

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

	REQUISITION NUMBER	DUE DATE	TIME DUE
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
MDOT PROJECT MANAGER: Check all items to be included in RFP WHITE = REQUIRED ** = OPTIONAL Check the appropriate Tier in the box below		CONSULTANT: Provide only checked items below in proposal	
<input type="checkbox"/> TIER I (\$50,000 - \$150,000)	<input type="checkbox"/> TIER II (\$150,000-\$1,000,000)	<input type="checkbox"/> TIER III (>\$1,000,000)	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding of Service **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
Not required as part of Official RFP	Not required as part of Official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location: The percentage of work performed in Michigan will be used for all selections unless the project is for on-site p=inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	<input type="checkbox"/>	Presentation **
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted) (No Resumes)	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes. Resumes limited to 2 pages per key staff personnel.

PROPOSAL AND BID SHEET EMAIL ADDRESS – mdot-rfp-response@michigan.gov

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by 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 MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal.

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet

5100J – Consultant Data and Signature Sheet (Required only for firms not currently prequalified with MDOT)

(These forms are not included in the proposal maximum page count.)

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest (Consultant/Vendor Selection Guidelines for Services Contracts” and “Guideline for Completing a Low Bid Sheet(S)*, if a low bid is involved as part of the selection process. **Reference Guidelines are available on MDOT’s website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

ENGINEERING SERVICES BUREAU OF TRANSPORTATION PLANNING OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS
 NO YES DATED _____ THROUGH _____

<input type="checkbox"/> Prequalified Services – See the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT’s Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. Form 5100J is required with Proposal for firms not currently prequalified with MDOT
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Qualifications Based Selection – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, 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 firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor’s job-order accounting system.

Qualification Based Selection / Low Bid – Use Consultant/Vendor Selection Guidelines. See Bid Sheet instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted. The vendor that has met established qualification threshold and with the lowest bid will be selected.

Best Value – Use Consultant/Vendor Selection Guidelines, See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

Low Bid (no qualifications review required – no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

Bid Sheet(s) must be submitted in accordance with the “Guidelines for Completing a Low Bid Sheet(s)* (available on MDOT’s website). Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) with the proposal, to the email address: mdot-rfp-response@michigan.gov. Failure to comply with this procedure may result in your bid being rejected from consideration.

PARTNERSHIP CHARTER AGREEMENT

MDOT and ACEC created a Partnership Charter Agreement which establishes guidelines to assist MDOT and Consultants in successful partnering. Both the Consultant and MDOT Project Manager are reminded to review the [ACEC-MDOT Partnership Charter Agreement](#) and are asked to follow all communications, issues resolution and other procedures and guidance’s contained therein.

**NOTIFICATION
MANDATORY ELECTRONIC SUBMITTAL**

Proposals submitted for this project must be submitted electronically.

The following are changes to the Proposal Submittal Requirements:

- Eliminated the Following Requirements:
 - Safety Program
 - Communication Plan
 - Past Performance as *a separate section*
 - Separate section for DBE Statement of goals. Include information in Qualification of Team section

- Implemented the Following Changes:
 - All proposals require an Organization Chart
 - Resumes must be a maximum of two pages
 - Only Key (lead) staff resumes may be submitted
 - Tier III proposal reduced from 19 to 14 pages
 - Forms 5100D, 5100I, and 5100G combined – 5100D
 - Forms 5100B and 5100H combined – 5100B
 - RFP's will be posted on a weekly basis -- on Mondays

The following are Requirements for Electronic Submittals:

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include “N/A” after the bookmark title.
Example: Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to MDOT-RFP-Response@michigan.gov
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
 - Requisition#XXX_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

If the submittals do not comply with the requirements, they may be determined unresponsive.

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time. **Consultants are responsible for ensuring the MDOT receives the proposal on time.**

****Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response****

Required Bookmarking Format:

- I. Request for Proposal Cover Sheet Form 5100D
 - A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
- II. Understanding of Service
 - A. Innovations
- III. Qualifications of Team
 - A. Structure of Project Team
 - 1. Role of Firms
 - 2. Role of Key Personnel
 - B. Organization Chart
 - C. Location
- IV. Quality Assurance / Quality Control Plan
- V. Resumes of Key Staff
- VI. Pricing Documents/Bid Sheet (if applicable)

2/14/12

**NOTIFICATION
E-VERIFY REQUIREMENTS**

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: <http://www.dhs.gov/E-Verify>.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

Michigan Department of Transportation

**SCOPE OF SERVICE
FOR
DESIGN SERVICES**

“As-Needed” Routine and In-Depth Bridge Safety Inspection

CONTROL SECTION(S): 84900

JOB NUMBER(S): 114761

PROJECT LOCATION:

Services will be performed at various locations throughout the State of Michigan. A specific list of bridges requiring inspection will be provided during the priced proposal phase. Full time services will not be required at all times. This scope is for “as-needed” services, based on the intermittent needs of MDOT. It must be noted that this is not a guarantee that MDOT will use the CONSULTANT’S services.

**** Up to 3 firms may be selected ****

PROJECT DESCRIPTION:

To perform “as-needed” routine bridge safety inspection of MDOT owned structures in accordance with the National Bridge Inspection Standards (NBIS). NBIS 650.305 defines routine inspection as a regularly scheduled inspection consisting of observations and/or measurements needed to determine the physical and functional condition of the bridge, to identify any changes from “initial” or previously recorded conditions, and to ensure that the structure continues to satisfy present service conditions.

To perform “as-needed” in-depth bridge safety inspection of MDOT owned structures in accordance with the NBIS. NBIS 650.305 defines in-depth inspection as a close-up, inspection of one or more members above or below the water level to identify any deficiencies not readily detectable using routine inspection procedures. When appropriate or necessary to fully ascertain the existence of or the extent of any deficiencies, nondestructive field tests may need to be performed.

PRIMARY PREQUALIFICATION CLASSIFICATION:

Bridge Safety Inspections

SECONDARY PREQUALIFICATION CLASSIFICATION:

Bridge Project Scoping

ANTICIPATED SERVICE START DATE: April 28, 2014

ANTICIPATED SERVICE END DATE: April 28, 2017

DBE REQUIREMENT:

None

MDOT PROJECT MANAGER:

Richard Kathrens, P.E.
Bridge Safety Inspection Engineer
6333 Lansing Road
Lansing, Michigan 48917
Office: (517) 322-5715
E-mail: kathrensr@michigan.gov

PURPOSE:

In accordance with the National Bridge Inspection Standards (NBIS) Section 650.313 (a), each MDOT owned bridge must be inspected according to the *AASHTO Manual for Bridge Evaluation*.

The deliverables for this project will be the inspection reports, photographs, printed worksheets, sketches, and notes.

DURATION & SCHEDULE

A. Work Plan & Schedule

The CONSULTANT must review the Scope of Service to develop a Work Plan that details the inspection dates and process of inspecting the specific elements for a typical bridge. Submittal of the Work Plan is required as part of the Priced Proposal. Submit any changes to the Work Plan in writing to MDOT'S PROJECT MANAGER (PM) for review and approval.

The CONSULTANT must be prepared to begin the field inspection work within one week after receiving the Notice to Proceed (NTP).

B. Meeting Dates

The CONSULTANT is required to attend a Project Initiation Meeting and Progress Meetings held at the local MDOT region office where field inspections will occur. Shown below are the expected periods for these meetings. MDOT, however, reserves the right to adjust these periods.

Project Initiation Meeting: One week after NTP (prior to any fieldwork)

The intent of the Project Initiation Meeting is to exchange information regarding the general procedures for communication, review the schedule, discuss emergency procedures and communication, and discuss any open questions that remain. Additional MDOT region and statewide staff may attend the meeting.

Progress Meetings: Biweekly during the Field Inspection Phase (Some may be done by conference call)

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 MDOT PM.

Project Closeout Meeting: Two weeks after completion of the final inspection

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.

The CONSULTANT will keep notes of these meetings and provide minutes to the MDOT PM within one week after the meeting.

TEAM REQUIREMENTS:

The CONSULTANT firm will provide a team of individuals that will be technically qualified and cost effective. For safety reasons, all site visits will be done with at least a two person team. The CONSULTANT must staff the project with the number of teams necessary to complete the inspections in the allotted time. The requirements listed below are in addition to the prequalification requirements.

A. Project Manager

The CONSULTANT will provide a PROJECT MANAGER who will be responsible for overall coordination of the project and all administrative aspects of the project including invoice preparation. The CONSULTANT PM will coordinate the daily activities of all project members and will be the primary contact with MDOT’s PM. The CONSULTANT PROJECT MANAGER will also perform contract Quality Control in accordance NBIS Section 650.313 (g) and the CONSULTANT’S Quality Control plan. Only one manager level position will be allowed and paid for on this project.

The following are the minimum qualifications for this position:

1. Professional registration as an engineer or structural engineer, licensed to practice in the State of Michigan.
2. Five years of documented experience in project supervision.
3. A thorough understanding of the National Bridge Inspection Program and the National Bridge Inspection Standards.
4. Documented skills in technical writing.

B. Qualified Team Leader, QTL(s)

The prequalified CONSULTANT will provide current copies of certificates to the bridge owner for all QUALIFIED TEAM LEADERS that will be performing bridge safety inspection on this project.

Changes made to the CONSULTANT PROJECT MANAGER/CONSULTANT QUALIFIED TEAM LEADER that occurs after the authorization must be submitted in writing for MDOT’S PROJECT MANAGER’S approval. Failure to comply with this requirement may result in termination of the contract.

DESCRIPTION OF THE WORK

Routine and in-depth bridge safety inspections are performed to ensure the safe use of the structures by the motoring public. To accomplish this, the National Bridge Inspection Standards (NBIS), *AASHTO Manual for Bridge Evaluation*, *FHWA Bridge Inspection Reference Manual (BIRM)*, *MDOT NBI Rating Guidelines*, *Michigan Element Manual*, and *MDOT Bridge Advisories* are to be used as guidance to complete the inspection and provide necessary information. Additional guidance documents and manuals are listed in the APPLICABILITY & STANDARDS section.

For the purposes of this project, bridge inspection is separated into five phases: bridge file review, routine inspection of the bridge in the field, in-depth inspection of the bridge in the field, completion of the reports, and communication of the findings to the MDOT PM and MDOT BRIDGE OWNER. The MDOT BRIDGE OWNER will determine whether a routine and/or in-depth bridge inspection is required at each bridge. The CONSULTANT must be capable to perform and complete all phases 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 CONSULTANT QTL(s) must gain access to the Mi^{BRIDGE} web based application. For access contact Andrew Bouvy at BouvyA@michigan.gov by email or at (517) 242-1164 by phone.
2. Review the bridge files, and become familiar with the online and file documentation for each bridge. Arrangements to review the file copy will be made with the MDOT BRIDGE OWNER at the MDOT Local Region office.

The CONSULTANT team will visit each bridge site and perform an inspection according to the NBIS and AASHTO manual description for a “Routine” and/or “In-Depth” 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.

B. Routine Field Bridge Inspection

1. The CONSULTANT QTL will observe all of the bridge components and record their findings ratings in the respective form using the Mi^{BRIDGE} web based application.
2. 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 MDOT NBI Bridge Rating Guidelines, unless there are circumstances, particularly if they are safety related, that in the judgment of the CONSULTANT QTL do not fit within these guidelines. In this case, the inspector will document the reason for the deviation in the respective comment section.

3. 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 MDOT PM when a frequency is to be changed. The *Guidelines for Bridge Inspection Frequencies* will assist the CONSULTANT QTL in setting the frequency.
4. 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. 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. If the MDOT BRIDGE OWNER OR PM determines that a load rating analysis is necessary, the MDOT BRIDGE OWNER will forward the work to the Lansing Bridge Load Rating Engineer using the "Request for Action Process" (RFA). The CONSULTANT will not be performing any load rating analyses as a part of this contract.
5. Traffic control for routine inspections will be limited to that necessary for short durations parking on the shoulder of the road. If there is an area of concern that requires traffic control or special inspection testing, the CONSULTANT must notify the MDOT PM with a "Request for Action" (RFA) form. See "Notification for Unusual Situations" below. The MDOT PM will schedule an in-depth inspection for the area of concern.
6. Inspection of underwater portions of the substructure is limited to observations during low-flow periods and/or probing for signs of scour and undermining. The areas of the structure to be closely monitored are those determined by previous inspections and/or load rating calculations to be critical to load-carrying capacity. Follow the plan of action for scour critical bridges. 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.
7. 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 MDOT PM using the RFA form. 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 MDOT PM on an emergency basis.
8. The CONSULTANT QTL must verify when the previous stream bed cross section was completed. Stream bed cross sections shall be performed according to the *Guidelines for Bridge Inspection Frequencies* unless the MDOT BRIDGE OWNER requests them to be performed at an increased frequency.

9. The CONSULTANT QTL must determine if the structure has been hit by a vehicle and damaged. The CONSULTANT QTL shall document all high load hit damage not previously recorded on the bridge safety inspection report. This damage must be documented with a location description and photographs. Comments such as “approximately,” “about,” “possibly,” etc. to describe the extent the beam or bridge element is distorted due to impact shall not be included on the BSIR. The extent and length of damage shall be determined by an in-depth inspection upon approval from the MDOT PM.
10. 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 BSIR or CSIR.
11. During the inspection, the CONSULTANT QTL will measure and quantify structural deterioration of the AASHTO Elements and record this information on the AASHTO Element Report in the MiB^{RIDGE} application. The CONSULTANT QTL will refer to the Michigan Element Manual for placement of the correct quantities in their appropriate condition state. The CONSULTANT QTL shall also add and remove elements that have changed since the last inspection.
12. When the QTL determines that the Deck (58), Stringer (59), and/or Substructure (60) components need to be lowered to a poor rating condition, they must notify the MDOT PM and MDOT BRIDGE OWNER of their findings.

C. In-Depth Field Bridge Inspection

1. Steel Beam End Inspection

For structures that will require in-depth Steel Beam End Inspection, below are the minimum items to be completed.

- a. All dirt, debris, and rust scale must be removed from the ends of each of the steel beams under all joints at piers and abutments. The steel shall then be inspected for section loss. Areas where section measurements are to be taken shall be cleaned by means of hand tools to a SSPC SP3 degree of cleanliness. Thickness readings on the web and the bottom flange are to be taken at the thinnest locations within 5 feet of the end of the beam. Document cracks, corrosion, spalls, unusual movement, settlement, changes in alignment, and loose connections.

These thickness readings will be compared with the original thickness and the percentages of section loss will be calculated (MDOT will supply the CONSULTANT with existing plans). This data will be tabulated in a specific format (as shown in Attachment A, Beam End Thickness Table), and sketches will be prepared, of major components, showing the location of the deteriorated areas. The sketches are to be freehand or CAD drawings, not to scale, but in relative proportion and dimension on 8.5" x 11" sheets. If beam end repairs are necessary, then a plan of the superstructure must be made showing the location of the beam ends needing repair. This information can be shown on the existing erection diagram, and shall be presented in the Appendix of the report.

- b. On structures with pin and hanger assemblies, the beam end shall be cleaned as described in section (a). Thickness readings on the web and the bottom flange are to be measured at the thinnest locations within 2 feet of the end of the beam. Thickness readings must also be measured at the pin plates. If these are areas of heavy flaking rust, the CONSULTANT will clean as necessary to measure for any section loss. Structures with riveted pin plates shall be inspected and measured for section loss, if this is not feasible with an ultrasonic thickness gage due to material build up or bulging between the plates, the CONSULTANT shall notify the MDOT PM, and note it in the report. Check pin and hanger assemblies for proper operation. Does the pin and hanger meet current standards? Note the condition of the pin plates, and if the ends are in contact due to pin and hanger closure.
- c. The CONSULTANT shall note the condition of all other steel superstructure elements including but not limited to stiffeners, intermediate diaphragms, end diaphragms, pier diaphragms, cross frames, other lateral bracing and bearings including sole plates and masonry plates. These elements shall be inspected visually, and no cleaning is required.
- d. The CONSULTANT shall visually check for fatigue cracking on fatigue prone details such as welded cover plates, diaphragm connections, or any welding in tension zones that are transverse to the plane of stress.

2. Concrete Deck (Surface/Underside)

For structures that will require in-depth Concrete Deck (Surface/Underside) inspection, below are the minimum items to be completed.

- a. The underside of the deck surface/underside will be inspected for wet areas, map cracking, delamination, rust along beam edges or any other evidence of deterioration.

- b. The concrete deck surface/underside will be sounded with a hammer or chain drag, and delaminated, spalled, and cracked areas will be marked with chalk or chalk paint to be visible in photographs. (The use of permanent surveyors paint will not be allowed) Photos of the area must be taken and a written description of the deterioration must be documented for inclusion into the report. High speed thermal imaging may be used in areas approved by the MDOT PM. Sketches will be prepared of areas spalled, delaminated, or with substantial cracking showing the location of the deteriorated areas. These sketches are to be freehand or CAD drawings, not to scale, but in relative proportion and dimension on 8.5" x 11" sheets. This information shall be presented in the Appendix of the report.
- c. The percentage of deck surface and soffit deficiencies will be noted in the report.
- d. Note as to whether the deck has previously been overlaid.

3. Substructure

For structures that will require in-depth Substructure inspection, below are the minimum items to be completed.

- a. Sound all substructure concrete elements (pier columns, caps, abutments, backwalls, etc.) for delamination and unsound areas. All delaminated areas are to be marked with spray chalk, crayon, or kiel, that will be evident in the photographs. The use of paint is prohibited. All delamination surveys are part of the site review work (not part of testing). Sketches of the substructure units mapping the areas of distress (cracks, delamination, spalls, etc.) are to be included in the appendix of the scoping report. The percent of the total surface area distressed shall be calculated and shown on each sketch.
- b. Visually inspect all substructure units for signs of settlement, lateral movement, cracking, spalling, exposed reinforcement and material defects. Visually examine fractured concrete to determine if it contains slag aggregate. Note the condition of the backwalls, and check the bridge seat for undermining at bearing locations. For pier caps, check for flexural cracks and shear cracks. Note areas of previous repairs. Pictures of the area must be taken and a written description of the deterioration and location must be documented for inclusion into the report.

4. Non Destructive Testing

The CONSULTANT may determine that other non-destructive testing beyond what is mentioned in the Scope of Work is needed to make a better judgment. However, such testing (magnetic particle testing, acoustic emission, etc.) must be approved by MDOT's PM. If the project manager approves the test, the CONSULTANT must submit a testing proposal. The testing proposal will show what tests are to be performed, what specific information is to be gained from testing, and how the information is to be used. Proposals submitted with insufficient information will be denied.

5. Traffic control during in-depth field bridge inspection will be the responsibility of the CONSULTANT. However, traffic control may be provided by MDOT during the use of the MDOT reachall or other instances approved by the MDOT PM.

D. Bridge Inspection Reports

As stated in the PURPOSE, the deliverables for this project will be the inspection reports, photographs, printed worksheets, sketches, and notes. The CONSULTANT will be assigned the structures for inspection in MiB^{RIDGE}. 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 “*AASHTO Element Report*”, 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, the “*Streambed Profile*” form, field notes, sketches, and pictures. The BSIR, CSIR, AASHTO element Report, and the work recommendations are to be completed and the data saved on-line in the MiB^{RIDGE} application.

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 CONSULTANT QTL or CONSULTANT PM. An additional unbound black and white copy will be presented with the information separated for each bridge for the MDOT BRIDGE OWNER’S bridge files.

The MDOT PM will conduct periodic QA 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 MDOT 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 MiB^{RIDGE}. The CONSULTANT QTL must complete this form in the field at the specific bridge site. MiB^{RIDGE} 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 must be created in MiB^{RIDGE} using the information from the site visit.

The AASHTO Element Report and Work Recommendations Report are key elements of the NBI program and MDOT Bridge Management. The key to the Work Recommendations Report is the communication of the inspector's judgment of the need for maintenance or rehabilitation work necessary to keep the structure in service. The key to the AASHTO Element Report is tracking the bridge deterioration rates to produce a reliable and predictable future network condition. The AASHTO Element Report and Work Recommendations Report are completed in MiB^{RIDGE}.

2. 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 MDOT.

3. Photographs and Posting Document

Photographs must be taken and submitted as part of the Inspection Report to document the current elevation view, transverse deck view, and any unusual conditions. The photographs must be digital images printed on paper 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.

4. Request for Action Report

As noted in "Notification for Unusual Situations" the CONSULTANT will use the RFA form to document communication to MDOT of circumstances that need more urgent attention than otherwise noted in the Work Recommendations.

5. Administrative Reports

In addition to the inspection reports above, the following administrative reports are required.

Inspection Progress Report
CONSULTANT QC reports

These reports must be completed and submitted to the MDOT PM at the Progress Meetings. This information will be used by the MDOT PM to compare progress of the inspections with the schedule.

E. Notification for Unusual Situations

The NBIS define critical finding as "A structural or safety related deficiency that requires immediate follow-up inspection or action." MDOT's definition for a critical finding includes the following:

- Bridges with recommendations for immediate work on fracture critical bridge members;
- Bridges with recommendations for immediate correction of scour or hydraulic problems;
- Bridges with condition ratings of 2 or less for the Deck (Item 58), Superstructure (Item 59), Substructure (item 60), or Culvert (Item 62);
- Bridges with recommendations for immediate work to prevent substantial reduction in the safe load capacity.

A critical finding includes any instance where an entire bridge, lane, or shoulder must be closed due to public safety concerns. Specific examples that may affect each region include:

1. Shoulder closure on bridge due to high load impact to fascia beam;
2. Lane closure on redundant bridge due to deep spall under bearing;
3. Bridge closure due to pressure flow scour.

Each critical finding requires the RFA form to be completed.

One of the primary reasons for bridge inspection is to determine if there are any critical findings 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 with no further observations required. The CONSULTANT QTL must identify the cause of any unusual circumstances or situations and notify the MDOT PM within a time frame appropriate for the situation. The CONSULTANT QTL will be given a list of all of the 24 hour emergency responders for MDOT at the pre-inspection meeting for use when structural deterioration warrants emergency closure of the structure.

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

This form does not preclude advising the MDOT 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 BSIR/CSIR. In addition to critical findings, 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 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 MDOT 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 MDOT PM using a RFA form of the need to perform supplemental in-depth inspections on structures for such things as:

- (1) Where a portion of the structure cannot be inspected by routine inspection methods.
- (2) Where a portion of the structure cannot be visibly inspected due to false decking.
- (3) Where there are many structural members in need of measurement for excessive loss of section, or need NDT for evaluation.
- (4) Where there is a need to mechanically remove a lot of scale to get measurements.
- (5) Where there is a need to coordinate with others', such as closing a lane, to closely examine the structure.
- (6) If there is a crack or suspected crack in a structural steel component on a redundant structure, the CONSULTANT must clearly document this on paper with narrative and photographs.

EQUIPMENT

The CONSULTANT will be responsible for providing all the necessary inspection equipment. Some of the items that CONSULTANT will want to include for inclusion in their proposal are:

1. All safety equipment to comply with MIOSHA requirements. Hard hats, safety glasses, safety shoes, and safety vests must be worn in the field at all times. Life vests are required while working in or above water.
2. Vehicle equipped with high visibility lighting to transport personnel and inspection equipment to the site.
3. Laptop computer or tablet with Microsoft Excel, Word, and Adobe Acrobat.
4. Digital camera that captures clear photographs.
5. Tools required for inspection such as a ladder, waders, rock pick hammer, tape measure, lighting, marking paint, etc.
6. Global Positioning Device (GPS) to locate bridges.
7. Cell phone so the team leader may be contacted during normal working hours.
8. Harnesses, tripods, air monitor, air supply, etc. for the proper entry of MIOSHA defined permit-required confined spaces.
9. Ultrasonic thickness gauge, calipers, dye penetrant kit, chain drag, and sounding hammer for Non-Destructive Testing (NDT).
10. Boat to gain access to the underside of bridges.
11. Rigging equipment that may be used to access floor systems and main load carrying members on structures that do not have the capacity to support an inspection vehicle.
12. High speed thermal imaging equipment that may be used to accurately detect and quantify surface spalling and deck delaminations without the need for traffic control devices.

Under Bridge Inspection and Aerial Lift trucks may be supplied by MDOT. The CONSULTANT will be responsible for scheduling the equipment and performing their inspections based on its availability.

MAINTENANCE OF TRAFFIC

Traffic control for routine inspections will be limited to that necessary for short durations parking on the shoulder of the road. For in-depth inspections, or where shoulders are too narrow for a safe routine inspection, traffic control will be the responsibility of the CONSULTANT unless alternative arrangements are made by the MDOT PM. Traffic control will follow standard MDOT procedures. Permits for traffic control and for working in the MDOT Right of Way must be obtained from the appropriate MDOT Transportation Service Center or Region office prior to the start of work. Allow ample time for permit issuance. The CONSULTANT will be responsible for obtaining all permits and notifying the MDOT BRIDGE OWNER and MDOT PM of the time and location of the work.

Weekday lane closures restricted from 9:00 a.m. to 3:00 p.m., weekend, or nighttime work will likely be required in many locations. Other traffic control restrictions may be imposed by the Region or TSC.

CONFIDENTIALITY CLAUSE

MDOT will furnish the CONSULTANT access to any available, pertinent information related to the bridge(s) proposed for inspection. Information furnished to the CONSULTANT is not to be released or distributed to anyone outside of MDOT. The CONSULTANT is not allowed to make copies of the information in the bridge files unless given written approval from the MDOT PM. Failure on the part of the CONSULTANT firm to maintain security of records could result in legal penalties.

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 ensure that all reports are complete, accurate, and consistent.

RESPONSIBILITIES OF MDOT

The following activities and information will be provided by the MDOT PM, where applicable, to the CONSULTANT.

1. Assign the structures to be inspected to the CONSULTANT in MiB^{RIDGE}.
2. Provide access to the hard copy bridge files which have:
 - a. Previous stream bed cross section reports.
 - b. Previous work recommendations.
3. Electronic "Request for Action" form.

APPLICABILITY & STANDARDS

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 Bridge Evaluation, 2008
3. NHI Bridge Inspection Reference Manual (2012 BIRM)
4. FHWA Recording and Coding Guide for SI&A of the Nations Bridges
5. AASHTO Element Manual
6. Michigan Element Manual
7. Michigan SI&A Coding Guide
8. MDOT Bridge Inspection Rating Guides
9. MDOT Bridge Inspection Frequency Guidelines
10. MDOT Bridge Analysis Guide (2009)
11. MDOT Pontis Bridge Inspection Manual (2009)

CONSULTANT PAYMENT:

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee. The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

All billings for services must be directed to the Department and follow the current guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

MDOT will reimburse the consultant for vehicle expenses and the costs of travel to and from project sites in accordance with MDOT's Travel and Vehicle Expense Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Travel_Guidelines_05-01-13_420289_7.pdf?20130509082418. MDOT's travel and vehicle expense reimbursement policies are intended primarily for construction engineering work. Reimbursement for travel to and from project sites and for vehicle expenses for all other types of work will be approved on a case by case basis.

MDOT will pay overtime in accordance with MDOT's Overtime Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Overtime_Guidelines_05-01-13_420286_7.pdf?20130509081848. MDOT's overtime reimbursement policies are intended primarily for construction engineering work. Overtime reimbursement for all other types of work will be approved on a case by case basis.