

MIDLAND COUNTY ROAD COMMISSION

REQUEST FOR PROPOSAL

2015 Bridge Safety Inspections

The Midland County Road Commission is seeking a proposal from qualified consulting engineering firms (consultant) to perform in-service safety inspection of bridge structures on local owned bridges in accordance with National Bridge Inspection Standards (NBIS). This is termed "Bridge Inspection." This project will be under the direction of the Midland County Road Commission Project Manager (PM) identified in the accompanying cover letter representing the bridge owner (Owner).

Additional Information

Each proposal shall be submitted via email, envelope or through MDOT's E-proposal system. The envelope shall contain the details of the fee schedule to complete the items contained within the Scope of Services for this proposal request. Each envelope shall be labeled "**Midland County Road Commission – 2015 Bridge Safety Inspections**".

The Consultant/Consultants will be selected using a quality based selection process. The selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected Consultant/Consultants will be contacted to confirm capacity. Upon confirmation, negotiations will be conducted with the firm/firms selected.

Proposals are due on April 15th, 2015 at 2:00 PM.

The proposals must be delivered to:

2334 North Meridian Road
Sanford, MI 48657

OR

info@midlandroads.com

All questions regarding this request shall be emailed to info@midlandroads.com. Questions will be accepted until 4:00pm on April 10, 2015. Answers to the questions will be sent to those who submitted them in the form of an emailed response.

The Road Commission would like to thank all interested consultants in advance for the preparation of their proposals.

I. LOCATION

The bridges for this project are situated in various locations within Midland County. Midland County has a total of 75 structures that require inspection, of which at least 1 structure requires a fracture critical inspection. The list of structures will be available upon request. Midland County Road Commission reserves the right to increase or decrease the quantity of structure inspections.

II. PURPOSE

In accordance with the Code of Federal Regulations 23-CFR-650, subpart C, each bridge under Midland County Road Commission jurisdiction is periodically inspected following the Federal Highway Administration (FHWA) NBIS. There are several steps in the process of this work and there may be a need for follow-up action.

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

III. DURATION & SCHEDULE

A. **Schedule of Dates and Milestones**

The CONSULTANT is required to develop a project schedule for the inspection of the bridges. Each bridge inspection must be completed by and within the month of the due date, as established by the date of the previous inspection, and the frequency determined by the previous inspector. In no case shall the inspection date exceed 24 months from the previous date. The Project Schedule must be submitted in the form of a list of when the bridges will be inspected, by date.

Any changes to the schedule must be submitted to the Midland County Road Commission 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 authorization and may result in the cancellation of the contract.

The CONSULTANT must be prepared to begin the field inspection work within one week after receiving the notice to proceed or an executed contract.

B. **Meeting Dates**

The CONSULTANT is required to attend an initial pre-inspection meeting, and a series of periodic meetings. The expected dates for these meetings are shown below; however, these may be adjusted as mutually agreed to by the Midland County Road Commission PM and the CONSULTANT.

See Section VI, Meetings for a description of the CONSULTANT's responsibilities.

Pre-Inspection Meeting		May 5, 2015
Progress Meetings	1st	June 29, 2015
	2nd	August 31, 2015
	3rd	October 26, 2015
Project Closeout Meeting		November 9, 2015

IV. STAFF QUALIFICATION REQUIREMENTS

Each bridge on the list must be inspected with a Qualified Team Leader (QTL) present. The CONSULTANT may utilize additional personnel on any given team, but the Midland County Road Commission will not pay for the additional staff. 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. This must be documented with resumes and submitted with the Fee 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 Midland County Road Commission and the CONSULTANT. One of the inspection QTLs may be delegated Project Manager responsibility.
3. Will perform project contract Quality Control as stipulated in §VI-C

B. CONSULTANT Qualified Team Leader, QTL(s):

1. Must meet the requirements of NBIS for a QTL. See Code of Federal Regulations, 23-CFR-650 §650-309.
2. Professional registration as an 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) has 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 inspection, design, or construction of bridges or:
2. Recent graduate engineer working at the staff engineer or entry level position.

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

If the QTL(s) that is approved under this authorization is unable to finish the work of the entire project, the authorization may be terminated. The CONSULTANT can submit a backup QTL(s) for approval with the initial submission of the proposal. However, if any one person identified in the

proposal is rejected by Midland County Road Commission, the entire proposal will be considered non-responsive and rejected.

V. GENERAL 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, *Manual for Condition Evaluation of Bridges* and, the *Bridge Inspection Reference Manual* are to be used as guidance to complete the inspection and provide necessary information. Additional guidance documents and manuals are listed in the appendix.

For the purposes of this project, bridge inspection is broke into four phases: bridge file review, inspection of the bridge in the field, completion of the reports, and communication of the findings to Midland County Road Commission OWNER. Each of these phases must be completed for successful completion of the project.

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 to be assigned the forms to complete.

1. The QTL must register on-line with the MDOT Michigan Bridge Management and Inspection System (MiBRIDGE) bridge data collection application, at the "New Consultant / Inspector Registration". This person's name will appear on all inspection documents.
2. Find the Midland County Road Commission bridge owner'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 Midland 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. The data can be downloaded to a laptop computer for use in the field, but this is not mandatory.

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 Midland County Road Commission PM when a frequency is to be changed. The *Bridge Inspection Frequency Guidelines* 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 Midland 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 six feet deep utilizing the wade and probe or the boat and probe methods. Substructure elements in water over six 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 Midland 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 Midland County Road Commission PM on an emergency basis (See Section V-A-2, "Notification for Unusual Situations" below).

In addition, the elevation of the stream or river bed relative to an established datum may be required to be measured for all or a portion of structures over water. These measurements must be taken at locations along the length of the bridge spans that are over a stream or river bed, and recorded on the "Stream Cross Section Report" form (See Worksheet Instructions). This information must be compared to the previous data in the form of a graph.

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 BIR.

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 effect 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 Midland 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 Midland County Road Commission PM in a timely manner to ensure this communication takes place.

This form does not preclude advising the Midland 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, faxed or e-mailed, and the CONSULTANT must get confirmation of the delivery.

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

- Deficient Structural Conditions

If a condition exists on a structural component that warrants a structural analysis (see "Load Analysis" §V-C 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 Midland 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.

- 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.

- 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 Midland 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 Midland County Road Commission PM prior to the testing so arrangements may be made to witness the process. The Midland 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

As stated in Section II, "PURPOSE", the deliverable for this authorization will be the Inspection Report. The CONSULTANT will be assigned the structures for inspection in MiBRIDGE. The assignment will last for 90 days.

A Bridge Inspection Report (BIR) has several components that will vary from bridge to bridge, but that 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*". Additional documents may also be necessary depending on the circumstances at the bridge and its condition. Some of these are the RFA form, the "*Streambed Profile*" 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. If the field application is used, the data must be submitted back to MDOT using MiBRIDGE on-line.

All of the documents created by the inspection will be assembled in a binder and presented under cover of a 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. An additional unbound black and white copy will be presented with the information separated for each bridge for the bridge owner's bridge files.

The Midland County Road Commission PM will conduct periodic QC checks on the CONSULTANT's work (approximately ten percent of the structures listed in the work package). If these evaluations, in the judgment of the Midland 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. This can be done in the field using the field application with downloaded data or entered in the office using the on-line application.

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.

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.

4. Stream Cross Section Report Form

The CONSULTANT will record the elevation of the stream bed with reference to an established datum on this form. The data collected must be entered on the form electronically, and the hard copy and electronic form will be submitted to Midland County Road Commission.

5. Photographs and Posting Document

Photographs must be taken and submitted as part of the Inspection Report to document any unusual conditions. The photographs must be digital images and captioned with a description of what the photo is showing. 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 CD 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. This picture will be stapled to the SI&A form and the "Load Analysis Summary" form, and submitted to MDOT's, Bridge Management Unit. If the signs at the bridge are in place at the time of the field inspection, the CONSULTANT will prepare the documents so the Midland County Road Commission can send them to MDOT.

6. Request for Action Report

As noted above, the CONSULTANT will use this report to document communication to the Midland County Road Commission of circumstances that need more urgent attention than otherwise noted in the Work Recommendations. Examples of this are noted in §V-B-2.

7. Michigan Bridge Management and Inspection System (MiBRIDGE) Reports

The CONSULTANT will provide a matrix of bridge data from MiBRIDGE with the following data sets:

- Bridge number
- Route carried
- Feature intersect
- Next inspection date
- Deck rating
- Super-structure rating
- Sub-structure rating
- Maintenance Work
- Contract Work

D. Load 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 Inspection 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 Midland County Road Commission PM will evaluate the inspector's recommendations and decide on the best course of action based on the circumstances. The CONSULTANT will not proceed with the calculations until authorized by the Midland County Road Commission PM.

If the load rating is necessary, based on the information provided during the inspection, the CONSULTANT will provide the Midland County Road Commission PM the information below.

1. Qualifications of load rating engineer;
NBIS requires a registered professional engineer be responsible for load rating calculations.
2. 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.

3. Provide an estimate of engineering hours to complete the necessary calculations. This will be used with the hourly rate stipulated in §VII-A.
4. Procedure
The procedures in the MDOT Bridge Analysis Guide (BAG), latest edition, will be used to determine the Operating and Inventory ratings.
5. Documentation
An Assumption Sheet and a Summary sheet will be completed. The Summary Sheet will be sealed by the professional Engineer doing the calculations. All calculation sheets / computer output sheets, etc. become the property of the bridge owner and will be delivered under letter of transmittal for inclusion in the Bridge File.

VI. CONTRACT ADMINISTRATION

The following meetings are anticipated during this project. Each meeting is expected to take ½ day for the CONSULTANT QTL(s) to attend the meeting, including travel and ½ day to complete the associated paperwork. The meeting location will be at a location determined by the Midland County Road Commission PM if a face-to-face meeting is desired.

For all of the periodic meetings listed below, the CONSULTANT will prepare a simple agenda and submit it to the Midland County Road Commission PM prior to the meeting. The CONSULTANT will also keep notes of the meeting and provide “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 Midland County Road Commission PM on a regular basis to review the progress of the inspections and to review the draft inspection reports from the previous inspection period. The CONSULTANT will have all of the documents completed prior to the meeting and will submit them under letter of transmittal. See § III-B, “DURATION & SCHEDULE”, for anticipated dates.

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 Midland County Road Commission PM.

The QTL(s) and the Midland 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. The completed “Consultant Performance Evaluation” form will

be given to the CONSULTANT and reviewed. All borrowed bridge file documentation will be returned at this time.

D. Project Quality Control

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

1. Confirm that all QTLs have the required documents and certificates to substantiate their qualifications.
2. Confirm that the inspection process and procedures meet the requirements of the NBIS.
3. Review 10% of the completed work to insure that all reports are complete, accurate, and consistent.

E. Administrative Reports

In addition to the inspection reports above, the following administrative report is required if they apply.

Inspection Progress Report
CONSULTANT QC reports

This report must be completed and submitted to the Midland County Road Commission PM at the Progress Status Meetings. This information will be used by the Midland County Road Commission PM to compare progress of the inspections with the schedule.

a. Responsibilities of Midland County Road Commission

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

- Assign the structures to be inspected to the CONSULTANT in MiBRIDGE.
- Provide access to the hard copy bridge files which will have:
 - Previous work recommendations.
- Blank "Request for Action" form

The Midland County Road Commission PM will perform QC evaluations with the CONSULTANTS on ten percent of the structures inspected.

Provide access for the CONSULTANT to any pertinent information in the Midland County Road Commission bridge files and database that may be necessary to complete the inspection. See Section VII-D, **Release of Information**, for restrictions on dissemination of the material.

VII. PROPOSAL AND AUTHORIZATION GUIDELINES

A. Contract Terms

Lump Sum Authorization

This will be a "LUMP SUM" type of contract based on each structure with payment upon the completion of all services required on each bridge. The Lump Sum price will include all of the engineering costs and expenses to inspect a given bridge as well as provide the report(s) required above. No added cost will be paid for overtime, weekend, or holiday work.

Stream Bed Cross-Sectioning Premium

In addition, a premium will be paid for those bridges that require Stream Bed Cross-Sectioning. This will be added to the Lump Sum amount for each structure where it is required.

Level One Scour Analysis Premium

In addition, a premium will be paid for those bridges that require Level One Scour Analysis. This will be added to the Lump Sum amount for each structure where it is required.

Level Two Scour Analysis Premium

After performing a Level One Scour Analysis and it is evident that a Level Two Analysis is necessary an RFA should be submitted. A premium will be paid for those bridges authorized and it will be added to the Lump Sum amount for each structure.

Load Rating calculations

Provide an hourly rate for a registered Professional Engineer (Michigan) for the purpose of performing load rating calculations. This will be utilized on a case by case basis and only after approval of the need and estimate by the Midland County Road Commission PM.

Additional Inspection Needs

It is recognized that the inspection process may uncover the need for additional investigation requiring special non-destructive testing and traffic control. The CONSULTANT will submit a recommendation with justification and documentation of the need for this work, and an estimated cost after completion of the routine inspection.

If approved by the Midland County Road Commission Project Manager, a separate contract for this work will be issued. The CONSULTANT will be required to perform this work expeditiously utilizing the same inspection team. Failure to respond in the necessary time frame will cause Midland County Road Commission to get the work done by other means and could result in cancellation of the remaining work of this contract.

The Midland County Road Commission reserves the right to seek a new RFP for this work.

B. Proposal Requirements

The following information is required of the CONSULTANT in response to this Scope of Services. Failure to provide all of the information will be cause to consider the proposal non-responsive and reject the proposal.

1. Proposal Letter and Fee Estimate

The CONSULTANT must submit a letter agreeing to the stipulations in this Scope of Services. The letter must be signed by officer of the company as stated in the "Guidelines"

2. Resumes

Resumes of the CONSULTANT's staff who will be assigned to the project must be appended to the Proposal Letter. These resumes must document the requirements stated in Section IV, STAFF QUALIFICATION REQUIREMENTS.

Copies of training certificates attesting to re-current training requirements are required. Previous project information should not be included.

3. Equipment

Appended to the Proposal Letter must be a description or fact sheet of the equipment that will be used during the inspection.

4. Schedule

The CONSULTANT must develop a schedule for the inspections as stated in Section III-A, "Schedule of dates and milestones", and append this to the Proposal Letter.

C. Billing Submittals

The CONSULTANT must submit all invoices to the Midland County Road Commission PM for approval. Payment will be monthly based on the work complete to that date.

All invoices will be numbered sequentially and will indicate the invoice period. They must also indicate the Work Package number, the Midland County Road Commission job number, and the agreement number. All invoices include time sheets for all staff engaged on the project during that time period and must list the specific bridges completed.

All invoices will be sent to:
Midland County Road Commission
Attn: Terry Palmer
2334 N Meridian road
Sanford MI, 48657

Questions pertaining to billing and payment may be directed to Midland County Road Commission PM at 989-687-9060.

VIII. GENERAL

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, etc.

Any person found to not have the required safety equipment will be asked to leave the Midland County Road Commission right of way. If there are repeated cases of this, the authorization 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 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:

- Calipers and thickness gauges
- Dye penetrant test kit
- 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 Midland 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. This will be penned on to the SI&A form for the Midland County Road Commission to forward to MDOT, Bridge Management Unit.

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 Midland 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. Some of these are 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 Midland 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 Midland 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, 1994, and subsequent interim changes or the most recent version.
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. Bridge Owner (Owner):
The person within the local agency responsible for ensuring bridge inspection is completed to the requirements of the Nation Bridge Inspection Standards.
2. Midland County Road Commission:
The local government agency issuing the contract
3. Midland County Road Commission PM (Project Manager):
The person administering the contract for the local government agency
4. CONSULTANT PM (Project Manager)
The person responsible for administration of the contract for the consulting firm
5. Inspection QTL
Person meeting the qualifications of the NBIS to do bridge inspection
6. NBIS
National Bridge Inspection Standards, 23-CFR-650
7. MiBRIDGE
Michigan Bridge Management and Inspection System, a web site for the entry and retrieval of bridge inspection data and reports.

8. Bridge Inspection
Periodic safety inspection of bridge structures to “Routine” standards of the NBIS.
9. RFA
Request for Action

Please provide a Lump Sum fee per structure inspection type and a bid premium for Stream Bed Cross-Sectioning, Level I Scour Analysis, and Level II Scour Analysis.

Midland County Road Commission may authorize Stream Bed Cross-Sectioning and Level I Scour Analysis on all or a portion of the structures.