

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

MDOT PROJECT MANAGER Jason DeRuyver, PE		JOB NUMBER (JN) 110122 & 110123	CONTROL SECTION (CS) 84916
DESCRIPTION Bridge scoping at 38 various locations in Eaton and Monroe Counties.			
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP  WHITE = REQUIRED GRAY SHADING = OPTIONAL		<b>CONSULTANT:</b> Provide only checked items below in proposal	
Check the appropriate Tier in the box below			
<input type="checkbox"/> <b>TIER I</b> (\$25,000-\$99,999)	<input checked="" type="checkbox"/> <b>TIER II</b> (\$100,000-\$250,000)	<input type="checkbox"/> <b>TIER III</b> (>\$250,000)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Understanding of Service
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Safety Program</i>
N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Past Performance
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Location:</b> 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) <b>(No Resumes)</b>	7 pages (MDOT Forms not counted)	19 pages (MDOT Forms not counted)	<b>Total maximum pages for RFP not including key personnel resumes</b>

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 Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services > Vendor/Consultant Selections.**

## RFP SPECIFIC INFORMATION

BUREAU OF HIGHWAYS       BUREAU OF TRANSPORTATION PLANNING \*\*       OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

NO       YES      DATED \_\_\_\_\_ THROUGH \_\_\_\_\_

<input checked="" type="checkbox"/> <b>Prequalified Services</b> – See page <u>1</u> of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> <b>Non-Prequalified Services</b> - 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. <b>(Form 5100J Required with Proposal)</b>
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**Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

**For all Qualifications Based Selections**, the section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**\*\*For RFP's that originate in Bureau of Transportation Planning only**, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (see address list, page 2). The priced proposal must be submitted in a sealed envelope, clearly marked "**PRICE PROPOSAL.**" The vendor's name and return address **MUST** be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

**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.

**Qualifications Review / 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 and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

**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

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked "**SEALED BID.**" The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

**PROPOSAL SUBMITTAL INFORMATION**

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 3	PROPOSAL/BID DUE DATE 9/28/10	TIME DUE 2:00 pm
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**PROPOSAL AND BID SHEET MAILING ADDRESSES**

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

- MDOT Project Manager  MDOT Other

MDOT University Region Office  
Jason DeRuyver, PE  
4701 West Michigan Ave  
Jackson, MI. 49201

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

**Lansing Regular Mail****OR****Lansing Overnight Mail**

- Secretary, Contract Services Div - B470  
Michigan Department of Transportation  
PO Box 30050  
Lansing, MI 48909

Secretary, Contract Services Div - B470  
Michigan Department of Transportation  
425 W. Ottawa  
Lansing, MI 48933

- Contract Administrator/Selection Specialist  
Bureau of Transportation Planning B470  
Michigan Department of Transportation  
PO Box 30050  
Lansing, MI 48909

Contract Administrator/Selection Specialist  
Bureau of Transportation Planning B470  
Michigan Department of Transportation  
425 W. Ottawa  
Lansing, MI 48933

**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 four (4) 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

The following two American Recovery and Reinvestment Act of 2009 (ARRA) notifications, **ARRA MONTHLY EMPLOYMENT REPORTS** and **REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515**, are attached to this Request For Proposal for your understanding. These two notifications are only applicable for those projects/contracts funded with ARRA funds and will be included in contract Exhibits.

**MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION**

- 5100D** – Request for Proposal Cover Sheet  
**5100G** – Certification of Availability of Key Personnel  
**5100I** – Conflict of Interest Statement  
**5100J** - Consultant Data and Signature Sheet (Required only for Non-Prequalified Work)

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

**Notification**  
**ARRA MONTHLY EMPLOYMENT REPORTS**  
**Note: This Notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.**

The American Recovery and Reinvestment Act of 2009 (ARRA), requires states receiving stimulus funds for highway projects to provide monthly reports to the Federal Highway Administration (FHWA) regarding the number of employees of the prime contractors, all-tier subcontractors and consultants on ARRA funded projects.

The cost for complying with this Notification must be borne by the prime contractor, and all-tiers of subcontractors and consultants, as part of their overhead and is deemed to be included in the payments made under this contract.

Within 10 days after the end of each month in which work is performed on this contract, all prime contractors and consultants must provide the Engineer a monthly report on MERS at <https://sso.state.mi.us/> providing employment information on each ARRA project, which will include, for work performed in that preceding month:

- The total number of employees who performed work on this contract.
- The total number of hours worked by employees who performed work on this contract.
- The total wages of employees who performed work on this contract.

*Prime Consultants are responsible for reporting on all subconsultants' employment information in MERS, as the sub consultants will not have access to do so.*

In addition, the prime contractor must provide a total payment amount made to any subcontractor who is a certified DBE in that preceding month.

This Notification shall be included as a part of each subcontract executed by the prime contractor, and all-tiers of subcontractors and consultants.

If necessary to conform to guidance provided by FHWA concerning the ARRA reporting requirements, the prime contractor, and all-tiers of subcontractors and consultants will revise their reporting as directed by the Engineer.

**Failure to comply with the reporting requirements under ARRA would jeopardize the Department's continued receipt of ARRA funding.**

**Accordingly, if a contractor or any-tier of subcontractor or consultant fails to comply with this Notification, the Department may withhold contract payments until compliance is achieved. If the Department is compelled to incur costs because of such a breach, the amount of those costs may be deducted from payments otherwise to be made under this contract. Additional sanctions may include reduction or elimination of prequalification ratings and removal of bidding privileges.**

**NOTIFICATION  
REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN  
RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515**

**Note: This notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.**

In accordance with requirements under section 902 of the American Recovery and Reinvestment Act of 2009 (ARRA), the following language is made a part of this contract and is to be made a part of all tier subcontracts or consultant contracts:

The U.S. Comptroller General and his representatives have the authority:

- (1) To examine any records of the contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) To interview any officer or employee of the contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

The Comptroller General and his representatives have the authority and rights provided under Section 902 of the ARRA with respect to this contract. As provided in section 902, nothing in section 902 shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

In accordance with the requirements of section 1515(a) of the ARRA any representatives of the Inspector General have the authority:

- (1) To examine any records of the contractor or grantee, any of its subcontractors or sub-grantees, or any State or local agency administering such contract, that pertain to, and involve transactions relating to the contract, subcontract, grant, or sub-grant; and
- (2) To interview any officer or employee of the contractor, grantee, sub-grantee or agency regarding such transactions.

Nothing set forth in section 1515 of the ARRA shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

**Michigan Department of Transportation**

**SCOPE OF SERVICE  
FOR  
DESIGN SERVICES  
EARLY PRELIMINARY ENGINEERING (EPE)  
DEVELOPING BRIDGE REPAIR ALTERNATIVES**

**CONTROL SECTION:** 84916

**JOB NUMBERS:** 110122, 110123

**PROJECT LOCATION:**

The bridges are situated in 38 various locations in Eaton and Monroe Counties, Michigan (see the attached BRIDGE SCOPING PROJECT LISTING for specific bridge numbers and locations).

**PROJECT DESCRIPTION:**

The purpose of this service is to develop the scope of work and estimate for each bridge. This scope of service is to evaluate various repair alternatives for a prescribed set of bridges and recommend the most appropriate rehabilitation or preventive maintenance treatment based on current conditions, remaining structure life and sound engineering judgment.

Project includes visiting the site for each structure and maintaining traffic to evaluate the bridges.

Up to 2 CONSULTANT's will be selected for this work.

**ANTICIPATED PROJECT START DATE:** November 22, 2010

**ANTICIPATED PROJECT COMPLETION DATE:** May 31, 2011

**PRIMARY PREQUALIFICATION CLASSIFICATION:**

Bridge Project Scoping

**SECONDARY PREQUALIFICATION CLASSIFICATION:**

Maintaining Traffic Plans and Provisions

**DBE REQUIREMENT:** 5%

**MDOT PROJECT ENGINEER MANAGER:**

Jason DeRuyver, P.E.  
4701 W Michigan Ave  
Jackson, MI 49201  
Phone: (517) 750-0423  
Fax: (517) 750-4397  
E-mail: [deruyverj@michigan.gov](mailto:deruyverj@michigan.gov)

### **CONSULTANT RESPONSIBILITIES:**

Completion of this project will include, but is not limited to the following:

This scope of service is to evaluate various repair alternatives for a prescribed set of bridges and recommend the most economical rehabilitation or preventive maintenance treatment. This process is termed Bridge Scoping.

Each year a number of bridges are selected for repairs based on many factors. Each of these bridges must have a detailed scope of work and an estimate developed prior to submitting for approval and design.

The deliverables will be the Scoping Reports for each bridge. The information contained in the Scoping Reports will be used by the Design Division to prepare rehabilitation plans or a preventive maintenance log project. The content of the reports will need to adequately convey the general physical condition of each structure, the specific areas in need of repair and identify surrounding appurtenances which may affect the project.

The bridges are in various locations in Eaton and Monroe Counties. The work is proposed to be constructed in various years between 2011 and 2015. The determination of the scope of work for these bridges must take into account any road projects in the area. This information will be provided by MDOT.

MDOT has determined the following preliminary maintaining traffic concepts, which may be assumed by the CONSULTANT in developing the scopes of work. All maintaining traffic concepts shall be consistent with the MDOT Work Zone Safety and Mobility Policy.

1. When possible, work on the bridges shall be performed at night or on weekends to keep daytime lane closures to a minimum.
2. When night work is not possible, temporary or permanent widening and traffic shifts on the roadway and bridge shoulders should be evaluated for feasibility, such that as many lanes of traffic can be maintained as possible.
3. The feasibility of incentive/disincentive provisions should be considered and cost estimates added to the scope of work for each bridge as applicable.

### **ADDITIONAL STAFF:**

The CONSULTANT must assign additional staff necessary to complete the work in the required time frame. The qualifications and experience of these individuals must be suitable, in accordance with the specified prequalifications, for the assigned tasks.

### **DURATION AND SCHEDULE:**

The duration of the project has been/will be established using an average time per bridge determined from previous experience. If the CONSULTANT cannot meet these deadlines, the reason for the required extra time must be detailed in the priced proposal.

**A. PROJECT DATES**

Following is a schedule of dates and milestones:

Priced Proposal Submission	October 5, 2010
Anticipated Authorization	November 19, 2010
Project Initiation Meeting	November 22, 2010
Preliminary Scope Review and Progress Meeting	January 27, 2011
Draft Report Submission	February 25, 2011
Final Report Submission	March 25, 2011

**B. PROJECT SCHEDULE:**

By submittal of a price proposal, the CONSULTANT is verifying that they can meet the schedule identified in this scope of work. The priced proposal must include a bridge by bridge schedule showing the required milestones. The CONSULTANT must notify the MDOT PM 48 hours prior to the site review date of any changes to this schedule.

**C. MEETINGS:**

1. A mandatory Project Initiation Meeting will be held with the CONSULTANT prior to the start of the site review work. The CONSULTANT will be required to attend the meeting and it will be held at the MDOT Office in the Region or the appropriate Transportation Service Center, unless an alternative site is mutually agreed upon.
2. A Preliminary Scope Review and Progress meeting will be held with the CONSULTANT after fieldwork has been completed and a preliminary scope of work for each bridge has been determined. The MDOT PM and the CONSULTANT PM (report author) will be required to attend. The CONSULTANT should bring all field review worksheets, old plans, bridge inspection reports, and photographs, all information gathered in the field, two copies of a summary sheet describing the proposed work for each bridge and two copies of the proposed maintaining traffic / mobility concepts. Questions on the report preparation may be asked at this time as well.

**GENERAL DESCRIPTION OF THE WORK:**

The work for each bridge in this scope of work is broken down into three main components: A) Site Review B) Engineering Analysis and C) Report Preparation.

## 1. SITE REVIEW

### General

Each bridge and environs must be visited by the CONSULTANT PM. The purpose of this visit is to locate all areas of deterioration, determine feasible repair options, determine associated approach work, determine maintenance of traffic options, and to ascertain quantities. Where necessary, high-reach equipment or an under bridge inspection crane must be used to get close enough to evaluate the structural components (See Section EQUIPMENT AND SAFETY, below). Questions regarding scour are to be directed to Chris Potvin in Design, Hydraulics Unit at (517) 335-1919.

The information collected in the field must be sufficient to determine quantities and locations of repairs and improvements. This information must be detailed in the field notes and/or sketches and these notes are to be included in the report.

a. During the site review of the bridge, the following will be done, at a minimum:

- (1) Sound all concrete elements (deck, superstructure, substructure, etc.) for delaminations and unsound areas. All delaminated areas are to be marked with chalk, crayon, or kiel, that will be evident in the photographs. Paint may be used on deck surface with MDOT PM approval. **The use of paint on substructure units is prohibited.** All delamination surveys are part of the site review work (not part of testing). Sketches of the deck and substructure units mapping the areas of delamination and cracking are to be included in the appendix of the scoping report. Percent of total surface area delaminations shall be calculated and shown on the sketches.

The underside of the deck must be visually inspected for wet areas, efflorescence, transverse cracking, longitudinal cracking, map cracking, delaminations, spalling, rust along beam edges, or any other evidence of deterioration. The type of cracking and severity must be described in detail in the report. Note areas of previous repairs, or where false decking is in place. Pictures of the area must be taken and a written description of the deterioration and location must be documented for inclusion into the report.

Visually inspect all substructure units for signs of settlement, lateral movement, cracking, spalling, exposed reinforcement and material defects. 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.

- (2) Note the type and condition of the bridge railing. Does the railing meet current standards? Is a three beam retrofit necessary, or a railing replacement? If pedestrian fencing is present, note its condition. Guardrail on the approaches should also be evaluated. Note the condition of brush blocks, raised shoulders and sidewalks, and how these elements transition from the approaches.
- (3) For reinforced concrete and prestressed concrete superstructures, visually inspect for shear or flexure cracking, exposed or broken prestressing strands, crushing of beam end in bearing areas, discoloration of concrete caused by corroding mild reinforcement or prestressing strands, high load hit damage and signs of previous repairs. Observe live loads crossing structure and note excessive deflections or working cracks. Inspect the concrete diaphragms for spalling or diagonal cracking from structure movement or excessive deflection, and any other concrete defects. Note the use of temporary supports, or if they may be needed for the structure to remain in service until proposed rehabilitation.
- (4) For steel beam superstructures visually inspect for areas of section loss, heavily rusted areas or any web buckling due to excessive section loss. Note any areas that are prone to trapping drainage or debris. Note the condition of the paint system. Thickness readings shall be taken at each beam end that exhibits section loss using an ultra-sonic thickness gage. Preparation shall include removing all dirt, debris, and rust scale from the ends of each of the steel beams under the joints so that the steel can be inspected for section loss. Thickness readings on the web and the bottom flange are to be taken at the thinnest locations within 24 inches of the end of the beam. Do not remove paint on beam ends that exhibit no section loss. Mark the sheet as "No visible loss."

**These thickness readings will be compared with the original thickness and the percentages of section loss will be calculated. This data will be tabulated in a specific format (as shown in Attachment No. 2, Steel beam section loss detail sheets) and sketches will be prepared of major components, showing the location of the deteriorated areas. Specifically, if beam end repairs are necessary, show the locations of beam ends in need of repair on the existing erection diagram from the as-built plans. This information will be presented in the Appendix of the scoping report. These documents are used by Lansing Bridge Design to prepare rehabilitation plans, and C & T Bridge Operations Unit to perform load rating analyses if requested.**

Visually inspect the steel superstructure for any areas that may exhibit out of plane bending or distortion such as web to diaphragm or cross frame connections, lateral gusset plates to web connections, or connections of any other secondary members to beams. Note the existence of any fatigue prone details, or any welding in the tension zones that are transverse to the plane of stress. Inspect any pin and hanger assemblies for proper operation. Does the pin and hanger meet current standards? Note the condition of pin plates and if the ends are touching due to pin and hanger closure.

- (5) In other areas of heavy flaking rust, the CONSULTANT will clean as necessary to measure for any section loss. Thickness readings will be taken at the thinnest locations and recorded.
- (6) Note the condition of all bearing devices. For steel bearings such as rocker bearings or pedestal bearings, inspect for pack rust, rocker alignment, section loss and paint condition. For elastomeric bearings, check for excessive bulging of the sides (greater than 15% of bearing thickness), shear deformation due to thermal movement, splitting and tearing, and discoloration from exposure to light.
- (7) For timber structures visually inspect for checks (separations of the wood fibers parallel to the grain direction) knots and splits which are natural defects that may provide openings for decay and begin to reduce the strength of the members. Inspect for fungus, insect damage or any other effects of nature. Inspect for in-service defects such as fire damage, vehicular collision, abrasion or mechanical wear, overload distress, excessive deflection of flexural members, weathering or warping and chemical damage. Perform a pick or penetration test at various locations, which involves lifting a small sliver of wood with a pick or pocket knife, and observing whether or not it splinters or breaks abruptly. Sound wood splinters, while decayed wood breaks abruptly. Inspect areas near the support to check for horizontal shear cracks along the grain of the member. Inspect bearing areas for crushing due to decay. Note the condition of fasteners and connections.
- (8) The vertical clearance of the bridge must be field verified and noted in the executive summary and stated in the report. A picture of any vertical clearance sign attached to the bridge must be taken. See the MDOT Bridge Design Manual, Volume 5, Section 7.01.08 for minimum vertical clearance

requirements. For structures not meeting minimum vertical underclearance criteria, raising the structure to meet current standards must be considered in selecting the repair option. Any option including a deck replacement, superstructure replacement or bridge replacement must meet the minimum vertical underclearance requirement as it is very difficult to obtain a design exception. The cost of raising the grade of the bridge to obtain acceptable underclearance must take into account additional approach work.

- (9) The width of the structure must be evaluated to determine whether it is functionally obsolete. If widening is necessary to upgrade the structure to current standards, or for maintaining traffic during construction, this must be stated in the report. Please refer to the MDOT Bridge Design Guides, Section 6.05 for acceptable bridge deck cross sections. This will include possible widening to meet current standards for radii. The CONSULTANT will describe how and where the widening is to take place and provide a plan view sketch showing the proposed widening. Specify if widening can be done within the deck overhang, or if additional beam lines and substructure width will be needed to accommodate the required deck cross section. Widening may also require additional approach work to transition between the roadway width and the new bridge width.
  - (10) Any work required for the approaches must be included in the report and these items accounted for on the Estimate Sheet.
- b. The area immediately around the structure must be closely evaluated to determine if there are any site issues or constraints that may have an impact during construction. Each quadrant of the structure is to be evaluated and photo-documented. These include items such as:
- (1) Businesses or driveways close to the approaches.
  - (2) Utilities attached to or near the bridge.
  - (3) Signs or sign brackets attached to the bridge. Specify if the connections are bolted or welded.
  - (4) Poor alignment or geometrics.
  - (5) Approach and departure guardrail terminals or the presence of impact attenuators.
  - (6) Bank erosion or scour. Unusual channel features.
  - (7) Railroad tracks that have been removed from over or under the bridge.
  - (8) Proximity of other bridge structures.

- (9) Is drainage sufficient? Any evidence of ponding on the structure?
- (10) Is Right-of-Way limited and might additional ROW or easements be required?

c. Additionally the following items are some of the items that, if apply, must be evaluated and costs considered:

- (1) Is the bridge historical?
- (2) Is vertical clearance a problem?
- (3) Is widening needed?
- (4) Does this bridge have special structural design features which may affect the repair options (e.g., non-redundant or fracture critical)?
- (5) Are there environmental issues that may impact the project?
- (6) Determine impacts of the proposed bridge treatment on the existing horizontal and vertical alignments, pavements, curb and gutter, drainage, right of way (ROW), etc. Every effort shall be made to minimize ROW impacts within the limits of the projects. In areas of potential ROW impacts, the CONSULTANT shall identify the potential need for additional ROW, by station or address, type of ROW required (grading permit, easement or fee), and roadside improvements proposed (i.e. fencing, turf establishment, landscaping, non motorized, etc.).
- (7) Review and document the final scope for conformance to 3R/4R Guidelines for non freeway jobs and 4R, AASHTO and Interstate Standards for freeway jobs. Documentation shall include existing condition, treatment as per design standards, and recommendation.
- (8) Identify areas where bridge design standards cannot be met on the final proposed recommended treatment, give justification and documentation as to the reason, and prepare the design exception. The preparation of a Design Exception Request form for the recommended proposed treatment may be necessary to fulfill the Federal Highway Administration requirements for structures on National Highway System (NHS) routes.
- (9) Review and document the roadside safety related items (i.e. guardrail, barriers, attenuators, etc.) which need to be modified or included in the project. Documentation will include location, existing type and condition, and the recommended treatment.
- (10) Document and identify any possible utility conflicts and estimate the cost of relocation and/or adjustment.
- (11) Document and identify locations of possible environmental issues which may impact the project, and estimate the cost of treatment.

- (12) Develop Construction Zone Traffic Control Concepts in accordance with the Michigan Department of Transportation Mobility Policy. See Attachment 1.
- (13) All estimates and other project related items shall meet all MDOT requirements and detailing practices (i.e., format, materials, symbols, patterns, and layout) or as otherwise directed by MDOT.
- (14) All project related items are subject to review and approval by MDOT.

**If, during the site review, the CONSULTANT finds any structural condition that may cause the bridge to be load restricted (such as holes in beams), or which may require other immediate action (such as lane closures or emergency repairs to holes in the deck, etc.) the CONSULTANT will notify the MDOT PM as soon as possible. The CONSULTANT will provide documentation of the condition (such as beam measurements) to the MDOT PM as quickly as possible.**

## **2. Scoping Checklist and Determining Most Appropriate Repair Option**

Completing the Scoping Checklist (provided by MDOT PM) and making an initial determination of the most appropriate repair option, based on the physical condition of the bridge, economic considerations, and engineering judgment, is to be done in the field.

The types of repair options that are to be considered must be separated into two major work type categories: 1) Capital Preventive Maintenance and 2) Rehabilitation/Replacement.

### **Capital Preventive Maintenance (CPM)**

- a. Joint replacement
- b. Pin and hanger replacement
- c. Complete painting
- d. Zone painting
- e. Shallow concrete overlay
- f. Thin epoxy overlay (flood coating)
- g. Concrete deck patching
- h. Scour countermeasures

- i. Bituminous overlay
- j. Substructure patching

**Rehabilitation / Replacement (R &R)**

- a. Deep concrete overlay
- b. Superstructure repairs
- c. Extensive substructure repairs
- d. Substructure replacement
- e. Deck replacement
- f. Superstructure replacement
- g. Structure replacement

**3. Photographs**

A photo log of the bridge and the surrounding areas must be included in the report. All of the pictures must be mounted on 8.5" X 11" media and are to be captioned with a description of what the picture is intended to show. Each copy of the bridge report must have this series of pictures showing at least the following items and sequenced in the following order:

- a. Elevation views of both sides of the bridge
- b. Deck surface (entire deck surface to be photographed, including joints)
- c. Railing, sidewalks, brush blocks, raised shoulders, or any other feature of the deck surface
- d. Approaches
- e. Underside of deck (to sufficiently show condition)
- f. Typical superstructure elements
- g. Abutments, including wingwalls and slope protection
- h. Piers showing all faces
- i. Waterways/railroad tracks
- j. Areas of major deterioration
- k. Load posting signs
- l. Vertical clearance signs
- m. Utilities, businesses, etc that could affect the cost.
- n. Quadrant photos
- o. Guardrail attachments
- p. Traffic Signals / Pedestrian Signals with Construction Influence Area
- q. Approach sidewalks

In addition, pictures must be taken which will support the CONSULTANT's recommendations. All pictures must be captioned to describe the pictures general view (such as north elevation, etc.) and to describe the pertinent item or deterioration. The deck surface photos will be taken after the deck delamination survey and the areas of delamination are expected to be clearly visible in the photos.

In addition to the photographs included in the report, one electronic copy of labeled photos for each bridge will also be submitted. These may be redundant copies of the same view but may help the Designers to better understand the bridge needs.

#### **4. Testing**

During the site review phase, the CONSULTANT may feel that material testing is needed to better understand the condition of the deck to evaluate the best repair option. Approval by the MDOT PM is required **prior** to initiating any testing.

If the CONSULTANT PM feels that material testing is needed, a testing proposal must be submitted to the MDOT PM for approval. The testing proposal will show the bridges for which testing is proposed, what tests are to be performed, what specific information is to be gained from the testing, how this information is to be used, and the cost of testing and necessary traffic control. Proposals submitted with insufficient justification for testing will be denied. Where the deck is beyond saving, as judged by visual indications, or where the appropriate repair option is clearly indicated, material testing will not be performed.

The results and analysis of any testing that is approved and performed will be discussed in the Site Review Findings section of the report and the actual test reports will be included in the Appendix.

#### **B. ENGINEERING ANALYSIS:**

The engineering analysis phase will include an evaluation of the site review findings and determination of the work type category of the appropriate repair (R&R or CPM). The degree of required analysis and required deliverables vary for the two work type categories.

##### **1. Rehabilitation/Replacement Work Category**

For proposed R & R work proceed with the preparation of and evaluation of two or three repair strategies, including the estimate of cost of the repair strategies and the selection of the best repair option. This phase shall also include determining the scope of road work and maintaining traffic concepts as outlined in the scope.

An initial repair option will have been determined during the site review in the field. The CONSULTANT is required to perform an engineering analysis of this option and on the options above and below it from the list in the section “Scoping Checklist and determining the most appropriate Repair Options”. For example, if deck replacement is determined to be the most appropriate repair option, a cost estimate shall be prepared for the overlay and superstructure replacement options.

For the superstructure replacement and bridge replacement options, the CONSULTANT will also analyze eliminating or correcting undesirable or deficient design characteristics (e.g., structural capacity, widening, etc.). Analysis of the load carrying capacity of some components of the bridge may be required.

##### **2. Estimating Various Repair Options**

Cost estimates for each of the repair options will be prepared for each bridge. A standard form Estimate Sheet with unit prices will be used (Bridge Cost Estimate Sheet, provided by MDOT PM). The Estimate Sheet provides space to show all of the repairs to be performed. Calculations for the paint area will be prepared by the CONSULTANT and included in the Appendix of the report.

The estimates required are “early preliminary estimates” and not the more detailed “engineering estimates”. The object is to determine the most economical method of treatment and to establish the budget. The unit prices on the attachment are averages of various types of repairs regardless of the type of material (steel or concrete for instance). The more detailed estimates will be determined in the design phase (not a part of this scope of work).

If additional information is necessary for a unit price not on the list, contact the MDOT PM.

### **3. Capital Preventive Maintenance Work Category**

For proposed Capital Preventive Maintenance work proceed with the preparation of a cost estimate using the Cost Estimate Sheet. This phase shall also include determining the scope of road and maintaining traffic concepts as outlined in the scope. If additional information is necessary for a unit price not on the list, contact the MDOT PM.

## **C. DELIVERABLES**

### **1. Rehabilitation / Replacement Work Category**

The deliverables for a Rehabilitation/Replacement work category for this scope of work will be the reports, photographs, estimate sheets, field notes and scoping checklist. Electronic files will be submitted for the entire scope included in the report on a CD in Adobe PDF format.

For each bridge, a three-ring binder containing the scoping reports as described below will be submitted. The binder will contain all information pertaining to the site review findings and recommended repair options for each bridge.

Two sets of each binder will be submitted.

a. Table of Contents

A table of contents will be provided for the complete document.

b. Executive Summary:

This is to include a statement of the recommended treatment for the bridge and the cost (in 2014 dollars) of the initial repair. The executive summary will be a stand alone section and will not refer to other sections of the report, nor will the main text refer to information in the executive summary.

c. Field Site Review Findings:

This section will include, as a minimum, discussion of the following areas:

Overall assessment of the condition of the bridge including an evaluation of the beam end thicknesses (webs & bottom flanges) taken during the site review.

Sketches of beam end repair areas, substructure repair areas or widening options.

Site issues, i.e., geometrics, maintenance of traffic, utilities, scour, etc. In the case where no site issues that would impact the rehabilitation of the structure were identified, a statement will be made that all areas were investigated and no issues were found.

Test results and implications of the repair options. If no testing was performed, this will be stated in the report.

d. Rehabilitation Options:

This section will include a discussion of the rehabilitation options considered. For each option evaluated, a discussion of the necessary improvements and the associated costs will be included. The report must discuss and state the reasoning and judgment for selection of the recommended option. This discussion will also include the reasoning for the elimination of all other options, as appropriate.

e. Summary with Repair Recommendation:

This section will state the recommended course of action for the bridge and the factors used in determining this recommendation. This section will also briefly discuss the effects of postponing the recommended improvements.

f. Maintaining Traffic / Mobility Summary

This section shall include an analysis of the traffic control plan in accordance with the Michigan Department of Transportation's Mobility Policy. Various traffic control alternatives shall be evaluated.

g. Cost Estimate Sheets

A cost estimate must be prepared for each repair option that was considered. The cost estimate sheet can be found in the appendix, attachment number 5.

h. Appendix:

Word document with photos and descriptions

Scoping Checklist(s)

Field notes and sketches

Paint calculations

Table of beam end thickness readings

Lab test reports (if applicable)

Road preliminary estimate (separate spreadsheet)

Existing plan sheets (general plan of site and general plan of structure)

Current bridge inspection reports

## General site review procedures

### **2. Capital Preventive Maintenance Work Category**

The deliverables for the Capital Preventive Maintenance work category bridges for this scope of work will be the executive summary sheet, scoping checklist, cost estimate sheet, bridge quantity sheets, field worksheets and pictures for each bridge. A summary sheet showing Bridge ID, bridge location, proposed work, and estimated cost per bridge shall serve as a cover sheet. Electronic files for the entire scope shall be included on a CD in Adobe PDF Format. Two sets of each binder will be submitted.

Each binder shall be arranged in the following format:

- Summary Sheet
- Table of Contents
- Executive Summary
- Estimate Sheets
- Word Document with Photos and Descriptions
- Scoping Checklists
- Field Notes and Sketches
- Calculations - Paint Areas, Deck Areas, etc.
- Table of Beam End Thickness Readings (if applicable)
- Maintaining Traffic Concepts
- CD of electronic files attached to binder

Incomplete final reports or reports with errors will be returned to the CONSULTANT for revision. Failure to make the required changes will be considered a failure to meet the terms of the scope of work.

### **TRAFFIC CONTROL**

The traffic control during the site review will be the responsibility of the CONSULTANT. Permits for the traffic control and for working in the MDOT Right of Way must be obtained from the appropriate Transportation Service Center prior to the start of work. Traffic control will follow standard MDOT procedures. The CONSULTANT will be responsible for obtaining all permits and notifying the MDOT PM in writing of the time and location of the work.

Nighttime lane closures for deck inspection may be allowed at the discretion of the MDOT Region Traffic and Safety Engineer. Approval for nighttime work must be obtained prior to the start of work.

### **RAILROAD FLAGGING AND PERMITS**

If it is necessary to work over an active railroad during the site review phase, the CONSULTANT will be responsible for obtaining the necessary permits and flagmen. Costs for this will be considered an expense and must be detailed in the traffic control section in the Proposal and on

the invoice.

### **SOFTWARE REQUIREMENTS**

The CONSULTANT is required to own and use Microsoft Excel and Microsoft Word for all spreadsheets and word processing. The requested electronic files (see DELIVERABLES) must be submitted in these applications. Electronic file templates for all of the attachments can be provided via E-mail, from the MDOT PM. Contact the MDOT PM with your E-mail address.

### **EQUIPMENT AND SAFETY**

The CONSULTANT will be responsible for obtaining and operating the high reach equipment for inspection under the bridge. However, MDOT will provide an under bridge inspection crane for the CONSULTANT's use in certain situations, for example, high river and railroad crossings. The CONSULTANT will be responsible for traffic control and for scheduling. Contact the MDOT PM a minimum of 14 days in advance for scheduling use of the equipment.

During the inspection, the CONSULTANT is responsible for traffic control and all aspects of personal safety of his or her staff.

All other inspection equipment and personal safety equipment such as hard hat, steel toed shoes, and eye protection will be the responsibility of the CONSULTANT.

### **DIVING REQUIREMENTS**

No diving of river crossings is expected as part of this work. However, if it does become necessary, it will be dealt with under a separate authorization.

### **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.

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.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

**ATTACHMENT A**  
**WORK PACKAGE 1 – JN 110122**

<b>Bridge ID</b>	<b>Facility Carried</b>	<b>Features Intersected</b>
23061-R01	I-69NB	GTWRR
23061-S01	Base Line HWY	I-69

23061-S03	Butterfield HWY	I-69
23061-S05	Sherwood Rd	I-69
23061-B01	I-69 SB	Indian Creek
23061-B02	I-69 NB	Indian Creek
23061-B04	I-69 SB On Ramp	Indian Creek
23061-B05	I-69 NB Off Ramp	Indian Creek
23061-B06	I-69 SB	Big Creek
23061-B07	I-69 NB	Big Creek
23061-S07	Ainger Road	I-69
23061-S15	I-69 SB	Stine Rd
23061-S18	I-69 NB	Stine Rd
23061-S16	Five Point HWY	I-69
23061-S09	I-69 BL	I-69
23061-B03	I-69 NB	Battle Creek River
23061-B08	I-69 SB	Battle Creek River
23061-S10	Kalamo Road	I-69
23061-S11	M-50	I-69
23061-S13	Island HWY	I-69
23061-R02	I-69 SB	GTWRR

**ATTACHMENT A**  
**WORK PACKAGE 2 – JN 110123**

<b>Bridge ID</b>	<b>Facility Carried</b>	<b>Features Intersected</b>
58034 B01-1	US-23 Northbound	Ten Mile Creek
58034-B01-2	US-23 Southbound	Ten Mile Creek

58034-S01	Sterns Road	US-23
58034-B02-1	US-23 Northbound	North Branch 10 Mile Creek
58034-B02-2	US-23 Southbound	North Branch 10 Mile Creek
58034-S02	Consear Road	US-23
58034-S04	US-223	US-23
58034-S05	Rauch Road	US-23
58034-S07	Ida Center Road	US-23
58034-S08	Ida West Road	US-23
58034-R11	US-23 Northbound	Indiana and Ohio RR
58034-R12	US-23 Southbound	Indiana and Ohio RR
58034-S09	Dixon Road	US-23
58034-S10	Brewer Road	US-23
58034-S11	US-23	M-50
58034-B03-1	US-23 Northbound	Raisin River
58034-B03-2	US-23 Southbound	Raisin River

## APPENDICES

- Attachment No. 1. Construction Zone Traffic Control Concept
- Attachment No. 2. Detailed Beam Survey Report
- Attachment No. 3. Bridge Scoping Checklist
- Attachment No. 4. Structure Clearance Measurements Form
- Attachment No. 5. Estimate Sheet

## **DEVELOP THE CONSTRUCTION ZONE TRAFFIC CONTROL CONCEPTS**

### 1. SCOPE

This procedure covers the initial development of a plan to maintain and control traffic during construction.

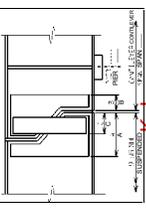
### 2. WORK STEPS

- A. Review the type of construction task(s) included in the project.
- B. Review the traffic data and the project site to determine project specific construction zone traffic requirements. Requirements shall be consistent with the MDOT Work Zone Safety and Mobility Policy. Any necessary or recommended exceptions shall be clearly identified.
- C. Prepare preliminary recommendations for maintaining traffic. Items that should be considered for inclusion in the recommendations are:
  - I. Method for maintaining traffic.
  - ii. Need for detour, staging, and flagging operation.
  - iii. Need for temporary widening or shoulder upgrading.
  - iv. Time constraints and lane requirements.
  - v. Local considerations (school buses, emergency vehicles, large traffic generators, etc.).
  - vi. Need for temporary traffic signals (a minimum of two signal heads in view at all times).
  - vii. Construction zone speed limits.
  - viii. Special events (parades, festivals, etc.).
  - ix. Recommendations for expedited construction due to critical target dates
- D. Submit the recommendations with the Draft Scoping Package.
- E. Receive any items returned by the Project Manager as incomplete or deficient and make the necessary revisions.
- F. Submit the recommendations with the Final Scoping Package.

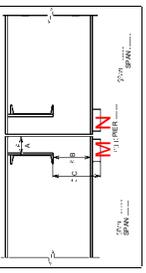


**DETAILED BEAM SURVEY REPORT**  
(WELDED GIRDER OR ROLLED BEAM)

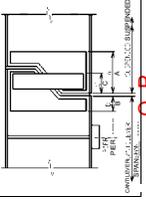
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ex. span 2 w.



IF AT...PIER...  
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INSPECTED BY:  
DATE:  
REGION:  
STRUCTURE NO.:

COMMENTS & references to photos and sketches

COMMENTS & references to photos and sketches

ALWAYS CIRCLE ABOVE TO NOTE APPLICABLE CASE USED IN FORM

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	LOSS	RANGE	LOSS	RANGE	WEST / EAST	LOSS	LOSS	RANGE	LOSS	RANGE	
	START	START	START	START	TRAFIC	START	START	START	START	START	
	END	END	END	END	BRIDGE ID	END	END	END	END	END	
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BRIDGE OPERATIONS UNIT, CONSTRUCTION AND TECHNOLOGY DIVISION, PH. (517) 322 - 1398 FAX (517) 322 - 5664

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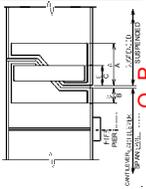
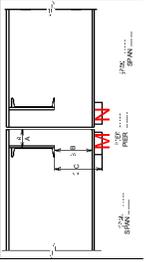
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**DETAILED BEAM SURVEY REPORT**  
(WELDED GIRDER OR ROLLED BEAM)  
USE this form when TRAFFIC ON BRIDGE IS: **SOUTH or NORTH Bnd.**



PAGE \_\_\_\_\_ OF \_\_\_\_\_

FACILITY CARRIED: \_\_\_\_\_  
INSPECTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
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ALWAYS CIRCLE ABOVE TO NOTE APPLICABLE CASE USED IN FORM

BEAMLINE #	WEB LOSS MEASUREMENTS		FLANGE LOSS MEASUREMENTS		REPORT CASE		WEB LOSS MEASUREMENTS		FLANGE LOSS MEASUREMENTS		BEAMLINE #
	THICK LOSS	HEIGHT RANGE	ACTUAL	LOSS WIDTH RANGE	THICK LOSS	HEIGHT RANGE	THICK LOSS	HEIGHT RANGE	ACTUAL	LOSS WIDTH RANGE	
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K M O L N P

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COMMENTS & references to photos and sections

COMMENTS & references to photos and sections

# Statewide Scoping Package Master Checklist

## BRIDGE

Current Date:  
3/23/09

Total Project Cost:  
\$0

(Refer to Chapter 7 of the Scoping Manual for Details)

### I. Job and Scoping Package Information (Major Only - see page 2 for additional information)

Job Number: _____	Route: _____	Structure ID: _____
Control Section: _____	CS BMP: _____	PR # BMP: _____
PR Number: _____	CS EMP: _____	PR # EMP: _____
Template: _____	Length: _____	Length: _____
Featured Intersection: _____		Route Over: _____
Preliminary Engineering (PE) Cost: _____		Construction Cost: _____
Right-of-Way Cost: _____	Construction Engineering (CE) Cost: _____ %	
Current Year RSL: _____ Value _____ Year _____	Construction Year RSL: _____	Prop Fix Life: _____ Yrs
NBI Rating: _____	Sufficiency Rating: _____	
Location: _____		
Proposed Fix: _____		
Scoped By: _____		Date: _____
TSC QC By: _____		Date: _____
Region QA By: _____		Date: _____

Job Number: \_\_\_\_\_

Bridge Scoping

### II. Project Scoping Document Package

#### Details / Checklist

Statewide Scoping Package Master Checklist - Bridge	<input type="checkbox"/>	Yes
Bridge Scoping Report & Details Worksheet	<input type="checkbox"/>	Yes
MPINS Project Concept Statement	<input type="checkbox"/>	Yes
Program Revision Request (Form 2604)	<input type="checkbox"/>	Yes
Culvert Scope Inspection Form (for applicable templates)	<input type="checkbox"/>	Yes <input type="checkbox"/> NA
Constructability Checklist	<input type="checkbox"/>	Yes

*By Template, if checkbox appears, item is required (unless otherwise noted).*

#### Engineer's Estimate

Trns*port (Itemized Estimate Report & Project Concept Estimate Report)	<input type="checkbox"/>	R&R	<input type="checkbox"/>	T&S	<input type="checkbox"/>	CPM	<input type="checkbox"/>	Bridge Rplc	<input type="checkbox"/>	Bridge Rehab	<input type="checkbox"/>	Bridge CPM	<input type="checkbox"/>	Bridge CSM	<input type="checkbox"/>	Other	<input type="checkbox"/>	NA
Hand Calculations & Assumptions	<input type="checkbox"/>																	

#### Traffic

Preliminary MOT Concept	<input type="checkbox"/>																	
Mobility Analysis	<input type="checkbox"/>																	
Traffic Analysis & Safety Review	<input type="checkbox"/>																	
Geometric Summary Review (Reviewed and/or addressed per the 3R/4R Guidelines)	<input type="checkbox"/>																	

#### Proposed Pavement Recommendations (if applicable)

Soils Information and Recommendations (If applicable, From Region Soils Engineer)	<input type="checkbox"/>																	
-----------------------------------------------------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

#### General Items & Information

As-Builts/Old Plans	<input type="checkbox"/>																	
Current Sufficiency Report	<input type="checkbox"/>																	
Condition Reports for Existing Sewers (if applicable)	<input type="checkbox"/>																	
Condition Reports for Existing Culverts (if applicable)	<input type="checkbox"/>																	



# Statewide Scoping Package Master Checklist - Continued

Job Number: \_\_\_\_\_

Bridge Scoping

	R&R	T&S	CPM	Bridge Rplc	Bridge Rehab	Bridge CPM	Bridge CSM	Other	NA
Maintenance Log Sheets	<input type="checkbox"/>								
Pavement Historical Database (PHD) Data (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>
ROW Sheets with Impacts Highlighted <a href="http://www.mdot.state.mi.us/rowfiles/index.cfm">http://www.mdot.state.mi.us/rowfiles/index.cfm</a>	<input type="checkbox"/>								
Existing Utility Information	<input type="checkbox"/>								
Field Review Notes	<input type="checkbox"/>								
Supporting Photos (Road Approach)	<input type="checkbox"/>			<input type="checkbox"/>					
Previous Call For Projects Information	<input type="checkbox"/>								
Correspondance	<input type="checkbox"/>								
Additional Information Resulting From the Worksheet	<input type="checkbox"/>								

### Bridge Scoping Report

Executive Summary	<input type="checkbox"/>								
Field Site Review				<input type="checkbox"/>					
Rehabilitation Options				<input type="checkbox"/>					
Summary of Repair Recommendation				<input type="checkbox"/>					
Maintaining Traffic/Mobility Summary				<input type="checkbox"/>					
Appendix:									
Photos				<input type="checkbox"/>					
Bridge Rehabilitation Scoping Checklist (Form 1891)				<input type="checkbox"/>					
Estimate Sheets for Each Option				<input type="checkbox"/>					
Field Notes & Sketches				<input type="checkbox"/>					
Existing Plan Sheets (General Plan of Site & General Plan of Structure)				<input type="checkbox"/>					
Current Bridge Inspection Reports:									
Bridge Safety Inspection Form (Form 2502)				<input type="checkbox"/>					
Bridge Analysis Report (Form 231)				<input type="checkbox"/>					
Detail Beam Survey Report (Form 267) (If available/applicable)				<input type="checkbox"/>					
Bridge Underclearance Measurements (Form 1190)				<input type="checkbox"/>					
Diver Inspection Report (If available/applicable)				<input type="checkbox"/>					

### III. General Items and Background Information

**Has the project been added to ProjectWise?**  Yes

**Is the project to be packaged with other projects?**  Yes  No

List potential package job numbers & templates.

#### Project Van Tour Notes or Other Project Constraints

#### Additional CS, PR, Direction and Etc Information (other than the major listed on page 1)



# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## IV. Existing Conditions (Typical)

### A. Existing Structure Features and Ratings

Structure Type:	<input style="width: 90%;" type="text"/>		No. of Spans:	<input style="width: 80%;" type="text"/>
Structure Length:	<input style="width: 80%;" type="text"/> ft	Reference A Width:	<input style="width: 80%;" type="text"/> ft	Deck Area: <input style="width: 80%;" type="text"/> sft
Skew Angle:	<input style="width: 80%;" type="text"/> degrees	Reference B Width:	<input style="width: 80%;" type="text"/> ft	Measure: <input style="width: 80%;" type="text"/>
Bridge Rail Type: <input style="width: 80%;" type="text"/>		Bridge Rail Condition: <input style="width: 80%;" type="text"/>		
Are any of the bridge elements considered historic?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, which one? <input style="width: 80%;" type="text"/>
Is there existing pedestrian fencing?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is there an existing HMA overlay?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, HMA thickness? <input style="width: 80%;" type="text"/> in
Existing beam type?		<input style="width: 80%;" type="text"/>		

### Condition Ratings:

NBI Rating:	<input style="width: 80%;" type="text"/>	Sufficiency Rating:	<input style="width: 80%;" type="text"/>	
#58 Deck:	<input style="width: 80%;" type="text"/>	#58A Deck Surface:	<input style="width: 80%;" type="text"/>	#58B Deck Bottom Surface: <input style="width: 80%;" type="text"/>
#59 Superstructure:	<input style="width: 80%;" type="text"/>	#59A Paint	<input style="width: 80%;" type="text"/>	#60 Substructure: <input style="width: 80%;" type="text"/>
Section Loss	<input style="width: 80%;" type="text"/>	Joint Condition	<input style="width: 80%;" type="text"/>	
Is there evidence of scour?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, what elements? <input style="width: 80%;" type="text"/>
Is the structure scour critical?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, # 113 scour rating? <input style="width: 80%;" type="text"/>
Is the structure fracture critical?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is the structure considered structurally deficient?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is the structure considered functionally obsolete?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, what elements? <input style="width: 80%;" type="text"/>
Are there any temporary supports?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
How many temporary supports are in place?		<input style="width: 80%;" type="text"/>		
What is the condition of the existing temporary supports?		<input style="width: 80%;" type="text"/>		

### B. Existing Approach - Mainline:

Type:	HMA <input type="checkbox"/>	Concrete <input type="checkbox"/>	Composite <input type="checkbox"/>	
Number of Lanes:	<input style="width: 80%;" type="text"/>	Lane Widths:	<input style="width: 80%;" type="text"/> ft	Posted Speed: <input style="width: 80%;" type="text"/> mph
Approach Pavement:	<input style="width: 80%;" type="text"/> in	Agg Base:	<input style="width: 80%;" type="text"/> in	Subbase: <input style="width: 80%;" type="text"/> in
Mainline Pavement Depths:	<input style="width: 80%;" type="text"/> in	Agg Base:	<input style="width: 80%;" type="text"/> in	Subbase: <input style="width: 80%;" type="text"/> in

### C. Existing Approach - Shoulder:

Type:	HMA <input type="checkbox"/>	Concrete <input type="checkbox"/>	Composite <input type="checkbox"/>	Aggregate (Only) <input type="checkbox"/>
Widths:	Left Shoulder		Right Shoulder	
	Paved Width:	<input style="width: 80%;" type="text"/> ft	Paved Width:	<input style="width: 80%;" type="text"/> ft
	Total Width:	<input style="width: 80%;" type="text"/> ft	Total Width :	<input style="width: 80%;" type="text"/> ft
Shoulder Pavement:	<input style="width: 80%;" type="text"/> in	Agg Base:	<input style="width: 80%;" type="text"/> in	Subbase: <input style="width: 80%;" type="text"/> in
Shoulder Pavement Depths:	<input style="width: 80%;" type="text"/> in	Agg Base:	<input style="width: 80%;" type="text"/> in	Subbase: <input style="width: 80%;" type="text"/> in
Are there existing sleeper slabs?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Is there a wide-flanged beam terminal joint?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown

Job Number:

Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number:

Bridge Scoping

**D. Existing Ramps on the structure:**

	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Full Accel/Decel Lanes Present on the Structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Length: <span style="background-color: #cccccc; display: inline-block; width: 60px; height: 15px;"></span> ft
Lane Tapers Present on the Structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Other notes on existing ramps:**

**E. Existing Photos:** (If applicable per proposed Scope)

Elevation views (both sides of bridge)	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Deck surface, joints and railing	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Approaches	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Underside of Deck	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Superstructure Elements (beams, bearings, pin & hanger and etc)	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Substructure Abutments (including slope protection) and piers	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Waterways/Railroad tracks	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Major deterioration areas	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Signs (vertical clearance signs, load posting signs or etc)	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Utilities	<input type="checkbox"/> Included	<input type="checkbox"/> NA
Quadrant photos	<input type="checkbox"/> Included	<input type="checkbox"/> NA

**F. Existing Geometrics:**

Existing Bridge Cross Slope?	Lanes	<span style="background-color: #cccccc; display: inline-block; width: 40px; height: 15px;"></span> %	Shoulders	<span style="background-color: #cccccc; display: inline-block; width: 40px; height: 15px;"></span> %
Parabolic Cross Slope?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	
Is the structure superelevated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Superelevations meet Standard?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Is the structure curved?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Horizontal Curve(s) meet Standard?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Vertical Curve(s) meet Standard?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		

**Other notes on geometrics, existing super rates:**

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number: \_\_\_\_\_

Bridge Scoping

## G. Existing Drainage:

### 1. Culvert Information

Existing Culverts that require work? (If no, skip to next section)  Yes  No

If project has culverts 36" in diameter to less than 10' in width that require work, include Culvert Inspection Forms for each culvert (if applicable with project template, work type and scope).

Total Number of culverts that require work? \_\_\_\_\_ ea

Existing Box Culverts?  Yes  No Max Size: \_\_\_\_\_ ft x ft Condition: \_\_\_\_\_

If project has box culverts greater than 10 feet in width, contact the Region Bridge Engineer for culvert inspection forms (if applicable with project template, work type and scope).

If yes, does box culvert have barrier or guardrail protection?  Yes  No

Does box culvert protection meet current standards?  Yes  No

Have the Culverts been extended in the past?  Yes  No  Unknown

If yes, was the extension of like size/material?  Yes  No

List culverts requiring work below (one per line, ie: 3 - 12" - round - conc -end sections)

# of culverts	Ex Size	Shape	Ex Material	End Treatment	Feature Requiring Modification*	End Sections within Clear Zone?	
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> No

\*Features include: culvert, end sections, headwall, length, size, etc.

### 2. Ditch Information

Existing Ditches? (If no, skip to next section)  Yes  No

What is the condition of the existing ditch system? \_\_\_\_\_

Is the ditch bottom deteriorating, eroding or shifting location?  Yes  No

Is there sediment build up in the ditches?  Yes  No

Are the ditch slopes stable?  Yes  No

Is there evidence of water overtopping the ditch?  Yes  No

Are there any obstructions downstream?  Yes  No  Unknown

Any evidence or data showing downstream capacity may be inadequate?  Yes  No  Unknown

Is the Right-of-Way (or drainage easement) to an acceptable outlet?  Yes  No  Unknown

(If no, contact your supervisor for further action)

Does the culvert align with the ditch?

Vertically align?  Yes  No

Horizontally align?  Yes  No

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number: \_\_\_\_\_  
Bridge Scoping

### 3. Storm Sewer Information

Existing Storm Sewer? (If no, skip to next section)

Yes  No

What material is the storm sewer?

\_\_\_\_\_

What is the approximate age of the sewer?

\_\_\_\_\_ yrs

Is there recent video inspection information available?

Yes  No

What is the condition of the existing storm sewer?

\_\_\_\_\_

Cracking?

Yes  No  Unknown

Spalling?

Yes  No  Unknown

Corrosion?

Yes  No  Unknown

Are there any joint gaps or open seams?

Yes  No  Unknown

Is there exposed steel?

Yes  No  Unknown

Is there any sewer deformation or buckling?

Yes  No  Unknown

Any water or sediment seeping in through cracks in the sewer?

Yes  No  Unknown

Existing acceptable drainage outlets?  Yes  No Name of water body outleting into: \_\_\_\_\_

### Manhole/Inlet Information

What material are the structures?

\_\_\_\_\_

What is the average condition of the structures?

\_\_\_\_\_

Cracking?

Yes  No  Unknown

Spalling?

Yes  No  Unknown

Corrosion?

Yes  No  Unknown

Are there any joint gaps or open seams?

Yes  No  Unknown

Is there exposed steel?

Yes  No  Unknown

Any water or sediment seeping in through cracks in the structures?

Yes  No  Unknown

What is the average condition of the grates/covers?

\_\_\_\_\_

### 4. Channel Information (River, Stream, Creeks and Tributaries)

Existing River, Stream, Creek and Tributary? (If no, skip to next section)

Yes  No

Existing Federally Regulated Waterway (Navigable Waterway)?

Yes  No

ie: Includes the rivers, streams, creeks, tributaries and wetlands that are connected to navigable waterways and are contiguous to the Great Lakes. These segments are typically under the jurisdiction of the Army Corps of Engineers and the US Coast Guard.

Existing cold water trout stream?

Yes  No

Obstructions in the channel?

Yes  No

Are there stream side inlets?

Yes  No

Condition: \_\_\_\_\_

Is there any sheet piling?

Yes  No

Is it constricting the stream?  Yes  No

Check upstream and downstream culvert sizes compared to MDOT's culvert.

Upstream culvert is: \_\_\_\_\_

MDOT's. \_\_\_\_\_

Upstream Size: \_\_\_\_\_

Downstream culvert is: \_\_\_\_\_

MDOT's. \_\_\_\_\_

Downstream Size: \_\_\_\_\_

Channel bank stability: \_\_\_\_\_

Does the bridge/culvert align with the stream channel?

Vertically align?

Yes  No

Horizontally align?

Yes  No

Does the bridge/culvert span the existing channel?

Yes  No

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## 5. General Existing Drainage Information

Existing Underdrains?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Max Size: <input style="width: 50px;" type="text"/>	in	Type: <input style="width: 100px;" type="text"/>
Existing Spillways/Downspouts?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Existing Detention Basins?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Condition: <input style="width: 50px;" type="text"/>		
Existing Retention Basins?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Condition: <input style="width: 50px;" type="text"/>		
Existing Pump Stations?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Existing County Drains?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<i>(If yes, list Sta and drain name in text box below.)</i>		
Flooding History?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Settlement areas near existing drainage features?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Are any of the existing drainage areas greater than 2 square miles?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Is the structure influenced by a dam either upstream or downstream?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input style="width: 50px;" type="text"/>		
Is there an existing stream guage in the vicinity?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		

**Other general notes on existing drainage or drainage related issues:**

## H. Existing Guardrail or Concrete/Cable Median Barrier: (attached to bridge rail)

Existing Guardrail?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 50px;" type="text"/>	Length: <input style="width: 50px;" type="text"/>	ft	Condition: <input style="width: 50px;" type="text"/>
Existing Guardrail Retrofit?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 50px;" type="text"/>	Length: <input style="width: 50px;" type="text"/>	ft	
Existing Guardrail Anchorage?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 50px;" type="text"/>	<i>(choose or enter text)</i>		
Existing Median Barrier?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 50px;" type="text"/>	Length: <input style="width: 50px;" type="text"/>	ft	Condition: <input style="width: 50px;" type="text"/>
Existing Glare Screen?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		Length: <input style="width: 50px;" type="text"/>	ft	Condition: <input style="width: 50px;" type="text"/>
Existing Attenuators?	<input type="checkbox"/> Yes	<input type="checkbox"/> No				Number: <input style="width: 50px;" type="text"/>

## I. Existing Utilities: (on the structure)

Existing Private Utilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Existing Public Utilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Existing Water Mains?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Condition: <input style="width: 50px;" type="text"/>		
USGS Stream Gauging Station?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Existing Asbestos?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			

List Utility Type & Info:	
---------------------------	--

## J. Existing Signals: (on the structure)

Existing Signals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Existing Traffic Loops?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown
Existing Flashers?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number of Intersections:	<input style="width: 50px;" type="text"/>		
Existing Ped Signals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No				
Existing Ped Push Buttons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No				

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

**K. Existing Sidewalk or Non-Motorized Facility:** (on the structure)

Existing sidewalk?  Yes  No Width:  ft Barrier separated?:  Yes  No  
 Sidewalk location   
 Existing non-motorized?  Yes  No Width:  ft Barrier separated?:  Yes  No  
 Existing sidewalk ramps?  Yes  No Number of ramps:  Condition:   
 Are ramps ADA compliant?  Yes  No Number of non-compliant ramps:

**L. Existing General Conditions:** (some items below will require photos - see manual)

Existing truss or cantilever signs attached?  Yes  No Number:   
 Are the sign mounts welded to the structure?  Yes  No  
 Are the sign mounts bolted to the structure?  Yes  No  
 Existing raised pavement markers?  Yes  No  
 Existing right turn lanes?  Yes  No Number:   
 Existing left turn lanes?  Yes  No Number:   
 Existing ROW fence on or near the approaches?  Yes  No Condition:   
 Existing railroad crossings?  Yes  No Type:   
 Existing freeway lighting attached?  Yes  No  
 Existing ITS facilities attached?  Yes  No  
 Existing erosion issues?  Yes  No  
 Existing slope stability issues?  Yes  No  
 Existing settlement areas?  Yes  No  
 Existing maintenance issues/concerns?  Yes  No  
 Existing airport in the vicinity?  Yes  No  
 Is this a Corridor of Significance?  Yes  No Type:   
 Is there an Access Management Plan for the project area?  Yes  No  
 Is there an EA or EIS Study for the project area?  Yes  No

**M. Other General Notes on Existing Conditions:**

Job Number:   
Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## V. Proposed Structure Work

Type:

### A. Proposed New Structure

Total Bridge Replacement?  Yes  No      Number of Spans:   
 Structure Length:  ft      Structure Width:  ft      Deck Area:  sft  
 Skew:  degrees      Measure:

### B. Proposed Superstructure and/or Deck Rehabilitation

Superstructure replacement?  Yes  No  
 Widen Deck?  Yes  No  
     Length:  ft      On existing substructure  
     Length:  ft      Extension of substructure  
 Replace Deck?  Yes  No  
 Concrete deck patching?  Yes  No  
 Patch isolated spalls?  Yes  No  
 HMA overlay without waterproofing membrane?  Yes  No  
 HMA overlay with waterproofing membrane?  Yes  No  
 Epoxy overlay?  Yes  No  
 Concrete overlay?  Yes  No  
 Replace joints?  Yes  No      Type:   
 Bridge railing work?  Yes  No      Length:  ft   
 Beam end repairs?  Yes  No      Material:   
 Structural steel repairs?  Yes  No  
 Structure painting?  Yes  No      Type:  Location:   
 Pin & hanger replacement?  Yes  No      All?  Yes  No      Number:  ea

If selected number list quantity and location:

Reinforcing plates and/or angles?  Yes  No  
 Bearing replacement?  Yes  No      Number:  ea  
 Rocker re-alignment?  Yes  No      Number:  ea  
 Deck Drain Extensions?  Yes  No      Number:  ea

#### Other fix or notes on superstructure and/or deck rehabilitation:

Job Number:  Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number:

Bridge Scoping

## D. Proposed Substructure Rehabilitation

Concrete spall patching?  Yes  No      Abutment area:  sft      Pier area:  sft  
 Pier replacement?  Yes  No  
 Temporary supports?  Yes  No

**Other fix or notes on substructure rehabilitation:**

## E. Proposed Miscellaneous Rehabilitation

Scour analysis required?  Yes  No  
 Scour Erosion/erosion repairs (add notes below)?  Yes  No  
 Scour countermeasures?  Yes  No  
 Replace approach pavement?  Yes  No      Length:   
 Repair slope protection?  Yes  No  
 Park or business concerns?  Yes  No

**Other fix or notes on miscellaneous rehabilitation:**

## F. Proposed Safety Upgrading

Replace bridge railing?  Yes  No      Length:  ft  
 Block out existing railing with thrie beam?  Yes  No      Length:  ft  
 Upgrade approach guardrail?  Yes  No      Length:  ft  
 Concrete filler wall between pier columns?  Yes  No      Length:  ft  
 Guardrail for pier protection?  Yes  No      Length:  ft  
 Pedestrian fence?  Yes  No      Length:  ft

**Other fix or notes on safety upgrading:**

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

 Job Number:  Bridge Scoping

## G. Proposed Approach - Mainline:

Type: HMA  Concrete  Composite   
 Number of Lanes:  Lane Widths:  ft Design Speed:   
 Pavement Thickness:  in Agg Base:  in Subbase:  in  
 Approach Length:  ft  
 Do the proposed widths result in any widening?  Yes  No  
 Proposed sleeper slabs?  Yes  No  Unknown

List all work type(s) and related fix life(s):

## H. Proposed Approach - Shoulder:

Type: HMA  Concrete  Composite  Aggregate (Only)   
**Widths:**

Left Shoulder	Right Shoulder
Paved Width: <input type="text"/> ft	Paved Width: <input type="text"/> ft
Total Width: <input type="text"/> ft	Total Width: <input type="text"/> ft
Pavement Thickness: <input type="text"/> in	Subbase: <input type="text"/> in
Agg Base: <input type="text"/> in	

Do the proposed widths result in any widening?  Yes  No  
 Will the existing shoulders be left in place in the proposed project (if yes, continue)?  Yes  No  Unknown  
 Will the existing shoulder be used for Maintaining Traffic (if yes, continue)?  Yes  No  Unknown  
 Are existing shoulder cores available?  Yes  No  Unknown  
 Are shoulder cores for the existing shoulders needed?  Yes  No  Unknown  
 Is the existing shoulder density 92% or greater?  Yes  No  Unknown  
 Is the existing shoulder density 90% or greater?  Yes  No  Unknown

## I. Proposed Ramps:

Ramp Pavement (typ):  in Agg Base:  in Subbase:  in  
 Accel/Decel lanes need extensions or upgrades?  Yes  No Length:  ft  
 Do the proposed widths result in any widening?  Yes  No

List ramps and proposed work:

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

 Job Number:  Bridge Scoping

## J. Proposed Geometric Corrections:

**Proposed Normal Section Cross Slope:** Lanes:  %  
 Cross Slope Modification(s)?  Yes  No  
 Horizontal Curve Modification(s)?  Yes  No  
 Vertical Curve Modification(s)?  Yes  No  
 Superelevation Modification(s)?  Yes  No

**Other notes on geometrics, existing super rates:**

## K. Proposed Drainage:

### 1. Culvert Information Not Applicable?

List proposed culvert work below to match existing pipe info:

# of culverts	Ex Size	Shape	Ex Material	Feature Requiring Work	Prop Work * (see below)

\* Work types = replace, extend, new end section, rehabilitation, new erosion control

Proposed New Culverts?  Yes  No  
 Proposed New Box Culverts?  Yes  No  
 Do any existing or new box culverts require protection/safety work?  Yes  No

### 2. Ditch Information Not Applicable?

Proposed New Ditches?  Yes  No  
 Proposed Ditch Cleanout?  Yes  No  
 Will any open drainage be enclosed with the project?  Yes  No  Unknown  
 Do drive culverts need to be removed and replaced to new grade lines?  Yes  No  Unknown

**Summarize ditch modifications within project limits:**

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number:  Bridge Scoping

### 3. Storm Sewer Information

Not Applicable?

- Proposed New Storm Sewer?  Yes  No
- Proposed Storm Sewer Replacement?  Yes  No      Increase in size?  Yes  No
- Proposed New Drainage Outlets?  Yes  No

Name of water body outleting into:

Is video inspection required during design to identify the pipe condition?  Yes  No

**Summarize storm sewer modifications within project limits:**

### 4. Stream Channel Information

Not Applicable?

- Proposed Stream Channel Relocation - Temporary?  Yes  No
- Proposed Stream Channel Relocation - Permanent?  Yes  No
- Other Proposed Stream Work?  Yes  No
- Proposed Impacts to Federally Regulated Waterway (Navigable Waterway)?  Yes  No
- Proposed Impacts to Cold Water Trout Streams?  Yes  No

**Summarize stream channel modifications within project limits:**

### 5. General Proposed Drainage Information

- Proposed Underdrains?  Yes  No      Type:       Size:  in
- Proposed Spillways/Downspouts?  Yes  No
- Road Grade Raise > 4"?  Yes  No

A road grade raise of greater than 4" will require an analysis as per the Road Design and the Drainage Manuals.

- Impacts to County Drains?  Yes  No
- Proposed Pump Stations?  Yes  No
- Proposed Storage Basins?  Yes  No      Type:
- Proposed erosion control items?  Yes  No
- Hydraulic Analysis required?  Yes  No

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

Job Number:   
 Bridge Scoping

**L. Proposed Guardrail or Concrete/Cable Median Barrier:** (attached to bridge rail)

Proposed Guardrail?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 80%;" type="text"/>	Length: <input style="width: 60%;" type="text"/>	ft
Proposed Guardrail Retrofit?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 80%;" type="text"/>	Length: <input style="width: 60%;" type="text"/>	ft
Proposed Guardrail Anchorage?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 80%;" type="text"/>	(choose or enter text)	
Proposed Median Barrier?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 80%;" type="text"/>	Length: <input style="width: 60%;" type="text"/>	ft
Proposed Glare Screen?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		Length: <input style="width: 60%;" type="text"/>	ft
Proposed Attenuators?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Type: <input style="width: 80%;" type="text"/>	Number: <input style="width: 60%;" type="text"/>	

**M. Proposed Utilities:** (on the structure)

Proposed New/Relocated Private Utilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Any cost participation of water main relocation proposed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Proposed New/Relocated Public Utilities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

List New or Relocated Utility Info:	
-------------------------------------	--

**N. Proposed Signals:** (on the structure)

Proposed Signals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number of Intersections: <input style="width: 80%;" type="text"/>
Proposed Flashers?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Proposed Traffic Loops: <input type="checkbox"/> Yes <input type="checkbox"/> No
Proposed Ped Signals?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed Ped Push Buttons?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**O. Proposed Sidewalk or Non-Motorized Facility:** (on the structure)

Proposed sidewalk?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Width: <input style="width: 60%;" type="text"/>	Barrier separated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Proposed non-motorized?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Width: <input style="width: 60%;" type="text"/>	Barrier separated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Proposed ADA ramps?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number of ramps: <input style="width: 60%;" type="text"/>			

**P. Proposed General Conditions:**

Proposed truss or cantilever signs? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number: <input style="width: 60%;" type="text"/>
Proposed right turn lanes? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number: <input style="width: 60%;" type="text"/>
Proposed left turn lanes? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Number: <input style="width: 60%;" type="text"/>
Proposed new ROW fence? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed ROW fence replacement? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed railroad impacts? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed freeway lighting attached? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed ITS facilities attached? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed erosion control items? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Proposed slope stabilization work? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Will a Phase I Site Assessment be needed? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Any features from an existing Access Management Plan being incorporated into the proposed project? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is the proposed work consistent with an EA or EIS Study for the proposed project? .....	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## Q. Other General Notes on Proposed Improvements:

Job Number:  Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## VI. Bridge Underclearances (see Design Manual for Details)

Corridor Underclearance Requirements (14' 6" or 16'):

Grade separated facilities:

Structures underclearance requirements:

Grade separated railroad meet underclearance requirements (23'):

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA

## VII. Anticipated Design Exception(s) (check all that apply)

Design Speed	<input type="checkbox"/>	Vertical Clearance	<input type="checkbox"/>
Lane Width	<input type="checkbox"/>	Vertical Alignment	<input type="checkbox"/>
Shoulder Width	<input type="checkbox"/>	Vertical (SSD)	<input type="checkbox"/>
Bridge Width	<input type="checkbox"/>	Grade	<input type="checkbox"/>
Structural Capacity	<input type="checkbox"/>	Cross Slope	<input type="checkbox"/>
Horizontal Clearance	<input type="checkbox"/>	Superelevation	<input type="checkbox"/>
Horizontal Alignment	<input type="checkbox"/>	Accel & Decel Lengths	<input type="checkbox"/>
Horizontal (sightline offset)	<input type="checkbox"/>		

## VIII. Permits & Agreements Required (check all that apply)

Statutory Participation (Act 51)	<input type="checkbox"/>	Parking Agreements	<input type="checkbox"/>
DEQ	<input type="checkbox"/>	Utility Relocation Agreements	<input type="checkbox"/>
Corp of Engineers	<input type="checkbox"/>	Non-motorized Maint. Agreements	<input type="checkbox"/>
County Drain (for review, not permitting)	<input type="checkbox"/>	Drainage Agreement	<input type="checkbox"/>
Variance (noise, other...)	<input type="checkbox"/>	Maintenance Agreements	<input type="checkbox"/>
NPDES (over 5 acres of exposed earth)	<input type="checkbox"/>	Participation (other)	<input type="checkbox"/>

## IX. Environmental Information

Wetland impacts?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Approx acreage:	
Floodplain impacts?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	100 Yr Flood Elev:	
Known contamination sites (LUST, etc...)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Known threatened or endangered species?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Impacts to local park facilities (4F, 6F)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Impacts to US National Forest land?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Known historic bridges or other structures	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Clearing required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
Tree removals and/or replacements?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		
River or stream impacts?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown		

## X. Real Estate

ROW acquisitions?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	
Property owner relocations?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	
Grading permits?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	
Drive permits?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	
Sidewalk permits?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	
Easements required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Number:	

Job Number:  Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## **XI. Stakeholder Information**

### Proposed Activity Level of Stakeholder Engagement

- Level I       Yes     No
- Level II      Yes     No
- Level III     Yes     No
- Level IV     Yes     No
- Level V      Yes     No

## **XII. Supplemental Information**

- Is this project in an Metropolitan Planning Organization (MPO)?       Yes     No     Unknown
- Will a Value Engineering (VE) be required (cost > \$25 Million)?       Yes     No     Unknown
- Will there be FHWA Oversight on this project?       Yes     No     Unknown
- Will a Life Cycle Cost Analysis (LCCA) be required?       Yes     No     Unknown
- Are poor soils anticipated?       Yes     No     Unknown
- Is there soil boring information available?       Yes     No     Unknown
- Is there pavement coring information available?       Yes     No     Unknown
- Is there survey information available?       Yes     No     Unknown
- Will there be Multi-Modal or Modal Connectivity opportunities?       Yes     No     Unknown
- Have different alternatives been analyzed?       Yes     No     Unknown

## **XIII. Site Visit Notes**

Job Number:

Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

## XIV. Traffic and Mobility

### A. Maintenance of Traffic (MOT) Scheme:

**Closure Type:** Full Closure:  Part width Construction:  Combination:   
**Traffic Routing:** On existing Route:  Directional Detour Route:   
                             Full Detour Route:  Signed Alternate Route:

Will detour route utilize local roadways?  Yes  No  Unknown  
     If yes, will local approval of the detour route be attainable?  Yes  No  
     Will detour route require improvements?  Yes  No  
 Will project require pedestrian detours?  Yes  No  Unknown  
 Traffic Restrictions?  Yes  No

Please list any known traffic restrictions (including detour route).

Please give a brief description of MOT plan (including detour route).

### B. Safety Items:

		R&R	T&S	CPM	Bridge	Other
Accident History (Information from One Line Listing) .....	<input type="checkbox"/>					
Safety Review/Crash Analysis .....	<input type="checkbox"/>					
Geometric Sketch .....	<input type="checkbox"/>					
TOR Package .....	<input type="checkbox"/>					
a. TOR Calculation Spreadsheet						
b. UD-10s; only for miss codings or additional crashes						
Has this proposed project been identified on the High Crash List? <input type="checkbox"/> Yes <input type="checkbox"/> No _____ Year						
Has this project been identified on the FHWA 5% Report? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown						

### C. Mobility (see Mobility Manual):

Existing Capacity Analysis (includes V/C calc, travel time, LOS, etc) .....	<input type="checkbox"/>				
Proposed Capacity Analysis (includes V/C calc, Delay Worksheet, LOS, etc) .....	<input type="checkbox"/>				
Preliminary Transportation Management Plan (TMP) (if applicable) .....	<input type="checkbox"/>				

#### Delay Mitigation Measures:

Temporary widening <input type="checkbox"/>	Dynamic Lane Merge System <input type="checkbox"/>
Temporary crossovers <input type="checkbox"/>	Moveable Temp Barrier <input type="checkbox"/>
Temporary signal <input type="checkbox"/>	Incentive/ Disincentive <input type="checkbox"/>
Flag Control <input type="checkbox"/>	Lane Rental <input type="checkbox"/>
Mobile closure <input type="checkbox"/>	A + B <input type="checkbox"/>
Night or weekend work <input type="checkbox"/>	

#### Other Delay Mitigation Notes:

Job Number:

Bridge Scoping

# BRIDGE SCOPING REPORT & DETAILS WORKSHEET - Cont.

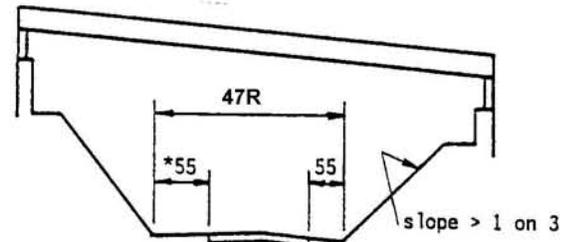
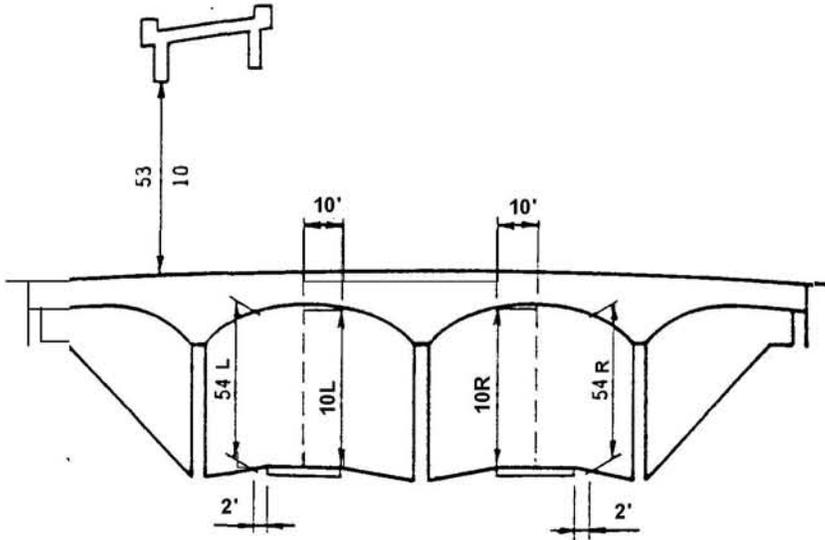
## **XV. Concept Statement Info** (check all that apply)

- |                          |                                             |                          |                                        |
|--------------------------|---------------------------------------------|--------------------------|----------------------------------------|
| <input type="checkbox"/> | Adjacent Jobs                               | <input type="checkbox"/> | Agency Permit Required                 |
| <input type="checkbox"/> | Bridge Painting                             | <input type="checkbox"/> | Change in Bus Access/Parking           |
| <input type="checkbox"/> | Contaminated site in area                   | <input type="checkbox"/> | Controversial                          |
| <input type="checkbox"/> | Crosses Farmland                            | <input type="checkbox"/> | Crosses Floodplains                    |
| <input type="checkbox"/> | Crosses Streams/Lakes/Drains                | <input type="checkbox"/> | Crosses Wetlands                       |
| <input type="checkbox"/> | Detour or Road/Ramp Closure                 | <input type="checkbox"/> | Displacements of Residences/Businesses |
| <input type="checkbox"/> | Engineering Survey Required                 | <input type="checkbox"/> | Enhancement Job                        |
| <input type="checkbox"/> | Environmental Issues                        | <input type="checkbox"/> | Hazardous Materials                    |
| <input type="checkbox"/> | Heritage Route                              | <input type="checkbox"/> | High Impact Project                    |
| <input type="checkbox"/> | High Tourist Route                          | <input type="checkbox"/> | Historic Bridge                        |
| <input type="checkbox"/> | Natural/Federal Landmarks                   | <input type="checkbox"/> | Other                                  |
| <input type="checkbox"/> | Other Environmental Issues                  | <input type="checkbox"/> | Over 1 Acre Earth Disturbance          |
| <input type="checkbox"/> | Over 5 Acres Earth Disturbance              | <input type="checkbox"/> | Public Controversy                     |
| <input type="checkbox"/> | Reduced Traffic Flow                        | <input type="checkbox"/> | Rip Rap Required                       |
| <input type="checkbox"/> | ROW/Grading Permit on Recreational Property | <input type="checkbox"/> | ROW/Grading Permit Needed              |
| <input type="checkbox"/> | ROW/Grading Permit on Farmland              | <input type="checkbox"/> | Traffic Generators                     |
| <input type="checkbox"/> | Tree Removals                               | <input type="checkbox"/> | Widening of Road or Bridge             |
| <input type="checkbox"/> | Work Outside of Existing Shldr/Curbs        | <input type="checkbox"/> | Work Outside Toe of Slope              |

Job Number:

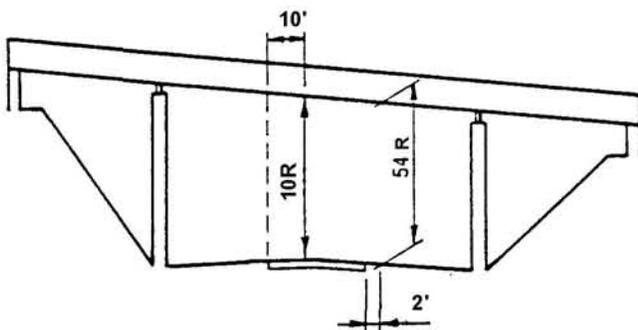
Bridge Scoping





Item 55 - Minimum lateral clearance on right.

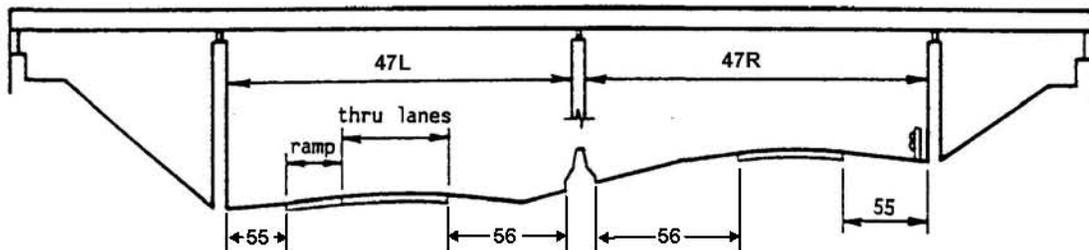
\* Item 56 - Minimum lateral clearance on left.  
Code left side for structure over one-way traffic.



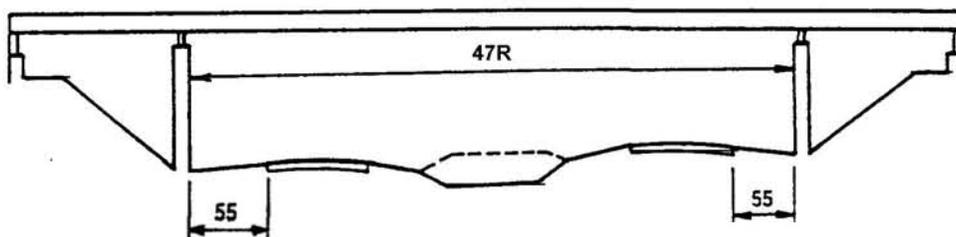
\* Take measurement 2ft off edge of pavement unless underclearance is less over pavement.

Item 10L and 10R - Minimum vertical clearance best 10'.

Item 54L and 54R - Minimum vertical underclearance. For divided highways, record both.\*



Items 55, 56 and 47 for divided highways. Measure both sides and record the minimum for items 55 and 56.



ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_ DECK AREA: \_\_\_\_\_ SFT \_\_\_\_\_ STRUCTURE ID: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_ DECK DIM: \_\_\_\_\_ STR. TYPE: \_\_\_\_\_  
 PRIMARY REPAIR STRATEGY: \_\_\_\_\_

WORK ITEM	QUANTITY	DIMENSION	UNIT	COST	TOTAL
<b>NEW BRIDGE</b>					
Multiple spans, Concrete (add demo. & road approach & traffic control)		SFT		\$160.00 /SFT	
Multiple spans, Steel (as above)		SFT		\$175.00 /SFT	
Single span (or multi span over water), Concrete (as above)		SFT		\$190.00 /SFT	
Single span (or multi span over water), Steel (as above)		SFT		\$220.00 /SFT	
Pedestrian Bridge (includes removal, add traffic control)		SFT		\$285.00 /SFT	
Other					
<b>NEW SUPERSTRUCTURE</b>					
Concrete (includes removal of old super & new railing, add traffic control & approach)		SFT		\$120.00 /SFT	
Steel (as above)		SFT		\$150.00 /SFT	
Over Water (add to new superstructure cost)		SFT		\$28.00 /SFT	
Other					
<b>WIDENING</b>					
Added portion only, _____ ft of width (add road approach widening)		SFT		\$185.00 /SFT	
Other					
<b>NEW DECK</b>					
Includes removal of old deck & new railing (add traffic control & approach)		SFT		\$70.00 /SFT	
Other					
<b>DEMOLITION</b>					
Entire bridge, grade separation		SFT		\$27.00 /SFT	
Entire bridge, over water		SFT		\$36.00 /SFT	
Other					
<b>SUPERSTRUCTURE REPAIR</b>					
Concrete Deck Patch (includes hand chipping)		SFT		\$32.00 /SFT	
HMA Cap (no membrane - add bridge rail if req'd)		SFT		\$1.25 /SFT	
HMA Overlay with WP membrane (add bridge rail if req'd)		SFT		\$5.00 /SFT	
Removal of Concrete Wearing Course (latex) or Epoxy Overlay		SFT		\$1.50 /SFT	
Removal of HMA Overlay		SFT		\$1.00 /SFT	
Epoxy Overlay		SYD		\$34.00 /SYD	
Shallow Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT		\$25.00 /SFT	
Deep Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT		\$26.00 /SFT	
PCI Beam End Repair (\$2000-\$4000 per beam end)		EA		\$3,000.00 EA	
Repair Structural Steel (\$2400 bolted, \$6200 welded)		EA		\$5,000.00 EA	
High Load Hit Repair (PCI Beam)		SFT		\$200.00 /SFT	
Paint Structural Steel		SFT		\$9.00 /SFT	
Partial Painting		SFT		\$18.00 /SFT	
Pin & Hanger replacement (includes temporary supports)		EA		\$6,600.00 EA	
Other					
<b>SUBSTRUCTURE REPAIR</b>					
Pier repair (measured x 2) Replace unit if spalled area > 30%		CFT		\$200.00 /CFT	
Pier repair over water (measured x 2)		CFT		\$230.00 /CFT	
Pier replacement		CFT		\$75.00 /CFT	
Abutment repair (measured x 2)		CFT		\$200.00 /CFT	
Temporary Supports for Substructure Repair		EA		\$1,800.00 EA	
Slope Protection repairs		SYD		\$80.00 /SYD	
Other					
<b>MISCELLANEOUS</b>					
Expansion or Construction Joints (includes removal)		FT		\$420.00 /FT	
Bridge Railing, remove and replace		FT		\$215.00 /FT	
Thrie Beam Railing retrofit		FT		\$30.00 /FT	
Deck Drain Extensions		EA		\$500.00 EA	
Scour Countermeasures		LSUM			LSUM
Other					
<b>ROAD WORK</b>					
Approach Pavement, 91/2" RC (add C & G, GR, Slope, Shldr.) 40' ea. end		SFT		\$8.00 /SFT	
Approach Curb & Gutter (18' ea. quad.)		FT		\$36.00 /FT	
Guardrail Anchorage to Bridge (<40')		quads		\$1,400.00 /quad	
Guardrail, Type B or T (beyond GR anchorage to bridge, <200')		FT		\$20.00 /FT	
Guardrail Ending (end section)		EA		\$1,800.00 /EA	
Roadway Approach work (beyond approach pavement)		LSUM			LSUM
Utilities		LSUM			LSUM
Other					
<b>TRAFFIC CONTROL - Unit Cost to be determined by Region or TSC T&amp;S</b>					
Part Width Construction		LSUM			LSUM
Crossovers		EA		\$250,000.00 EA	
Temporary Traffic Signals		set		\$18,000.00 /set	
RR Flagging		LSUM			LSUM
Detour		LSUM			LSUM
Other					
<b>CONTINGENCY (10% - 20%) (use higher contingency for small projects)</b>					
MOBILIZATION (estimate at 5% but put "10% max" in pay item description) (per Design Update 2009-	5.0	%		\$0.00	\$0.00
INFLATION (assume 5% per year, beginning in 2011)		%		\$0.00	\$0.00

(DOES NOT INCLUDE PE &amp; CE)

**CONSTRUCTION TOTAL****\$0.00**