - The person administering the contract for the local government agency.
3. Consultant PM (Project Manager) - The person responsible for administration of the contract for the consulting firm.
4. Consultant QTL (Qualified Team Leader) - Person meeting the qualifications of the NBIS to do bridge inspection.
5. NBIS - National Bridge Inspection Standards, 23-CFR-650
6. MiBridge. A MDOT web site for the entry of bridge inspection reports.
7. Bridge Inspection - Periodic safety inspection of bridge structures to routine standards of the NBIS.
8. RFA - Request for Action.

RESPONSIBILITIES OF THE MONROE COUNTY ROAD COMMISSION

The following activities and information will be provided by the Monroe County Road Commission PM, where applicable, to the Consultant.

- A. Assign the structures to be inspected to the Consultant in MiBridge.
- B. Provide access to the hard copy bridge files which will include previous work recommendations.
- C. Perform QA evaluations on 5% of the structures inspected.
- D. Provide access for the Consultant to any pertinent information in the Monroe County Road Commission bridge files and database that may be necessary to complete the inspection. See "Release of Information" for restrictions on dissemination of the material.

UNIT PRICE CONTRACT

The work performed on this contract will be paid at the unit prices for the following items of work:

Bridge Inspection (Each) – The unit price for each bridge inspection includes the cost of the following:

- 1. Conducting a Bridge File Review;
- 2. Performing a Field Inspection;
- 3. Preparing an Inspection Report;
- 4. Inputting bridge inspection data into the MiBridge;
- 5. Performing quality control reviews;
- 6. Attending administrative meetings.

Bridge Inspection with Load Rating (Each) – The unit price for each bridge inspection with load rating includes the cost of the following:

- 1. Conducting a Bridge File Review;
- 2. Performing a Field Inspection;
- 3. Preparing an Inspection Report;
- 4. Performing Load Rating calculations;
- 5. Inputting bridge inspection and load rating data into the MiBridge;
- 6. Performing quality control reviews;
- 7. Attending administrative meetings.

CONSULTANT PAYMENT

The Consultant shall invoice the Monroe County Road Commission for their work on the contract. Each invoice shall contain, at a minimum, the following information: bridge number, bridge location road and crossing, items of work completed, and the contract unit prices.

All invoices shall be sent to:

Finance Department
Monroe County Road Commission
840 South Telegraph Road
Monroe, MI 48161

In lieu of mailing paper copies of the invoices, electronic copies of the invoices in PDF format may be emailed to MCRC-Finance@mcr-mi.org .

SCHEDULE OF ITEMS
MONROE COUNTY ROAD COMMISSION
2016 BRIDGE INSPECTIONS & LOAD RATINGS
EAST GROUP

SCHEDULE OF ITEMS

A. BRIDGE INSPECTIONS

| Item Description | Estimated Quantity | Unit | Unit Price | Bid Amount |
|------------------------------------|---------------------------|-------------|-------------------|-------------------|
| Bridge Inspection | 23 | Ea | \$ | \$ |
| Bridge Inspection with Load Rating | 5 | Ea | \$ | \$ |
| Total Bid | | | | \$ |

| APPENDIX A | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------|----------|------------|--------------------|---------------------|------------|---------------------------|-----------|--------------|-----------|-----------|-----------|-----------|--------|-----------|---------|------------|------------|----------|----------|-----------|------------|-----------|----------|-------|
| MONROE COUNTY ROAD COMMISSION | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2016 BRIDGE INSPECTIONS & LOAD RATINGS | | | | | | | | | | | | | | | | | | | | | | | | | |
| EAST GROUP | | | | | | | | | | | | | | | | | | | | | | | | | |
| AD-HOC QUERY RESULT | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jurisdiction: Local Agency - (Local Agency - County) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Load Rating Req'd | BRKEY | STRC_NUM | INSPDATE | FACILITY | FEATINT | DESIGNMAIN | LOCATION | MAINSPANS | MATERIALMAIN | YEARBUILT | YEARRECON | DECKWIDTH | LATITUDE | LENGTH | LONGITUDE | MAXSPAN | BRINSPFREQ | NBI_RATING | OPPOSTCL | SCOURCRT | SUFF_RATE | NEXTINSP | UWMETH_CD | ADTTOTAL | LANES |
| Yes | 58303A07019C010 | 13390 | 10/31/2014 | MALLARD AVE | LITTLE SWAN CREEK | 19 | 0.8 M W OF N DIXIE HWY | 1 | 1 | 2004 | | 84 | 415924.6 | 22 | 831755.7 | 20 | 24 | 0 | A | 8 | 100 | 10/31/2016 | 1 | 122 | 2 |
| Yes | 58305A00027B010 | 7341 | 11/25/2014 | SUDER ROAD | HALFWAY CREEK | 5 | 0.2 MI S OF LOTUS ROAD | 3 | 5 | 1994 | | 34.1 | 414414.31 | 114.8 | 832925.02 | 61 | 24 | 0 | A | 5 | 98.3 | 11/25/2016 | 2 | 1346 | 2 |
| Yes | 58306H00020B010 | 7346 | 12/17/2014 | COLF ROAD | SWAN CREEK | 19 | 0.65 MI E OF SUMPTER RD | 1 | 1 | 1995 | | 0 | 420421.72 | 22.3 | 832804.82 | 20.1 | 24 | 0 | A | 8 | 99.9 | 12/17/2016 | 1 | 310 | 2 |
| Yes | 58306H00036B010 | 7355 | 12/17/2014 | COLF ROAD | SWAN CREEK | 19 | 1 MI W OF CARLETON WEST | 1 | 1 | 1995 | | 0 | 420423.17 | 24.8 | 832658.79 | 22.4 | 24 | 0 | A | 8 | 99.9 | 12/17/2016 | 0 | 485 | 2 |
| Yes | 58312H00015B010 | 7389 | 12/19/2014 | HERR ROAD | PLUM CREEK | 5 | 0.1 MI N OF DUNBAR ROAD | 1 | 5 | 1965 | 2000 | 27.1 | 415436.54 | 34.8 | 832639.62 | 32.8 | 24 | 2 | A | 8 | 79.4 | 12/19/2016 | 0 | 3305 | 2 |
| | 58301H00024B010 | 7311 | 10/13/2015 | MAXWELL ROAD | SWAN CREEK | 2 | 0.4 MI. S. OF NEWBURG RD. | 1 | 3 | 1960 | | 19 | 420426.88 | 33.8 | 832400.06 | 30.8 | 12 | 1 | P | 3 | 11.6 | 10/13/2016 | 1 | 240 | 2 |
| | 58200106000B010 | 7295 | 10/17/2014 | CARLETON ROCKWOOD | SWAN CREEK | 5 | 1.3 MI E OF GRAFTON RD | 3 | 5 | 1964 | 2010 | 38 | 420353.95 | 105 | 832122.79 | 33.5 | 24 | 0 | A | 8 | 94.6 | 10/17/2016 | 1 | 5030 | 2 |
| | 58200117000B020 | 7298 | 10/20/2014 | GRAFTON ROAD | SWAN CREEK | 5 | 6.5 MI N OF US 24 | 1 | 5 | 1926 | 1980 | 39.4 | 420422.11 | 44.9 | 832250.57 | 43 | 24 | 0 | A | 3 | 80.6 | 10/20/2016 | 1 | 3189 | 2 |
| | 58200117000B030 | 7299 | 10/20/2014 | GRAFTON ROAD | N BRANCH SWAN CREEK | 5 | 7.6 MI N OF US 24 | 1 | 5 | 1926 | 1980 | 40 | 420519.1 | 34.8 | 832252.55 | 33.5 | 24 | 0 | A | 3 | 82 | 10/20/2016 | 1 | 2841 | 2 |
| | 58200058000B010 | 7266 | 10/27/2014 | BLUE BUSH ROAD | LITTLE SANDY CREEK | 19 | 0.12 MI E OF RAISINVILLE | 2 | 1 | 1980 | | 0 | 415832.88 | 22 | 832633.82 | 9.8 | 24 | 0 | A | 8 | 86.4 | 10/27/2016 | 1 | 4246 | 2 |
| | 58312H00016C010 | 13486 | 11/05/2014 | SEVENTH STREET | FRENCH CREEK | 19 | 0.15 MI E OF HERR RD | 1 | 1 | 2008 | | 78 | 415452.78 | 24.9 | 832620.38 | 16 | 24 | 0 | A | 8 | 97.2 | 11/05/2016 | 1 | 5460 | 2 |
| | 58200024000B010 | 7228 | 11/11/2014 | SUMMIT STREET | HALFWAY CREEK | 5 | 0.4 MI N OF STATE LINE | 2 | 5 | 1991 | | 65.3 | 414415.3 | 124 | 832847.43 | 61 | 24 | 0 | A | 5 | 97.5 | 11/11/2016 | 2 | 3680 | 4 |
| | 58200024000B020 | 7229 | 11/11/2014 | SUMMIT ST | SHANTEE CREEK | 2 | 0.2 MILES N OF STATE LINE | 1 | 3 | 1936 | 1978 | 64 | 414405.02 | 54.8 | 832847.36 | 53.8 | 24 | 0 | A | 8 | 93.5 | 11/11/2016 | 2 | 3680 | 4 |
| | 58305A00027B020 | 13391 | 11/25/2014 | SUDER ROAD | HOOPER RUN DRAIN | 5 | 0.1 M S OF STERNS ROAD | 1 | 3 | 2006 | | 30.8 | 414453.7 | 35 | 832922.7 | 32.5 | 24 | 0 | A | 5 | 91 | 11/25/2016 | 1 | 1240 | 2 |
| | 58200038000B010 | 7239 | 12/12/2014 | STRASBURG RD | LOCKWOOD DRAIN | 1 | 0.1 MI N OF S OTTER CK RD | 1 | 7 | 1935 | 1995 | 29.9 | 415254.49 | 29.9 | 833047.36 | 28.9 | 24 | 0 | A | 3 | 89.2 | 12/12/2016 | 1 | 937 | 2 |
| | 58200038000B020 | 7240 | 12/12/2014 | STRASBURG ROAD | OTTER CREEK | 1 | 1 MI N OF YARGERVILLE RD | 1 | 7 | 1935 | 1996 | 29.9 | 415231.2 | 33.8 | 833046.31 | 30.8 | 24 | 0 | A | 3 | 77.6 | 12/12/2016 | 1 | 965 | 2 |
| | 58309A00013B010 | 7364 | 12/12/2014 | S OTTER CREEK ROAD | LOCKWOOD DRAIN | 5 | 0.3 MI W OF STRASBURG RD | 1 | 5 | 1930 | 1981 | 21 | 415229.59 | 25.9 | 833112.56 | 24 | 24 | 1 | A | 3 | 53 | 12/12/2016 | 1 | 130 | 2 |
| | 58313A00007B010 | 7391 | 12/12/2014 | GEIGER ROAD | PLUM CREEK | 19 | 1 MI N OF DUNBAR ROAD | 1 | 1 | 1985 | | 0 | 415606.55 | 20 | 833221.31 | 18 | 24 | 0 | A | 5 | 100 | 12/12/2016 | 1 | 98 | 2 |
| | 58313B00016B010 | 7392 | 12/12/2014 | BLOHM ROAD | PLUM CREEK | 19 | 0.65 MI W OF RAISINVILLE | 1 | 1 | 1990 | | 0 | 415516.71 | 22.8 | 832857.71 | 22 | 24 | 0 | A | 5 | 93.8 | 12/12/2016 | 0 | 20 | 2 |
| | 58200090000B010 | 7285 | 12/15/2014 | OAKVILLE WALTZ RD | SWAN CREEK | 19 | 1.4 MI E OF RAWSONVILLE | 1 | 1 | 1989 | | 44.9 | 420509.96 | 21 | 833048.25 | 16 | 24 | 0 | A | 8 | 98.9 | 12/15/2016 | 1 | 2126 | 2 |
| | 58200099000B020 | 7292 | 12/15/2014 | SIGLER RD | LITTLE SWAN CREEK | 5 | 1. MI E OF EXETER RD | 1 | 5 | 1978 | | 30.2 | 420207.78 | 44 | 832404.91 | 42 | 24 | 0 | A | 8 | 91.4 | 12/15/2016 | 0 | 1741 | 2 |
| | 58306H00023B010 | 7347 | 12/15/2014 | RAWSONVILLE ROAD | STONY CREEK | 5 | 0.1 MI S OF HIVON ROAD | 2 | 5 | 1984 | | 31 | 420352.92 | 82.4 | 833219.85 | 40 | 24 | 0 | A | 5 | 85.9 | 12/15/2016 | 2 | 295 | 2 |
| | 58306H00031B010 | 7352 | 12/15/2014 | MARTINSVILLE ROAD | SWAN CREEK | 19 | 0.1 MI SOUTH OF COLF RD | 2 | 1 | 1976 | | 0 | 420418.3 | 22.8 | 832740.38 | 9.4 | 24 | 0 | A | 8 | 100 | 12/15/2016 | 0 | 129 | 2 |
| | 58200064000B020 | 12789 | 12/15/2014 | RAISINVILLE ROAD | MASON RUN DRAIN | 19 | 0.1 MI. S. OF STEWART RD. | 2 | 1 | 1963 | | 0 | 415726.4 | 21.3 | 832716.94 | 8.9 | 24 | 0 | A | 8 | 90.4 | 12/15/2016 | 1 | 2063 | 2 |
| | 58200039000B010 | 7241 | 12/18/2014 | COUSINO RD | MUDDY CREEK | 5 | 1.3 MI N OF VICTORY RD | 1 | 5 | 1977 | | 33.1 | 415005.05 | 34.8 | 832607.23 | 32.8 | 24 | 0 | A | 3 | 96.8 | 12/18/2016 | 1 | 453 | 2 |
| | 58309A00005B010 | 7363 | 12/18/2014 | KELLY ROAD | MUDDY CREEK | 19 | 0.1 MI W OF COUSINO ROAD | 1 | 1 | 1987 | | 0 | 414948.58 | 30.8 | 832648.34 | 27.9 | 24 | 1 | P | 8 | 50.9 | 12/18/2016 | 1 | 278 | 2 |
| | 58200111000B030 | 7296 | 12/19/2014 | LAPLAISANCE RD | PLUM CREEK | 5 | 1.85 MI N OF I 75 | 1 | 5 | 1928 | 2002 | 43.6 | 415413.86 | 40 | 832351.65 | 39 | 24 | 0 | A | 5 | 98.9 | 12/19/2016 | 1 | 4560 | 2 |
| | 58305A00030B010 | 7344 | 12/19/2014 | BAY CREEK ROAD | BAY CREEK | 2 | 0.1 MI N OF VIENNA ROAD | 1 | 3 | 1971 | | 24.3 | 414720.27 | 24.3 | 832817.69 | 21.3 | 24 | 1 | A | 8 | 48.4 | 12/19/2016 | 1 | 236 | 2 |