

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			CONSULTANT: Provide only checked items below in proposal
WHITE = REQUIRED ** = OPTIONAL Check the appropriate Tier in the box below			
<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"/>	
<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 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)	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 for all firms performing non-prequalified services on this project.)

(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) **AA**

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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, 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 all firms performing non-prequalified services on this project.
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Qualification 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.)

BID SHEET INSTRUCTIONS

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.

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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
SPECIALTY SERVICES**
Zilwaukee Bridge

CONTROL SECTION: 73112

JOB NUMBER: 118827

LOCATION: Zilwaukee Bridge, B03 - 73112 (Northbound, Southbound, and the “H” Ramp) I-75/US-23 over the Saginaw River, Zilwaukee Michigan.

A map is attached showing the general location of the bridge.

PROJECT DESCRIPTION

Perform an engineering inspection of the Zilwaukee Structures using the latest in technology and engineering expertise. The information obtained from the inspection will be compared to previous inspections and used to ensure the long term performance of this very large and costly structure.

The Zilwaukee Structures consist of long, multi-span, post-tensioned, concrete segmental box girders that carry I-75 over the Saginaw River. The complex structural design and construction characteristics of these structures requires advanced specific engineering knowledge of this type of structural system, construction methods, and the associated deterioration mechanisms.

The deliverable for this project will be several documents referred to here-in as the REPORT including the “Bridge Inspection Report”, “New Disc Bearing Evaluation Report”, and “Bridge Maintenance Manual, 2015 Revision”. The REPORT will contain several topics as noted and will be attested to be accurate and complete under seal of a Registered Professional Engineer (Michigan).

ANTICIPATED SERVICE START DATE: August 1, 2015

ANTICIPATED SERVICE COMPLETION DATE: December 31, 2016

DBE PARTICIPATION REQUIREMENT: N/A

PRIMARY PREQUALIFICATION CLASSIFICATIONS:

None

SECONDARY PREQUALIFICATION CLASSIFICATIONS:

None

PROJECT MANAGER:

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

PREFERRED QUALIFICATION REQUIREMENTS:

The Michigan Department of Transportation (MDOT) will hire a consulting engineering firm (CONSULTANT) with applicable experience in performing engineering inspections of post tensioned concrete segmental bridges. The qualified candidate will have demonstrated knowledge of the design, structural analysis, and construction of post tensioned concrete segmental bridges, as well as a background in the repair and maintenance of the various components.

CONSULTANT firms will document in their technical proposal specific projects that demonstrate their experience with this type of structure. Technical Proposals that include reference to projects that are not related to the structural system detailed above will be considered non-responsive and will not be evaluated by the Selection Team.

The CONSULTANT will propose a team of engineers and technicians meeting the qualifications listed below. The number and level of staff will vary depending on the task and phase in the project. The CONSULTANT will ensure that the resources assigned to the project are appropriate to complete the task in the allotted time and are used in an efficient manner.

The following qualifications are the minimum necessary for the required personnel. The credentials for individuals must be documented with resumes, including training and registration certificates, and submitted with the technical proposal. An organizational chart showing names and responsibilities must be included in the technical proposal.

A. PROJECT MANAGER AND ENGINEERING EVALUATION TEAM LEADERS:

The CONSULTANT will provide a Project Manager who will be responsible for all aspects of the project. The Project Manager will coordinate the daily activities of all project members and will author, sign, and seal the REPORT. The Project Manager, or designate will be on site continuously during the Inspection Phase and will present at all meetings. 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. Ten years of documented experience in post tensioned concrete segmental bridge design, construction and maintenance inspections, and the evaluation of this type of bridge for rehabilitation.

3. The Project Manager must have thorough understanding of the long term durability and maintenance aspects of this type of structure, be capable of identifying areas of structural or maintenance concerns, and making specific recommendations to address these concerns.
4. Documented skills in technical writing.

The Project Manager will be the primary contact with MDOT's Project Manager, and will make the initial assessment on site of all inspection findings. The Project Manager will report immediately any unusual findings to the MDOT Project Manager or his designate.

B. INSPECTION & ENGINEERING TEAM LEADERS

The CONSULTANT will provide engineers to lead the inspection teams consisting of staff engineers and technicians. They will have specialized expertise in a specific field of engineering such as materials (concrete, post-tensioning, modular joints, disc bearings), structural stress analysis, and/or bridge safety inspections, etc. The following are the minimum qualifications for this position:

1. Licensed professional engineer or structural engineer.
2. Five years of documented experience in a specific field related to post tensioned concrete segmental bridge design, construction, maintenance, and/or the evaluation of these types of structures for rehabilitation.
3. Must have a thorough understanding of the long term durability and maintenance aspects of this type of structure; be capable of identifying areas of structural or maintenance concerns, and making specific recommendations to address these concerns.
4. One position will be designated as the "Bearing Engineer" and will be responsible for leading the bearing investigation work in the field and for developing the Bearing Evaluation Report.
5. One position will be designated, and responsible for, the development of the Bridge Maintenance Manual, 2015 Revision.

C. FIELD STAFF Assisting the Engineering Team Leaders:

This project will require support staff that have a technical background in civil / structural engineering and are capable of evaluating the issues inherent in this type of structural system.

The following are the minimum qualifications for this position:

1. A technical staff person with three years of experience in inspection, design, or construction of bridges.

Or:

2. Recent graduate engineer working at the Staff Engineer or entry level position.

The field work will be done in two or three person teams, led by the Engineering Team Leaders and supported by the Field Staff.

D. EVALUATION AND STRUCTURAL ANALYSIS TEAM

MDOT is currently in the process of load rating the Zilwaukee bridge, which is being done under a separate contract. The CONSULTANT will receive a copy of the draft and final load rating reports, and all supporting analysis for review.

The CONSULTANT will be responsible for reviewing all load rating documentation, and to provide independent commentary on the results.

The CONSULTANT can propose additional personnel if there will be substantial benefit to the project. The added benefit must be clearly defined in the technical proposal.

The CONSULTANT Project Manager is considered key staff. The CONSULTANT can submit an alternate Project Manager who could take the place of the primary Project Manager in the event the latter cannot finish the project, given the MDOT Project Manager's approval.

PROJECT DESCRIPTION (cont'd)

The CONSULTANT will provide a Technical Proposal to accomplish the work as described in this RFP and follow the outline of project phases described here-in. The CONSULTANT has the freedom to recommend the methodology to perform the work in each phase.

The following provisions are the minimum necessary for every Technical Proposal. The CONSULTANT may elect to suggest additional activities in their Technical Proposal that will improve the inspection or save costs. Field work for all of the activities listed below will proceed concurrently and simultaneously in a way that will most efficiently use the staff, traffic control and, inspection equipment.

A. ENGINEERING INSPECTION

The CONSULTANT will become completely familiar with the structure and the previous inspections. They will perform a detailed in-service engineering inspection of the structures, analyze this information, compare it with the previous inspections and, provide a Bridge Inspection Report.

This report will identify the current condition of the structure and provide recommendations for repairs or maintenance that will improve the long term durability and longevity of the structure. The CONSULTANT will also make recommendations for the maintenance of this bridge that have been successfully implemented by other DOT agencies.

1. Pre-inspection / Mobilization Phase

The CONSULTANT will collect pertinent information on the bridge from sources within MDOT and completely familiarize all staff with the information necessary to do their

respective assignments. MDOT will provide access to the records located in the Bay City TSC, and Operations Field Services offices. It will be the CONSULTANT'S responsibility to determine what information is necessary for this project and make the copies. A check out and return procedure will be established to ensure that all documents are returned to their respective files.

The CONSULTANT will develop a Work Plan that will explain the inspection process and convey information learned from the records to the inspectors. This will be reviewed in the pre-inspection meeting.

The CONSULTANT will prepare a file called the "Site Safety and Procedures Manual" for all staff who will be working at the site. This file will detail the information and safety issues they will need to know to safely do their jobs. Personal safety equipment, meeting MiOSHA requirements is required to be worn on site by all staff. This will be discussed and reviewed at the Pre-inspection Meeting. The final Work Plan showing all staff assignments and the schedule will also be reviewed at this meeting.

Problem areas that require specialized testing or investigation must be noted in the Bridge Inspection Report. However, any testing necessary for proper evaluation of a problem area on the bridge, must be requested as soon as the need is discovered so that MDOT will have time to react within the time frame established for this inspection.

2. Field Work Phase

During the Field Work Phase, the CONSULTANT will deploy staff to the bridge to visually inspect, and take measurements of, conditions that may shorten the service life of the structure or develop into major maintenance activities in the future. To accomplish this, the inspection team will inspect the structures in the designated areas from a distance of no further than three feet. All work at the site, will be considered part of the Inspection Phase.

Large areas of the structure have not shown any significant deterioration to date. Therefore, the inspection will be confined to those areas that have been of concern in the past and/or are areas of high stress. These are listed below. If a CONSULTANT proposes to go beyond these areas, they must state the reason for this and be prepared to discuss the additional costs.

The limits of this inspection will be confined to the following areas:

a. Deck surface survey as follows:

As part of the 2013/2104 bearing replacement project, the deck surface was repaired with latex modified concrete patches, and an epoxy healer sealer was applied.

- The CONSULTANT is to visually inspect the entire deck surface. Shoulder and single right/single left lane closures will be permitted. Lane closures will not be permitted for the center two lanes. Note the conditions of new latex patches, and interface with the existing latex surface. Measurements and quantification of deficiencies is not required.

- Inspect and measure the opening of the modular expansion joints. The baseline locations will be provided.
 - Inspect all drainage piping and castings, joint devices and other appurtenances like signs and barrier railing. Barrier rehabilitation was included in the 2013/2014 bearing replacement project. Note locations of additional barrier railing distress, and the conditions of patches.
- b. Completely survey the inside of the segmental box girders, including, but not limited to:
- The king post truss and associated structural components located at Pier 20S.
 - The EJ9NS external post tensioning repair
 - H Ramp
 - Expansion joints
 - Inspect all epoxy joints between the segments and note any evidence of separation, leakage, movement of the shear keys, crushing, or voids
 - Inspect the post-tensioning blisters on the inside of the segments and previous repairs for cracks and delamination.
 - Inspect all exposed surfaces of the diaphragms on inside of the segments, at the piers and note any evidence of distress. Note, the 2013/2014 bearing replacement project required temporary strengthening of the diaphragms due to the jacking forces. Note any additional cracking that has not been previously marked, or previously marked cracks that have grown.
 - Inspect the drainage system and report anything that will prevent its proper operation or which may cause leakage to the interior.
- c. External survey of the box girder in certain areas as follows:
- At each of the expansion joints, survey the segment adjacent to the joint on each side and two segments on each side of the joint segments (total six segments at each joint.)
 - At each pier, survey the pier segments and two segments on each side of the bearings (total of five or six segments at each pier depending on the pier segment type.)
 - Inspect all epoxy joints between the segments within the survey area and note any evidence of separation, leakage, movement of the shear keys, crushing, or voids.
 - Inspect fifty percent of the transverse post tensioning anchorages on each fascia.

- Sound the concrete and mark for delaminations over Adams Rd, M-13 and, the railroad. The area to be sounded are the East and West faces of both NB & SB structures, from the top of the barrier wall and down to the underside of the cantilever.
 - Inspect the EJ9NS external post tensioning repair
- d. All of the visible surfaces of the abutments.
- e. Pier columns and struts:
- Visually survey the piers from ten feet below the bottom of the strut where it attaches to the pier column up to the bearings and all surfaces of the pier and strut using high reach equipment or under bridge crane. Note, for the 2013/2104 bearing replacement project, the jacking system to lift the superstructure off of the bearings was placed on the tops of the piers, and the piers were temporary strengthened with compression collars. In some instances, splitting cracks were noted at the pier centerline due to the tension tie that developed between jacking groups. Careful attention should be paid when surveying all the pier tops for cracking.
 - Visually survey all pier columns (except as noted in the bullet below) from the ground surface up to ten feet below the strut from the ground by an inspector using binoculars. If there are findings of concern to the inspector, it will be brought to the attention of the MDOT PM for consideration of closer examination.
 - Both columns of Pier 11N, Pier 17N and Pier 17S, over the entire length and all surfaces.

A survey, as stated here, is defined as a close-up visual inspection (within 3 ft) by an experienced inspector and the sounding of all associated concrete surfaces and documenting all findings.

Items of deterioration including cracks or re-cracking, rust stains, spalls, delaminations, leaking or leaching, evidence of externally-caused damage, unusual movements, will be documented (in written form and diagramed).

Mark the last 12 inches, and note the date, at the ends of all new cracks. On the inside of the box girder, mark the growth of cracks previously marked with a permanent marker or paint stick using a different color than used in previous inspections. The deck and previously injected cracks on the outside of the structure will be marked in an inconspicuous manner as observed from the ground. This will be jointly developed by the project staff and approved by the MDOT PM.

Report any unusual noises and determine their cause. Photographs or video tapes will be required of all areas of special concern.

If the inspection finds any items that the CONSULTANT anticipates will develop into a situation that will require maintenance in the next three to five years, he / she will identify them in a separate section of the report along with the reason for the concern and monitoring recommendations.

3. Analysis and Evaluation Phase

During this phase of the project, the CONSULTANT will assemble and evaluate the information collected in the field along with the information collected at the beginning of the project. This phase will run concurrently yet lag the inspection work at the site.

Documentation collected in the field will be transferred to the CONSULTANT's office from the field at least once per week and every day if the information can be electronically transferred. The inspection analysis team will review the inspection information in all forms (written reports, photographs, crack maps, etc.) evaluate the data, and respond back to the inspectors. Such things as evidence of trends, areas of structural deterioration, or areas that may need additional or improved information such as a better picture or a graphic are the examples of the interaction expected. Documentation of this communication will be kept and provided to the MDOT PM during the progress meetings.

In addition, the following items must be done during this phase:

- a. The analysis team will collate and prepare the inspection information for the Bridge Inspection Report, which will be organized in a binder separate from the body of the report.
- b. After completion of the inspection, the Project Manager will review all of the information collected, including all of the inspection data, any testing data, and the previous inspection data, evaluate it and coalesce it for inclusion into the report.
- c. The Project Manager (and REPORT author) must complete an outline of the Bridge Inspection Report. This outline must be submitted to, and approved by, the MDOT PM before the next phase can begin.

4. Bridge Inspection Report Development Phase

The deliverable for this contract will be the REPORT and one of the topics of this REPORT will be the Bridge Inspection Report. Preparation of the Bridge Inspection Report will be developed in this phase and will be billed and tracked against the budget in the consultants Priced Proposal for this phase.

The Bridge Inspection Report will be divided into chapters as follows:

- Executive Summary
- Introduction
- Inspection Operations
- Inspection Results and Analysis

- Inspection Recommendations
- Summary

The Bridge Inspection Report in its final form must present a basic description of the inspection procedure, document in detail all findings in written and diagrammatical form and contain a section that has a segment by segment comparison of this inspection with the previous inspection. A copy of the previous inspection data will be provided.

The CONSULTANT will provide a snapshot of the report at each progress meeting during this phase with changes from the previous snapshot highlighted (in color or bold). This will be used to track the development of the report and to resolve issues that are in question.

As stated above, typical forms have been developed and will be used in the field for documenting the inspection findings. These forms must be included with the Bridge Inspection Report in a separate binder. A standardized format for photographic and video presentation must be submitted to the MDOT Project Manager for approval.

Specific maintenance recommendations that have been found by other DOT agencies to enhance the long-term durability of the bridge that the CONSULTANT is aware of will be detailed under a separate heading in the Bridge Inspection Report. These recommendations will be listed in order of priority and cost.

The Summary chapter will make an overall assessment of the bridge and evaluate the significance of the individual conditions noted. A detailed structural analysis will not be required unless conditions found during the inspection warrant it (supplemental contract will be required). Repair details and specifications are not within the scope of this Bridge Inspection Report. However, repair recommendations must be prioritized and contain enough information so that the nature of the fix can be understood when compared with the significance of the defect.

B. BEARING INSPECTION

The CONSULTANT will perform a detailed, “hands on” inspection of all the new disc bearings and grout pedestals installed in 2013 (SB), and 2014 (NB and H-ramp).

Measurements are to be recorded of the lateral and longitudinal movement of the top and bottom bearing plates relative to each other. Rotational measurements will be taken by measuring the distance between top and bottom plates at all four corners, and center of plates for each bearing.

Check the rotational element for bulging and friction connection to uncoated portions of the steel plates.

As part of the 2013/2014 bearing replacement project, the grout pedestals experienced shrinkage cracking during installation, and have since been sealed. Note the performance of the sealant and if cracks are growing in length or width.

The work will proceed in a phased manner similar to the other major activities on this

project. The CONSULTANT will coordinate all of the work in a manner which will insure efficient use of staff, equipment, and traffic control. The following activities are the minimum necessary for each technical proposal:

1. Pre-inspection / Mobilization Phase

- a. Review plans, specifications and construction records from the 2013/2014 bearing replacement project, and discuss with the Project Engineer for the Construction Project.

2. Field Work Phase

The bearing evaluation team will perform a close-up visual examination of each bearing, both at the expansion joints and the main pier bearings, and take measurements in the locations as described above. The CONSULTANT will investigate the bearings for alignment, evidence of unusual movement, load shifts, over rotation, or deteriorated components.

This work will also include:

- a. Inspection and documentation of the grout pads above and below the bearings.
- b. Inspection and documentation (both written and in pictures) of the bearing condition

3. Analysis and Evaluation Phase

All of the forces in the bearings have been previously calculated and will be provided to the CONSULTANT. The CONSULTANT's project manager will develop an outline of the Bearing Evaluation Report and submit it to the MDOT PM for approval. The outline will show the structure of the Bearing Evaluation Report, each of the findings, options, and recommendations.

- a. Assessment of inspection findings and evaluation of any changes will be made for each bearing.
- b. A standardized format for photographic and video presentation must be submitted to the MDOT PM for approval.
- c. Develop and submit Bearing Evaluation Report outline for approval.

The CONSULTANT will not be allowed to proceed to writing of the Bearing Evaluation Report, and none of the budget for that phase billed against, until the outline has been approved by the MDOT PM.

4. Bearing Evaluation Report Development Phase

The Bearing Evaluation Report, in its final form must present a basic description of the bearing inspection procedure and document, in detail, all findings in written, diagrammatical and, pictorial form. It will also provide options to maintain the bearings. The Bearing Evaluation Report will be an independent part of the project REPORT.

The Bearing Evaluation Report will be divided into chapters as follows:

- Executive Summary
- Introduction
- Project Procedures
- Inspection Results
- Options
- Summary
- Appendix
 - Inspection Findings
 - Computer Analysis Output

As stated above, typical forms will have been developed and will be used in the field for documenting the inspection findings. These forms must be included with the Bearing Evaluation Report in a separate binder.

C. MAINTENANCE MANUAL REVISION

The Bridge Maintenance Manual will be revised and updated per the recommendations from the previous (2009) inspection report and as described below. This will be a stand-alone document and will be provided in both hard copy and digital format.

The team will be led by an engineer team leader (Manual Engineer). A key objective of this work will be to establish an electronic format for as many of the documents as possible for preservation. It may not be possible to copy or digitize some large format documents, but their location will be described. There are between 15 and 20 major documents including project construction plans and specifications from several projects since original construction, several engineering inspection reports, and many smaller reports and investigations that will need to be summarized in the Manual.

The work will proceed in a phased manner similar to the other major activities on this project. The CONSULTANT will coordinate all of the work in a manner which will insure efficient use of staff, equipment, and traffic control. The following activities are will be the minimum necessary for each technical proposal:

1. Pre-inspection / Mobilization Phase
 - a. Prepare a list of documents for inclusion in the Maintenance Manual.
 - b. Determine the location the documents.
 - c. Determine the best suitable method for transferring the paper copies to digital format.

The CONSULTANT must have the MDOT-PM approval to proceed.

2. Field Work Phase

- a. Travel to each location and assemble copies of the documents.
- b. Perform a preliminary review of each of the documents.
- c. Create a table of all documents related to the bridge and state the location of the documents, version or date, and format. Distinguish on this table the documents that are in paper form only.

3. Analysis and Evaluation Phase

The team will review the current Zilwaukee Bridge Maintenance Manual and make recommendations for additions and/or improvements based on the inspection data. Any changes in the procedures or schedules described in this manual must be detailed under a separate heading in the final Manual.

- a. Coalesce the information and determine a logical method for presentation in the Manual.
- b. Develop a Manual outline. The original maintenance manual will be scanned to preserve it in its original form. The new manual will contain much of the same information re-typed into the word processor.

4. Bridge Maintenance Manual, 2014 Revision, Development Phase

The manual will have the following sections at a minimum:

- Bridge Background
 - Bridge History
 - Construction
 - Construction Issues
- Inspection
 - Previous inspections
 - Inspection procedures and critical areas
 - Safety and equipment
- Projects after construction and maintenance
- Future planned maintenance / construction projects
- Load rating
 - Design parameters
 - Assumptions
 - Summary
 - Data files
- Location of bridge reference material

- Appendices

D. REPORT

The deliverable for this project will be the REPORT which will contain several topic reports as follows.

1. “Bridge Inspection Report”
2. “Bearing Evaluation Report”
3. “Bridge Maintenance Manual, 2014 Revision”

Each topic will be presented in its own binder.

Additionally, the CONSULTANT will provide a Project Summary binder which will contain the following

- Project Executive Summary
- Brief description of the project
- PowerPoint Presentation

All of these documents will be developed with the following steps

1. Outline approval

The CONSULTANT will not be allowed to proceed to writing of the various reports, and none of the budget for that phase billed against, until the outline has been approved by the MDOT PM.

2. Drafts

Two copies of each topic draft and three copies of draft scoping report will be provided to MDOT. One of these will be marked by MDOT with any comments and returned to the CONSULTANT. MDOT will reserve the right to request additional drafts for review if, in the opinion of the MDOT PM, the changes required are extensive. Failure to address the MDOT comments to the draft will be deemed failure to meet the terms of this contract.

3. Format

All reports must be submitted in the latest version of Microsoft, with one copy created in Adobe pdf, on Flash Drive or CD. All reports must be printed on both sides of the paper. Color images depicting the items under discussion must be shown on the same page as the associated text.

4. Copies

The CONSULTANT will provide five (5) bound copies and one unbound copy for reproduction of all final documents to MDOT.

5. Presentation

The CONSULTANT will present a powerpoint of the project and the findings to MDOT after acceptance of the report.

E. EQUIPMENT

MDOT will provide an under bridge inspection truck (Reach-all) and a high reach man lift for access to the underside of the bridge and the bearings. The CONSULTANT'S Work Plan and Schedule will show the areas that will need this equipment and coordinate the use with the various teams to insure the equipment is fully utilized while onsite and released as soon as the high reach areas are inspected.

The Reach-all is part of the department's emergency response team and may be called away unexpectedly. The CONSULTANT will plan for this contingency and should this occur, will re-direct the field staff to maintain efficiency and the schedule.

THE CONSULTANT will insure that all personnel on site have all personal protective safety equipment (PPE), including safety shoes, and that it is worn by all staff while onsite, including short term visitors. Staff without the required PPE will be asked to leave the site.

F. MAINTENANCE OF TRAFFIC

MDOT, Zilwaukee Bridge Maintenance Crew will provide traffic control for inspection activities. The CONSULTANT'S Work Plan will show the areas and time frames where traffic control will be necessary.

No lane closures or deck work will be allowed on the following days:

In general, the following restrictions will apply for the duration of the inspection. The CONSULTANT is responsible to notify the MDOT PM in order to coordinate field activities with the MDOT Bay City TSC Traffic & Safety Engineer:

1. No lane closures on Friday or Saturday on the northbound structure.
2. No lane closures on Sunday or Monday on the southbound structure.
3. Holiday Restrictions:
 - Labor Day, September 7 , 2015:
No deck work will be allowed on the structure during the holiday weekend Friday thru Monday
 - Veterans Day, Wednesday November 11, 2015:
No deck work will be allowed on the structure during that day

There may be other restrictions as dictated by the Bay City TSC that will be communicated as work progresses.

Prior approval will be required for weekend lane closures. Weather conditions may cause delays in constructing lane closures and MDOT reserves the right to remove the traffic control if it is deemed necessary.

DURATION & SCHEDULE:

Authorization for this project and “Notice to Proceed” is expected by December 2015. All field work must be completed by fall 2015, and the final REPORT will be due early 2016. The CONSULTANT will develop a detailed schedule, including specific dates and milestones as described below which will form a part of the contract. Failure to progress in alignment with the Work Plan and Schedule will be considered as failing to meet the terms of this contract and may result in the cancellation of the contract.

A. WORK PLAN

The CONSULTANT must develop a work plan which will detail the process of inspecting the bridge and preparing all the documents for the REPORT. The work plan must explain the field operations of the inspection survey team, project scoping team, and bearing survey team and how they will coordinate to ensure efficiency and coordination with traffic control and high reach equipment. It must describe the high reach equipment utilization and what traffic control will be needed in graphical and text forms.

It must explain the process for developing all of the documents for the REPORT and the staff that will be assigned to each of the tasks. The Work Plan will be completed and submitted to the MDOT PM for approval, at least one week before the scheduled pre-inspection meeting.

An outline of the Work Plan must be submitted as part of the Technical Proposal and will be completed by the selected CONSULTANT during the “Pre-inspection / Mobilization Phase”.

B. SCHEDULE OF DATES AND MILESTONES

The CONSULTANT is required to develop a Project Schedule in alignment with the project parameters described in §B above, for this work. The Project Schedule must include a Gantt chart showing meeting dates, draft report submissions, etc. as milestones.

A high level Project Schedule must be submitted as part of the Technical Proposal. A fully complete Project Schedule will be submitted, with the Work Plan, to the MDOT PM for approval, at least one week before the scheduled pre-inspection meeting.

Once the project begins, the CONSULTANT will be required to adhere to the schedule and any changes to the schedule must be submitted to the MDOT PM for approval prior to the change.

The CONSULTANT must be prepared to begin the field evaluation work within three weeks after receiving notice to proceed.

C. MEETING DATES

1. Project Initiation Meeting – One week after NTP (Notice to Proceed) and before beginning any field work. Location to be determined.

A pre-inspection conference will be held at a place and time mutually agreeable to MDOT and the CONSULTANT. At this time, the Project Manager will describe in detail the schedule and inspection sequence. An amended the Work Plan as called for as part of this Scope of Services, (showing any changes to meet approval of the MDOT PM) will be provided to MDOT a minimum of 3 working days ahead of this meeting.

2. Pre-Inspection Meeting – Prior to beginning the inspection Phase. Meeting location will be at the bridge site.
3. Progress Meetings – Every week while at the site. And once every two weeks during the REPORT preparation phases.
4. REPORT Presentation – Near the completion of the contract. Meeting location will be in Lansing.

GENERAL:

A desk in the MDOT Bridge Crew Building at the bridge site will be provided for the use of the Project Manager.

The CONSULTANT will provide an e-mail address and cell phone numbers to MDOT PM for communication during the project.

On site storage for equipment and supplies is limited and is strictly at the CONSULTANT's risk.

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

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.

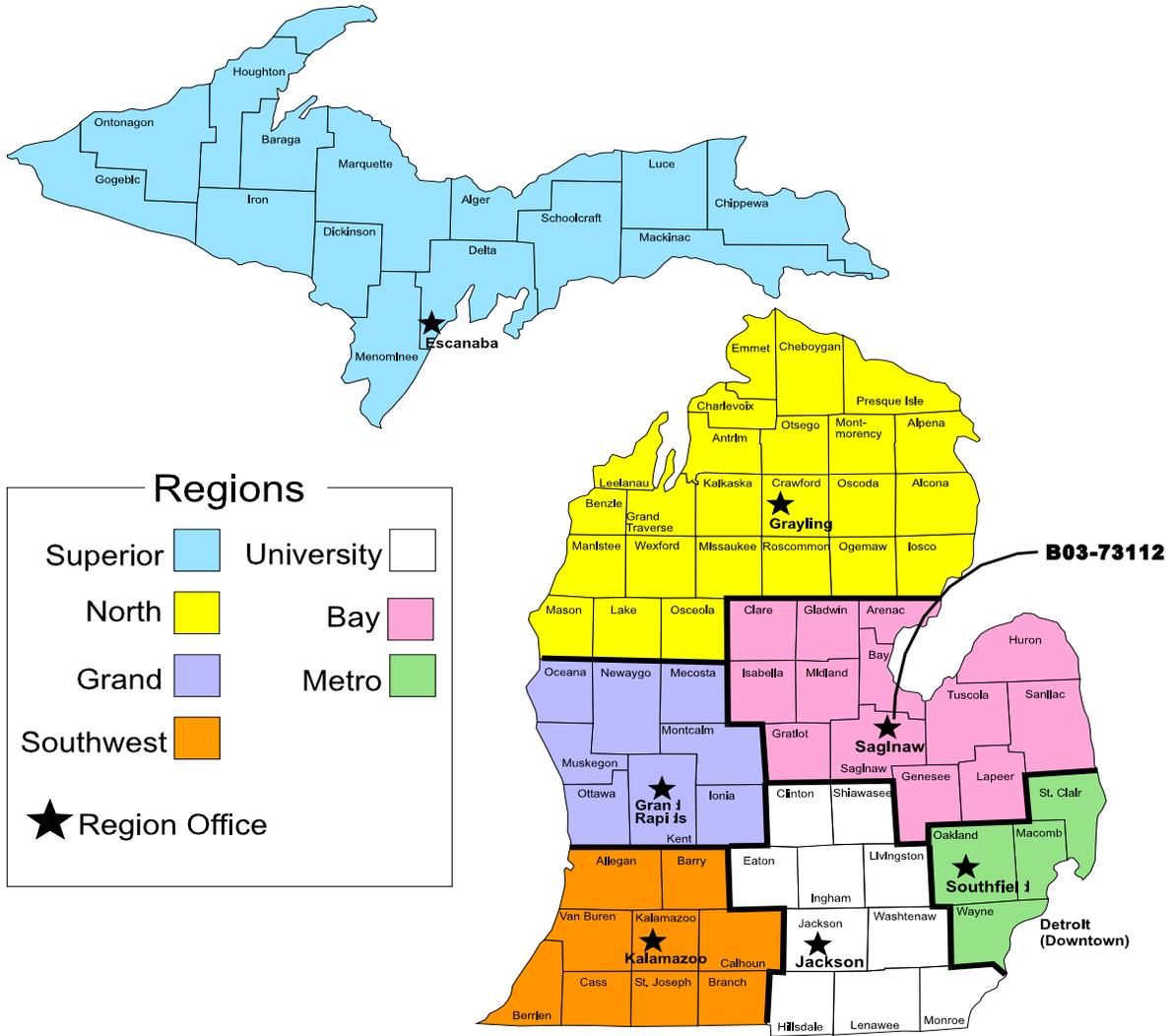
All billings for services must be directed to the Department and follow the current guidelines. Payment may be delayed or decreased if the instructions are not followed.

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.



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