



**REQUEST FOR PROPOSALS
For The Bridge Improvement Project**

**BOOK 2 — PERFORMANCE
REQUIREMENTS**

Safe and Sound Contract
Project Number J5B0800
Missouri Department of Transportation
1320 Creek Trail Drive
Jefferson City, MO 65109





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1 GENERAL

The Contractor will reconstruct or rehabilitate the Project Bridges listed in Book 4 to improve their National Bridge Inventory Condition Ratings to a minimum of 6, and maintain the bridges for a minimum 25 year Maintenance Period after these improvements have been made, such that the Deck, Superstructure & Substructure Condition Ratings each have a minimum of a 6 rating upon Final Acceptance. The reconstruction includes actions to improve structurally deficient bridges, and remove National Bridge Inventory deficiencies. The primary purpose of this Project is to improve aging infrastructure.

1.1 Configuration Requirements

The configuration requirements are as follows:

- a) If possible, all Work is to be constructed within the Existing ROW limits (Book 4 item) shown on the existing plans included in Book 5.
- b) If possible, for projects that involve railroads, all Work is to be completed within the Commission's existing easement with the railroad.
- c) If possible, all Work is to be constructed without disturbing existing Utilities.
- d) If road closure is allowed, road closures shall be kept to minimum durations and detour lengths shall be minimized.

the Commission intends to utilize Federal Highway Bridge Program funding for this Project. All treatments to upgrade and maintain the condition of Project Bridges currently eligible for Highway Bridge Program funding shall be preformed in such a way that they remain eligible for Federal Highway Bridge Program funding.

2 PROJECT MANAGEMENT

All Project management activities, including scope, schedule and document management, shall be used to manage the combination of multiple Project Bridge improvement activities including design, construction and maintenance.

2.1 Web Page

The Contractor shall assist in creating a web page that will be maintained by the Commission through out the Initial Construction Period that includes information from the Contract Schedule set forth in this Section and all deliverables included in Book 2. This web page shall contain sufficient information to keep the public and Commission personnel informed of public hearings, traffic detours, construction schedules and maintenance activities. The following shall be considered minimum requirements and any deviations from such shall require approval from the Project Director:

- a) This web page shall be organized with a map showing each Project Bridge, referenced by its existing bridge number, located reasonably close to its geographic location with reference to its county, crossing feature and route.
- b) All Project Bridges shall be represented on the map.
- c) Easy distinction shall be able to be made from Project Bridges under construction, Project Bridges already improved and Project Bridges to start construction in the next three months.
- d) All Project Bridges shall have information on anticipated public hearing dates and anticipated construction schedules, including anticipated completion dates.
- e) The schedule for Project Bridges with no anticipated work in the following three months shall contain at minimum an estimated start of construction date.
- f) Each Project Bridge schedule shall be complete and posted at least two months prior to any traffic disturbances with the exception of emergency work.

2.2 Schedules

A schedule that is well organized and meeting the need of this Section shall be created and maintained throughout the life of this Contract, the “Contract Schedule”.

If at any time a significant contract delay that could prevent the Completion of Initial Construction is identified on the Contract Schedule, it shall be brought to the attention of the Commission.

2.2.1 Initial Schedule

A preliminary schedule shall be submitted prior to issuance of the Limited NTP. Each Project Bridge shall be referenced in the schedule. This preliminary schedule shall include estimated design and construction dates for each Project Bridge. The preliminary schedule will be the base to build from as more details become available and will be archived for viewing by authorized Commission personnel. For this Contract, this will be considered the Contract Schedule. The Contract Schedule shall not schedule work in conflict with the 2008 - 2012 Statewide Transportation Improvement Program (STIP) projects to be performed by the Commission and its other contractors. Conflicts between Safe and Sound Project Bridges and other Commission contracts shall be addressed in accordance with Book 1, Section 23.

Special attention should be given to the project for the Missouri River Bridges at Miami and Glasgow, Missouri. The Glasgow Missouri River Bridge and the Miami Missouri River Bridge cannot be relied on for haul or detour routes during the Initial Construction Period.

Bridge L0797 on Route 6 in Sullivan County will be added to the STIP in October 2007 and is scheduled to be awarded in the spring of 2008.

This initial Contract Schedule shall be submitted to the Commission for review and approval, specifically related to schedule coordination between projects.

2.2.2 Updates and Archived Records

The Contract Schedule is recommended to be continually updated, but shall be updated and archived, at a minimum, once per month until Completion of Initial Construction. The Contract Schedule shall be accessible for viewing and printing by the Commission at any time, except during input of updated information. After Completion of Initial Construction has been completed, revisions of anticipated and actual activities shall be updated quarterly. Any revisions made to the approved Contract Schedule, shall be mutually agreed upon, with respect to Safe and Sound Project Bridges and other Commission contracts. Likewise, any revisions to the STIP during the Initial Construction Period shall be coordinated with the Contractor prior to Commission approval.

The first day of each quarter shall be defined as the first Business Day in January, April, July and October. The current Contract Schedule shall be archived on the first day of each quarter for viewing by authorized personnel to monitor changes and track trends.

2.2.3 Minimum detail requirements

The Contract Schedule shall have the ability to be sorted by District and have the ability to isolate any period of time.

The Contract Schedule shall include any key dates referenced in this Contract, public hearings, design times, construction times, closure periods and any other

items necessary to control and track the progress of this Contract on a global scale as well as for each Project Bridge.

All applicable components listed on the Contract Schedule shall also show tracking of actual progress.

Each Project Bridge shown on the Contract Schedule will either have a collapsible detailed individual Project Bridge schedule or a reference to a specific Project Bridge schedule showing specific components of the entire process including all phases of design and construction, including but not limited to Utility work, Additional Right of Way acquisition, third party agreements, environmental clearances, Construction Duration and traffic closures.

2.2.4 Schedule and Software Requirements

2.2.4.1 Scheduling Software

The software for all schedules shall be approved by the Commission.

2.2.4.2 General Scheduling Constraints

In the Contract Schedule, the Contractor shall:

- a) ensure that the actual number of activities in the Contract Schedule are sufficient to ensure adequate planning of the Work for the Project;
- b) depict the sequence and interdependence of activities required for complete performance of the Work beginning with the date at issuance of the Final NTP and concluding at Final Acceptance;
- c) include the Completion Deadlines set forth in the Contract; and
- d) depict the required coordination with and Work to be performed by other contractors, Utility owners, governmental officials, engineers, architects, Subcontractors and Suppliers.

2.3 Annual Report

The Contractor shall submit a report annually for the Project Bridges to the Project Director or other designated Commission representative. It shall describe the Work that has been done on the Project Bridges during the last year, any special required operation maintenance and the Work that is proposed for each Project Bridge during the upcoming year. The first annual report will be due on the first Business Day in January after the issuance of Final NTP. The last annual report will be due at Final Acceptance.

The Contractor shall develop and make available to the Commission a schedule that tracks all activities to maintain the Project Bridges. These activities include maintenance and reconstruction tasks. The Contractor shall provide timely



notification to the Commission of maintenance or reconstruction activities that affect the Commission's operations, require the Commission's action, such as environmental work, or restricting traffic.

2.3.1 Bridge Construction Unit Cost Report

Annually, the Contractor shall report to the Commission, bridge construction unit cost for Project Bridges completed during the previous Federal fiscal year, which starts October 1st and ends the last day in September of the following calendar year. The data contained in this report will be used by the FHWA to calculate the State of Missouri's apportionment as described in Title 23, USC Section 144(e). The *FHWA's Bridge Construction Unit Cost Memorandum* provides the content requirements of the report.

2.4 Project Directory

The Contractor shall maintain and furnish a project directory listing the names, addresses and telephone (office, home, mobile, facsimile and pager) numbers of the key personnel and critical support staff of the Contractor and each subcontractor for the projects. The project directory shall be submitted to the Commission within 60 Calendar Days following the issuance of Final NTP. The Contractor shall update the project directory quarterly for the duration of the Work.

2.5 Deliverables

All deliverables for all disciplines shall include a minimum of one hard copy and one electronic copy unless otherwise specified in Book 1 or Book 2.

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

**The Bridge Improvement Project
Missouri Department of Transportation
Request for Proposals
Book 2 – Performance Requirements
Safe and Sound Contract**



Deliverable	Approval	Schedule	Reference Section
Web page	Yes	Within 60 Calendar Days following Limited NTP	2.1
Preliminary Contract Schedule	Yes	Prior to Limited NTP	2.2.1
Updates		Monthly during the Initial Construction Period, Quarterly during the Maintenance Period	2.2.2
Archived records		Quarterly	2.2.2
Schedule software	Yes	Prior to schedule submittal	2.2.4
Annual Report		Annually on Jan. 2	2.3
Bridge construction unit cost		Annually	2.3.1
Project directory		Within 60 Calendar Days of Final NTP	2.4.3



3 QUALITY MANAGEMENT

3.1 Quality Management System

The terms and definitions used in this Section 3, not otherwise defined herein, shall have the meanings prescribed by the ISO 9000:2000 standard. The Contractor shall develop, implement and maintain a quality management system meeting the requirements of ISO 9001:2000 standard and the requirements below.

The scope of the quality management system shall cover all requirements of the Contract. The quality management system shall include a Quality Manual, submitted for the Commission's written approval, to which the Commission will respond within 20 Calendar Days. The issuance of a Limited NTP and the Final NTP shall require the Quality Manual submittal and approval in accordance with Book 1 Section 4.2.

The Quality Manual shall indicate the frequency at which the Contractor's top management will review the quality management system. The Quality Manager and quality assurance staff shall have no responsibilities in the production of the Work and shall report to the Contractor's top management only. Performance of the Commission Quality Control functions as set forth in the approved Quality Manual in no way relieves the Contractor of any of its obligations as set forth in the Contract. Quality Control staff shall remain independent of the Quality Assurance staff. All personnel who perform inspection, sampling or testing must be certified according to a recognized technician certification program and any other required certifications, for the tasks for which they are responsible. For any laboratory other than the Commission's laboratory, the Contractor shall ensure that all laboratories performing testing participate in and achieve a score of three or greater in the AASHTO Materials Reference Laboratory (AMRL) and/or Cement and Concrete Reference Laboratory (CCRL) proficiency sample programs for the tests being performed by that laboratory. It will be the Commission's obligation to ensure its own laboratory meets such requirements.

The following quality planning aspects shall be mutually agreed to by the Commission and the Contractor and included in the Quality Manual:

- a) All Quality Control and Quality Assurance activities and their standards, methods or procedures, and frequencies for product control and acceptance.
- b) All release points at which Work shall be formally accepted by Quality Assurance personnel independent of the Work, prior to proceeding.
- c) The requirements to be verified at each release point.
- d) The agency, person and position responsible to perform the verification.
- e) The method of verification.
- f) The resulting record.

The Contractor's proposed response, including any resolution, to identified nonconformance(s) shall be documented in a format and medium acceptable to the Commission. Following approval of the proposed resolution by the Commission, the Contractor shall, when implementing the proposed resolution, provide 24 hours notification so that the Commission may witness the implementation. The Contractor shall ensure that this procedure is applied to all Contract requirements, including design, construction, operational and management systems. The Contractor's Engineer responsible for the design shall approve all resolutions of non-conformances that require design changes, repairs or rework.

The Contractor's response, including a proposed corrective action, if any, to the Commission identified corrective action requests shall be documented in a format and medium acceptable to the Commission. Following approval of the proposed corrective action by the Commission, the Contractor shall advise when the corrective action has been implemented so the Commission may confirm the implementation. The Quality Manual shall describe how the verification records and forms will clearly show whether the Work meets the Contract requirements. The Quality Manual shall describe how material quantities will be calculated and documented in order to enable the Contractor and the Commission to conduct sample testing at their required frequencies.

3.2 Design Documents

The Contractor shall ensure that all Design Documents are formatted for 8½ inch x 11 inch or 11 inch x 17 inch and in English units. All Design Documents shall be submitted in an electronic format and developed using versions of MicroStation and GEOPAK and shall follow MoDOT's *CADD Standards* and MoDOT's *GEOPAK and MicroStation Drawing Standards*. The Commission will provide seed files upon request. Electronic submissions shall be in original Microstation, Geopak format or in MoDOT's current version of Adobe Acrobat as appropriate. Each deliverable shall include an index detailing the contents and an Acrobat file of the Design Documents, created directly from the native software and organized in a manner that allows easy retrieval of any part of the Design Documents, including individual drawings.

3.2.1 Released for Construction Documents

Released for Construction Documents shall be all drawings, Specifications, shop drawings, reports, calculations, revisions thereto and any other items necessary to construct the Work. The Contractor shall ensure that no construction Work is undertaken without sealed, Released for Construction Documents. Two hard copies and one electronic copy of all Released for Construction Documents shall be submitted to the Project Director prior to construction.

3.2.2 As-Built Documents

As-Built Documents shall include the most current version of Released for Construction Documents incorporating any changes that occurred as well as all design back-up information; including design plans, shop drawings, calculations,

reports, Specifications, all manufacturers' warranties, guarantees, instruction sheets, parts lists, any other product data, all required evidence of conformance with requirements and electronic MicroStation and GEOPAK data. Design back-up information, calculations and reports shall be submitted on compact disk in Adobe Acrobat 5.0 format or greater. Each compact disk that is submitted shall include an index file with electronic links to the files contained within. The As-Built Documents shall be organized and indexed to facilitate easy retrieval of information and be certified by the Contractor's Project Manager to reflect the actual condition of the constructed Work.

3.3 Division of Responsibilities

The Contractor and the Commission share responsibilities in the Quality Program, as outlined below, and as detailed in the Quality Manual.

The Contractor shall:

- a) Provide the Quality Manual for review/approval of the Commission;
- b) perform overall implementation of the quality management functions as set forth in the Quality Manual;
- c) perform Quality Assurance activities as set forth in the Quality Manual;
- d) perform Quality Control functions as set forth in the Quality Manual;
- e) track and respond to all quality Audit findings, such that no open Audit findings are unresolved prior to Final Completion of a Project Bridge; and
- f) provide access to the Work for all testing or Audit staff as set forth in the Quality Manual.

The Commission will;

- a) limit its Quality Control functions to measurement, testing and reporting;
- b) provide Quality Control measurement and testing of construction activities at select fabrication locations as set forth in the Quality Manual;
- c) perform spot Audits of various Contractor activities and report results to the Contractor; and
- d) track all Commission Quality Control and Audit findings as provided in the Quality Manual, and provide this information to the Contractor for its use and response.

The Commission's Quality Control will include measurement and testing as well as reporting all results to Contractor staff. The Commission's Audit role will include the use of an Audit approach for assessing the Contractor's performance. This will entail



checking on a sampling basis whether the Work is complying with the Contract requirements.

Auditing will entail the collection and documentation of objective evidence to confirm whether specified requirements have been met. The results of auditing will be documented with copies provided to the Contractor. Alleged non-conformances will be communicated and tracked in separate reports. The audit results will also be recorded in a database and regular summary and status reports will be provided to the Contractor. The timing, frequency and depth of auditing will be at the Commission's reasonable discretion.

The Contractor shall provide safe access to the Work, its organization and all Subcontractor and Supplier organizations to allow the Commission to carry out required activities. This will include the allowing of samples for the purposes of testing, the provision of information and records, and interviews with personnel from the Contractor's organization and all Subcontractor and supplier organizations and providing advance notification of activities requiring Commission quality functions. . No additional payments for sampling will be made. The Commission will supply all labor, equipment and incidental costs related to performance of Commission quality activities. The Contractor shall supply all labor, equipment and incidental costs related to performance of Contractor activities.

The Contractor shall make decisions relating to quality functions in accordance with the Quality Manual and will identify appropriate comparison ranges and steps to take in the event test results don't compare.

Representatives of agencies of the Federal, State and local government shall have the right to inspect the Work to the same extent provided above for the Commission.

Independent Assurance Sampling (IAS) testing shall be required for all Project Bridges on the National Highway System in accordance with MoDOT's *Materials Manual* Field Section 10. Any Project Bridges that are not on the National Highway System will not require IAS testing.

The Contractor shall determine the number of IAS tests required and notify the appropriate MoDOT District Construction and Materials Engineer to coordinate IAS testing prior to starting construction on each Project Bridge site. The Contractor shall notify the Commission again at least 24 hours prior to anticipated IAS testing.

In addition to IAS testing, the Contractor shall ensure that the QC/QA testing meets the requirements of Field Section 15 of MoDOT's *Materials Manual* for Federal-Aid Acceptance Sampling and Testing (FAST). If the QC/QA testing does not meet all of the FHWA requirements, then the Contractor shall be responsible for such additional applicable FAST testing.



3.4 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Quality Manual	Yes	Submitted prior the Limited NTP and approved prior to Final NTP.	3.1
Released for Construction Documents		No later than when they are issued to the Contractor responsible for constructing the Work.	3.2.1
As-Built Documents	Yes	Condition of Final Completion of a Project Bridge	3.2.2

4 PUBLIC INFORMATION

4.1 Public Information Plan

The Contractor shall assist the Commission in the preparation and maintenance of a Public Information Plan (PIP) to address the development and communication of information to and from the public throughout the Initial Construction Period of this Project and assist with training of MoDOT staff in implementation of this plan. The PIP shall be individually tailored for each of MoDOT's ten districts and shall identify key Stakeholders and methods that will be used to coordinate with them throughout the Bridge Improvement Project to accommodate local needs. An important element of the PIP will be the ability to build understanding and acceptance of the program and bridge closures. The PIP shall provide for outreach efforts in advance of construction that communicate the goals of the program, how those goals apply to localized areas, the Contractor's improvement strategies and how construction activities will be scheduled. Where bridge closures are required to construct a Project Bridge at any of the locations listed in Book 4, the PIP shall communicate alternate routes and detours that minimize the length of out-of-direction travel by customers and limit the duration of public inconvenience during construction. The PIP shall be used throughout the Project by the Contractor and the Commission to manage and implement the construction and traffic coping aspects of the public information process.

The Contractor shall provide the Commission contact information on its key personnel of which at a minimum shall include the Project Manager and Public Information Manager within 30 Calendar Days following the issuance of a Limited NTP.

4.1.1 Public Meetings

A public meeting shall be held by the Commission a minimum of 30 Calendar Days prior to any full Project Bridge closure. This meeting could cover the closure of multiple Project Bridges within the same geographic region. The Contractor shall cooperate to help ensure the meeting is properly prepared.

4.1.2 Reserved

4.1.3 Information Materials

All information materials developed by the Contractor for release to the public shall be provided to the Commission's Public Relations staff.

4.1.4 Commercial Vehicle Access and Restriction Information

The Contractor shall inform the appropriate district of any construction related events, including geometric constraints that could restrict or impede the movement of Commercial Vehicles.



4.2 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Public information staff contact information		Within 30 Calendar Days following Limited NTP	4.1
Information packet materials		Prior to the scheduled distribution date	4.1.3

5 ENVIRONMENTAL REQUIREMENTS

The Contractor shall comply with all existing and future environmental requirements set forth in the FHWA-approved National Environmental Policy Act (NEPA) documents and all Environmental Approvals obtained by the Commission for the life of the Project. The Commission will provide the Contractor with copies of all Environmental Approvals and related requirements as required herein.

5.1 General

Except as otherwise provided in this Section and Book 1, the Commission will obtain all Environmental Approvals required in connection with the Project during the Term. Contractor will furnish the Commission with a bridge schedule indicating when the work is scheduled to start. The Commission will take such reasonable steps as are necessary to ensure that the permits have been secured as soon as reasonably practical. If delays are unavoidable, the Contractor will work with Commission to adjust the schedule or propose Bridge Substitutions.

The Commission will provide the NEPA clearance for the Project Bridges and a list of Project Bridges requiring permits, certifications and clearances.

The Commission will conduct Endangered Species Act and Tribal consultations; obtain appropriate Section 106, 4 (f), 6 (f) clearances; obtain Clean Water Act Sections 404 permits and 401 water quality certificates; obtain Federal Emergency Management Agency (FEMA) buy-out approvals; screen for hazardous waste sites; and obtain appropriate permits for the latter.

All Project Bridges in this project have a NEPA classification of Categorical Exclusion (CE), based on database level screenings. Approximately 40 of the Project Bridges received a CE classification with restrictions that limit the Work that can be performed. These restrictions limit Work to the Existing ROW, to re-decking, and/or to no tree clearing. During the Term, if these restrictions are in conflict with the proposed solution for a Project Bridge, or currently unknown resources are discovered during the permitting and clearance phase of the Project, a new or updated NEPA classification may be required for a Project Bridge or Project Bridges. The Contractor shall provide the information needed to process permits and clearances and any changes in NEPA classifications, including but not limited to the following: scope of work descriptions, location information, anticipated Additional Right of Way locations, preliminary engineering, mitigation designs, and if necessary, future and construction-year traffic, alternatives, and/or purpose and need analyses.

Some Work identified in the Environmental and Historic Preservation List of Bridges have known environmental and/or cultural resources that will require additional processing time to receive permits, certificates and clearances. The Contractor shall notify the Commission of the timing of the Work such that adequate time is available to obtain said permits, certificates and clearances before construction begins for known resources and additional resources that may be discovered during the life of the Project.

In performance of the Work, the Contractor shall provide the following list of deliverable items:

- a) A standardized format for all maps and plan sheets needed for Environmental Approvals and historic preservation clearances;
- b) Preliminary engineering drawings and a detailed description of the Work plans, to include the bridge number, future and construction year traffic analysis, scope of work, termini points, anticipated Additional Right of Way needs and the maximum footprint of disturbance delineated for Project Bridges that involve reconstruction, with updates, when any of these items change;
- c) Landowner contact information and permission to access land to be purchased as Additional ROW or as temporary or permanent easements.

5.2 Erosion Control

MoDOT maintains a MoDNR Section 402 National Pollution and Discharge Elimination System (NPDES) Permit, Chapter 644 RSMO, Missouri Clean Water Law for construction. The Contractor shall be responsible for developing an erosion control plan and monitoring, based on the *Storm Water Pollution Prevention Plan* that is part of MoDOT's NPDES Permit, and adhering to the permit, Inspection reporting requirements and plan for the Work. In addition, a complete list including any Project Bridge that is anticipated to have over 1 acre of erodible acreage on January 1, April 1, July 1, or October 1 will have to be reported to the Commission at least 14 Calendar Days prior. This report should include approximate erodible acreage, the Bridge Number, crossing feature, County and route. If the Commission's staff is utilized for Erosion Control inspection, then the plan, monitoring requirements and reporting requirements shall be clearly outlined in the Quality Manual.

5.3 Wetlands and Waters of the US

The Contractor shall fulfill the terms and conditions of both the Clean Water Act Section 404 permit and the Section 401 Water Quality Certification, as required by the U.S. Army Corps of Engineers (USACE) and the MoDNR, respectively. The Contractor shall integrate design practices to avoid and/or minimize potential Work impacts to wetlands and waters of the U.S. The Contractor shall participate in the development of all stream and/or wetland mitigation required to fulfill the permitting requirements, as described in Book 2, Section 5.9.

The Contractor shall maintain the natural low flow characteristics of all stream crossings, including temporary crossings.

The Contractor shall provide the following deliverable; cut and fill quantities, location of impacts and bridgework design plans including cross-sections as necessary to secure Clean Water Act Section 404 permits and 401 certificates.

For Work on Project Bridges that have one-tenth or less acre permanent fill in waters of the US and no other environmental impacts, no pre notification to the USACE is required. These preliminary plans do not require cross-sections and can be approved within one month.

5.4 Threatened and Endangered Species

The Contractor shall comply with all aspects of the *Endangered Species Act*, including consultations. The Contractor shall coordinate with the Commission when it is determined that there are any threatened or endangered species or rare natural communities in the vicinity of any of the bridges. In some instances surveys may be necessary to determine if Work will impact a species. The Contractor shall coordinate with the Commission to determine whether Work may proceed and what measures can be implemented to avoid or minimize the construction impacts to threatened and endangered species and rare natural communities.

5.5 Cultural Resources

The Contractor shall supply adequate maps and plans to assist the State Historic Preservation Office (SHPO) and the Commission in the identification of potential impacts to historic properties eligible for or listed on the National Register of Historic Places (NRHP) and assist the Commission in obtaining the appropriate Section 106 clearance. The Contractor shall comply with the conditions of the clearance and coordinate with the Commission to test, avoid or mitigate those properties identified by the SHPO.

5.6 Hazardous Waste

The U.S. Environmental Protection Agency (EPA) has determined that bridges are defined as structures per 40CFR61 Subpart M, NESHAP (National Emission Standard for Hazardous Air Pollutants), therefore subject to inspection, notification and removal requirements per federal, state and local laws and regulations. The Contractor shall comply with applicable laws and coordinate with the Commission regarding potential hazardous waste impacts. The Commission will provide information to the Contractor from tests identifying lead base paint and asbestos-containing materials on Project Bridges 30 Calendar Days prior to start of bridge construction. The Contractor shall follow specific measures to protect the streams and other waters of the U.S., including wetlands, from materials generated during bridge blasting and deck repair or removal in accordance with Sections 622 and 1081 of the Missouri Standard Specifications for Highway Construction.

5.7 Public Lands

The Contractor shall coordinate with the Commission on the potential to impact public lands; including parks, trails and other recreational type lands; that could potentially be classified as Section 4 (f) or Section 6 (f) properties to facilitate avoidance or mitigation.

5.8 Borrow and Staging Areas

All Contractor-furnished borrow and staging areas are subject to the same Environmental Laws as the specific bridge Work. The Contractor shall adhere to all Legal Requirements regarding borrow, wasting and staging areas, as if these areas were included in the Bridge location. The Contractor shall provide to the Commission the location; extent of staging, wasting and borrow areas; and obtain and provide copies of all permits and clearances obtained by the Contractor for borrow and staging areas. The only exception is that MoDOT has a NPDES permit that covers borrow areas that are adjacent to the Commission's Right of Way. The Contractor shall seek a separate NPDES permit from MDNR for borrow areas not contiguous with the Commission Right of Way. The Commission will verify that all of the Contractors obligations have been completed.

The Contractor shall provide the following list of deliverable items:

- a) Location and extent of impact of all staging, wasting and borrow areas.
- b) Copies of all permits and clearances for staging and borrow areas, except the NPDES for areas contiguous with Commission Right of Way.

5.9 Mitigation

The Commission will plan, in consultation with the Contractor, for mitigation. The Commission may have wetland or stream mitigation banks in place that may be appropriate for bridge impacts. The Contractor may be required to design and construct mitigation when Commission mitigation banks or other alternatives are not available for use. The Contractor may be required to coordinate with the Missouri Department of Conservation (MDC) to design and construct mitigation and develop signs identifying mitigation on MDC properties.

The Contractor shall provide the following list of deliverable items when applicable:

- a) Wetland and stream mitigation engineering drawings.
- b) Constructed wetland and stream mitigation that meets standards of regulating agencies.

5.10 Regulatory Compliance

The Contractor shall be responsible for all fines and penalties that may be assessed by an agency with jurisdiction in connection with the Contractor's failure to comply with applicable Environmental Laws or Environmental Approvals. The Contractor has the right to reasonably contest any such fines or penalties. Further, it shall be the Contractor's responsibility to correct, at its own expense, any violations caused by the Contractor. Immediately upon receiving a written notice of violation or similar notification, the Contractor shall contact the Project Manager and provide all correspondence and details of the resolution of these warnings and/or violations.



5.11 Deliverables

The Contractor shall provide the following list of deliverable items:

DELIVERABLES *	Approval	Schedule	Reference Section
Standardized maps and plan sheets		As developed and no later than six months prior to construction of a Project Bridge	5.1
Preliminary engineering drawings with detailed description of bridgework and maximum footprint of disturbance.		Six months prior to construction or rehab work begins on Project Bridge	5.1
Landowner permission to access		As needed for studies during life of project	5.1
Erodible Acreage Report		Quarterly as described	5.2
Cut and fill quantities and locations for Section 404 Permit and 401 certification when required.		Six months prior to construction or rehab work begins on a Project Bridge	5.3
Preliminary plans for projects with less than one tenth acre fill in waters of the US.		One month prior to construction or rehab work begins on a Project Bridge	5.3
Location and extent of staging, wasting and borrow areas		Six months prior to construction or rehab work begins on a Project Bridge	5.8
Copies of staging, wasting and borrow area clearances and permits	Yes	Two months prior to construction or rehab work begins on a Project Bridge	5.8
Designs of wetland and stream mitigation		Three months before construction or rehab work begins on a Project Bridge	5.9

* This schedule does not apply to Project Bridges identified on the Environmental and Historic Bridge list that will require more than the average time to receive permits, certificates and clearances; and there may be currently unknown resources that are discovered during the permitting and clearance phase of the project that may require either an updated NEPA classification or more time to process than this table indicates.

6 THIRD PARTY AGREEMENTS

6.1 Administrative Requirements

The Commission will enter into agreements with all incorporated cities, all counties and all railroad companies where these entities have property or facilities that will be permanently affected by construction of any Project Bridge. The Commission will assume all responsibility for third party permits, coordination and costs associated with any increase above existing property owner rights. Any temporary work on property or facilities of the above-described entities shall not require a Third Party Agreement with the Commission. The Contractor shall be permitted to make a Change Order pursuant to Section 13.4.2 to the extent any clearance on Project Bridge number 6251 varies from 20 feet.

6.2 Working with Local Agencies

Coordination with local agencies will be a cooperative process between the Contractor and the Commission. The Commission will be responsible for drafting all third party agreements and securing execution from local agencies. Prior to execution of any such agreement, the Contractor shall review the draft of the agreement subsequent to execution by the Commission. The Contractor shall be entitled to compensation and/or relief pursuant to Book 1, Sections 12 and 13, caused by changes or additions to the Project as may be requested by the local agencies, so long as these changes are approved by mutual consent of the Contractor and the Commission and documented by a Change Order. Changes to the Project may include but not be limited to the following: improvements to local roads, landscaping, tree plantings, roadway lighting, bridge lighting, bicycle or pedestrian accommodations, additional noise abatement, decorative fencing, sidewalks, additional aesthetics to bridges or walls, etc. Changes or additions requested by local entities will be allowed only when the entity agrees to completely fund the additional cost for incorporation of all additional improvements into the proposed treatment.

Proposed treatments that will disturb existing third party facilities shall include provisions for replacement of the facility, at the Contractor's cost.

6.3 Railroad Third Party Agreements

If proposed Project Bridge work includes bridge replacement or deck widening, and crosses a railroad Right of Way, an agreement with the affected railroad will be required prior to beginning such work. The Commission, with the reasonable support of the Contractor, shall be responsible for negotiating any job specific provisions with the railroad company prior to commencement of all construction work. At least 18 months prior to the planned date of construction for each Project Bridge, the Contractor shall provide the Commission notification if the Project Bridge will require a railroad Third Party Agreement, as defined below. All work to be performed over or on railroad Right of Way may be subject to the affected railroad's



approval. For each Project Bridge on this list the Contractor shall supply all required railroad submittal documents.

The Contractor, in conjunction with the Commission, shall include a traffic control plan with the expected dates of construction, proposed detours, length and road closures if applicable. Also included with this traffic control submittal will be an explanation of the time and duration of any expected railroad track closures.

A project that includes the construction of a new Project Bridge over a railroad track shall require a Grade Separation Agreement (GSA) between the railroad company and the Commission. The GSA will define the terms and conditions for the construction and the maintenance of the new Project Bridge, and the easement granted by the railroad needed to secure the Commission's property rights. The GSA will include the railroad job special provisions that will detail the railroad's requirements for the Contractor's work over the railroad including railroad insurance requirements and need for railroad flagging. The drafting and negotiation of these documents will be coordinated with MoDOT's Railroad Liaison after the Contractor has secured the railroad's approval of preliminary plans for the new Project Bridge.

Project Bridges that involve rehabilitation over railroad tracks will require minor railroad involvement, and thus may not require a new agreement since the Commission currently has the right to maintain existing Project Bridges over the railroad in previously negotiated agreements with railroad companies. The Commission shall be responsible for securing the railroad company's approval of the proposed work and the negotiation for the terms and conditions of working on and over the railroad's property including insurance requirements and railroad flagging.

If all proposed work is on the deck surface of the Project Bridge or in spans not over the railroad property then there is no railroad involvement, and thus no new agreement shall be required. These projects may include work on Project Bridges over railroad facilities or property, but none of the work can interfere with the rail operations.

7 UTILITIES

The Commission shall coordinate Utility Work on Additional ROW, and Existing ROW. The Contractor's treatment strategy for each Project Bridge shall avoid relocation of Utilities to the extent practicable. Betterments are not included within the Contractor's Work. This Section 7 applies to existing and proposed underground and overhead Utilities, except traffic signals, street lighting, variable message signs, video and video detection systems and Intelligent Transportation Systems (ITS).

7.1 Contractor Responsibility

The Contractor shall verify the location of all Utilities that may be affected by the proposed Project Bridge and related roadway Work. If Utility Relocation is necessary for a Project Bridge, the Contractor shall provide the Commission with Utility Relocation Plans 12 months prior to start of construction. Utility Relocations will be in accordance with the requirements of 7 CSR 10-3 and any applicable Utility Agreements and Master Reimbursable Utility Agreement(s).

7.2 General Obligations

7.2.1 Commission's General Obligations

The Commission's obligations with respect to each impacted Utility shall include the following activities, all of which shall constitute a part of the Utility Work:

- a) Coordination of all tasks, obligations and duties assigned in the Utility Agreements and Master Reimbursable Utility Agreement(s), and performance of the same in connection with the Existing ROW.
- b) The Commission shall assist the Contractor with respect to the performance of Incidental Utility Work, including the acquisition of necessary Governmental Approvals.

7.2.2 Contractor's General Obligations

The Contractor's obligations with respect to each impacted Utility shall include the following activities, all of which shall constitute a part of the Utility Work:

- a) The Contractor shall perform all Incidental Utility Work, including but not limited to locating existing Utilities, identifying conflicts and ensuring compliance with all applicable Legal Requirements and required Governmental Approvals.
- b) Identification and verification of all existing Utilities located within the Existing ROW, Additional ROW or otherwise impacted by the Project.
- c) Providing survey coordinates on the Utility Relocation Plans and in the field for construction of the Relocations.
- d) Coordinate all necessary Utility Work with the appropriate Utility if such Utility Work is being performed during Contractor Control.

7.3 Utility Permits and Construction Easements

The Commission shall coordinate with the Utility Owner to obtain MoDOT and non-MoDOT permits and/or Construction Easements or agreements. Separate permits may be required for Work on streets under local entity jurisdictions. In the event the Contractor determines that a Utility Owner does not have the required permits, the Contractor shall immediately notify the Commission in writing. The Contractor shall comply with all such Utility permits and construction easements or agreements.

7.4 Utilities Adjacent to and on Project Bridges

Utility attachments to Project Bridges are not permitted unless the Commission has an agreement executed with the Utility Owner to permit the attachment. If placement on a Project Bridge is necessary, the Contractor shall provide details of the proposed installation to the Commission as soon as the need has been determined but no less than 12 months prior to scheduled construction. If the Commission agrees the attachment is permissible, the Contractor shall coordinate with the Commission to provide the approved details and information so the Commission can negotiate with the Utility Owner and enter into an appropriate agreement. The agreement will be of the form commonly used by the Commission for utility attachments to structure.

7.5 Notices

The Contractor shall notify all affected Utility Owners at least 48 hours before commencing any operations that affect a Utility, unless otherwise agreed to in a Utility Agreement. For excavation operations, the Contractor shall mark the proposed excavation before contacting Missouri One Call. The Contractor shall call Missouri One Call at least 48 hours before starting excavation operations excluding Saturdays, Sundays and holidays. Commission facilities are not included in Missouri One Call list. Notification to the Commission is to be accomplished by submitting the *Notice of Intent to Perform Work* form located at <http://www.modot.mo.gov/asp/intentToWork.shtml>

The Contractor shall not start construction operations adjacent to Utility properties until arrangements, satisfactory to the Utility Owner, have been made by the Contractor for the protection of the Utility and continuation of service. Should the Contractor's equipment come in contact with or damage a Utility in any way, even though there may be no apparent evidence of breakage or harm, the Contractor shall promptly notify the proper authorities and cooperate with those authorities in determining damage and restoring interrupted services as may be needed. Where contact is made with a Utility, the Contractor shall suspend operations immediately and vacate the area until it has been determined by the Utility Owner that it is safe to resume operations.

7.5.1 Notices Regarding Utility Owner Performance

The Contractor shall be responsible for verifying progress of the Utility Owner's work

during Contractor Control.

7.6 Coordination and Cooperation

The Commission and the Contractor shall be available to meet at the request of the other party, as necessary, to discuss and resolve matters relating to the Utility Work.

The requesting party shall provide the other party with not less than seven Calendar Days prior notice of such meetings unless mutually agreed to otherwise.

The Commission shall produce minutes of all meetings with Utility Owners and/or the Contractor and shall distribute copies of the minutes to the Utility Owner and the Commission no later than seven Calendar Days after each meeting date. The Contractor shall provide the Commission copies of all correspondence between the Contractor and any Utility Owner no later than seven Calendar Days after receipt or sending.

The allocation of responsibility for any Utility Work to a Utility Owner will not relieve the Contractor of the obligation to coordinate with the Utility Owner as necessary for the Utility Work to be performed during Contractor Control.

7.7 Cost

The Contractor shall be responsible for costs paid for any property ownership interest associated with Utility easements and reimbursable Utility Relocation costs for Utilities with respect to Additional ROW. The Cost of relocation of Utilities within the limits of the Commission's Existing Right of Way will be the responsibility of the Commission.

7.8 Damage to Utilities by Contractor

The Contractor shall be responsible for any and all damage caused by the Contractor's Subcontractors, employees or agents to the property, facilities, structures or persons of the Utility Owner. The Contractor shall immediately notify the affected Utility Owners of any Utilities damaged by the Contractor during the Contractor's performance of the Work. The Contractor shall be responsible for all costs and/or schedule impact associated with said damage.

Promptly after the Contractor's discovery of such damage or the Contractor's receipt of notice of any such damage from the Utility Owner or from any other source:

- a) the Contractor shall repair the damage to the Utility Owner's reasonable satisfaction; or
- b) at the Utility Owner's election, the Utility Owner may make such repairs at the Contractor's expense.

7.9 Joint Issue and Dispute Resolution Procedures

Any Disputes that arise between the Commission and the Contractor shall be subject

to the Dispute Resolution provisions set forth in Book 1, Section 19; however, if the Dispute involves a Utility Owner, the Dispute Resolution provisions set forth in Book 1, Section 19 shall be modified in accordance with this Section to include participation by the Utility Owners or as modified in the applicable Utility Agreements with the Utility Owner(s).

The Contractor and the Commission agree that the Utility Owner(s) shall be invited to participate in all joint issue resolution activities related to the Utility Work of the affected Utility Owner(s). If any Dispute arises between the Contractor and the Commission that involves a Utility Owner(s) and the Dispute is not resolved during the joint issue resolution process, the Dispute Resolution Board (DRB) procedures set forth in Book 1, Section 19 shall be modified to allow the affected Utility Owner(s) to select one member to participate on the DRB for the issues affecting the Utility Owner(s), with such member approved by the Commission and the Contractor. Regardless of how many Utility Owners are involved in the dispute; the Utility Owners will only have one member on the DRB. The Utility Owners' DRB member shall have the experience and qualifications required in Book 1, Section 19 for the DRB members and shall comply with all of the requirements applicable to DRB members therein. If a Dispute involves an affected Utility Owner(s), the chairperson of the DRB will act as chairperson for the DRB procedures, but will not participate in any deliberations or decisions. The Contractor, the Commission and the Utility Owners may agree to a modified dispute resolution process either in the MRUA or in a separate agreement.



8 RIGHT OF WAY

8.1 Administrative Requirements

The Commission will assume all responsibility for recording fees, title insurance, closing costs, staff, vehicles, appraisals, and legal services with respect to Additional ROW. The Commission will retain possession of each parcel and all improvements, if any, made thereon by the Contractor. The Contractor's access and use of the Right of Way arises solely from the permission granted by the Commission under the Contract. Notwithstanding anything to the contrary set forth in any Contract Document, the Contractor is responsible for funding payments made to property owners for the Additional Right of Way, including easements, required for the performance of the Work. In no case will the Contractor be responsible to pay for any Existing ROW.

8.2 Right of Way Acquisition

- a) The Contractor shall fund all payments made for any property ownership interest for Additional Right of Way cost including land, improvements, access rights, easements, and all payments in condemnation (including any commissioners award), with the exception of the cost of Commission staff time.
- b) The Contractor shall fund the cost of relocation assistance benefits in connection with Additional Right of Way in accordance with the Uniform Relocation Assistance Act.
- c) The Commission will, in accordance with Book 1 Section 6, acquire permanent Additional Right of Way, access rights, permanent easements and temporary easements as indicated on design plans, fund Commission personnel costs of acquiring Additional Right of Way, and perform relocation services for displaced persons, property and businesses, unless the Contractor accepts such obligations as allowed by the Contract.
- d) The Commission will have discretion to determine the amount to be paid to property owners. The Commission will follow its established typical valuation, negotiation, settlement, mediation, condemnation practice and relocation benefits. Administrative settlements above appraised approved offers will be the discretion of MoDOT district personnel. Legal settlements greater than \$250,000 require Right of Way Director and Chief Counsel approval.
- e) A preliminary Additional Right of Way needs list or preliminary Additional Right of Way Design is encouraged to be developed and provided to MoDOT Right of Way Division as soon as practicable. A timely Preliminary Additional Right of Way needs list will likely reduce the amount of time required for the Commission to acquire Additional Right of Way.
- f) The Contractor shall order and fund the cost of all ownership information in

connection with obtaining Additional Right of Way. This information shall be provided to the Commission with, or prior to the delivery of Additional Right of Way plans.

- g) The Contractor shall develop Additional Right of Way plans in accordance with the requirements for Additional Right of Way design specified in Chapter IV of the MoDOT Project Development Manual (PDM).
- h) The Contractor shall write legal descriptions in connection with obtaining Additional Right of Way.
- i) The Commission will prepare Additional Right of Way acquisition documents incorporating Contractor's legal descriptions.
- j) The Contractor shall make plan changes requested by the Commission in connection with obtaining Additional Right of Way to accommodate and facilitate property owner desires and to mitigate impact on property.
- k) Additional Right of Way acquisition with condemnation may require approximately one year from the time Additional Right of Way plans are submitted to the Commission.
- l) The acquisition of Additional Right of Way with environmental or cultural resource constraints will not occur until a means to reconcile such constraints have been determined.
- m) The Commission will provide the Contractor notice of fully acquired Additional Right of Way on each Project Bridge, individually.
- n) The Commission will coordinate and perform condemnation.
- o) Final settlements with owners will be communicated to the Contractor for consideration of reducing or eliminating Additional Right of Way acquisition prior to payment or proceeding with condemnation; unless such settlement is less than an amount pre-approved or such proceeding has been pre-approved by the Contractor. Delays in procuring Additional Right of Way that result from the Contractors review of any settlements or plan changes will not be included in the time allowed for the Commission to obtain Additional Right of Way as allowed in this Section.
- p) Changes in Additional Right of Way plans may require additional time, up to one year after such change in Additional Right of Way.

8.3 Temporary Easement Acquisition by The Contractor

The Contractor may purchase a Temporary Construction Easement (TE) up to ten thousand dollars (\$10,000.00). An appraisal waiver shall be performed by a real estate professional with extensive knowledge and experience of real estate values and sales history in the market area. Negotiation for acquisition requires a Missouri real estate

license.

All acquisition by the Contractor, regardless of cost, donation, construction concessions, etc, must be in compliance with the Uniform Relocation Assistance Act. The less-than ten thousand dollars (\$10,000.00) threshold does not relieve any significant requirements of the Uniform Relocation Assistance Act but does allow valuation by appraisal waiver and the valuer may also negotiate the acquisition. **An agency official of the Commission must approve the compensation, 49 CFR 24.102(d).**

- a) Relocation of personal property must be in compliance with the Uniform Relocation Assistance Act. In cases where a TE acquired by the Contractor causes relocation of personal property or other relocation benefits in excess of one thousand dollars (\$1,000.00), the Contractor must provide MoDOT's Right of Way Manager with a relocation proposal for the property to ensure compliance with the Uniform Relocation Assistance Act. After each TE is acquired, the Contractor shall submit a complete parcel acquisition file, which includes but is not limited to copies of just compensation agreements, fully executed easement documents and/or agreements;
- b) the negotiator's signed diary; and
- c) a statement signed by the property owner acknowledging receipt of payment in full.

Temporary easement acquisition files shall be maintained by Contractor throughout the project and shall be subject to review by the Commission or Federal Highway Administration upon request.

If the Contractor cannot reach an agreement with a property owner for a TE acquisition, the Contractor may request in writing that the Commission acquire the easement or easements through mediation or condemnation proceedings.

The Contractor may negotiate and acquire, without cost restriction, property access beyond project Right of Way needs directly from property owners, but must follow all applicable laws. Examples of indirect project needs from property owners might include, but are not limited to staging areas, enhanced project access, over-swing of machinery, borrow sites, disposal sites off Right of Way, etc.

8.4 Demolition

The Contractor shall be responsible for demolishing, removing and disposing of all existing buildings and other structures from the Additional ROW, including any permanent easements and temporary easements related thereto. Removal of all buildings shall include all attached structures, existing rubbish, trash and contents in and adjacent to the building on each parcel. The Contractor shall follow all applicable state and local laws and regulations. Demolition of the subject structures cannot begin until after the Contractor is notified that the Additional ROW has been acquired and legal and physical possession has been obtained. The Contractor



shall notify the Missouri Department of Natural Resources ten Business Days before the demolition of any building structure.

8.5 Deliverable

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Preliminary Additional Right of Way needs list Or Preliminary Plans		As soon as practical	8.2
Additional Right of Way Plans		One year prior to start of construction	8.2
Legal descriptions		Submitted concurrently with completed Additional Right of Way plans.	8.2
Right of Way survey and staking		Prior to Construction and as needed for Additional Right of Way negotiations	8.2
Funding		In no case later the 30 Calendar Days following an invoice	8.2

9 SURVEY

9.1 Project Survey Coordination

The Contractor shall designate a Professional Land Surveyor, registered in the State of Missouri, as the responsible person in charge of Contractor survey activities on the Project. The Contractor shall comply with the most recent and applicable State of Missouri and Federal Laws. Survey procedures and criteria shall be in accordance with 20 CSR 2030-16, the *Missouri Minimum Standards for Property Boundary Surveys*, and any applicable portions of Chapter 3 of the MoDOT Project Development Manual.

The Contractor's Professional Land Surveyor (PLS) shall be required to sign and seal survey documentation in accordance with 20 CSR 2030-16.

9.2 Contractor Supplied Survey Data

Except as provided by the Commission, the Contractor shall provide all survey work required for completion of the Project.

Any source data provided to the Contractor by the Commission shall be returned in the same manner and condition as when it was provided. The data should be returned at the point when it is no longer needed by the Contractor to perform the services required by this agreement or at the conclusion of the contract, which ever occurs first.

9.3 Preservation of Survey Control Monuments

The Contractor shall preserve all survey control monuments and any governmental defined land corners that are located on MHTC Right of Way. The Contractor shall notify the Commission as soon as it becomes known that a monument is in a position that will interfere with new construction or with Contractor operations. The monument position shall be accurately preserved prior to disturbing any such monument.

If an existing marker is disturbed, or cannot be preserved in place, the Contractor's PLS shall set the new marker in accordance with the requirements of 20 CSR 2030-16. New survey monuments shall be furnished and placed in accordance with the standards for permanent monuments, including a cap stamped with MHTC's name, and the highway station and offset for that location as detailed in Chapter 3 of the MoDOT Project Development Manual.

9.4 Permission to Enter Property

The Contractor shall provide the property owner written notification prior to entering any property outside of MHTC Right of Way for surveying purposes. The Contractor shall retain a copy of all such documents for Commission review.

9.5 Right of Way Surveys

A Location Survey Plan shall be required when Additional Right of Way or easements are acquired. The Contractor's PLS shall reestablish the existing alignment, Right-of-Way and survey any new project alignment to meet the standards of the MoDOT's Project Development Manual, Chapter 3-04.2, and conform to all requirements of 20 CSR 2030-16. The Contractor's PLS shall survey and temporarily stake or mark the proposed rights of way prior to landowner negotiations and all Additional Right of Way acquisition activities.

All monumentation for Additional Right of Way and permanent easements shall be in place and the location survey submitted as soon as practical. The Acceptance of Structure will not be made if these items have not been submitted.

The Location Survey Plan will include a land description of the existing and Additional Right of Way or easements at the Project Bridge location. This description shall:

- a) be based on the location survey;
- b) be concise;
- c) contain title identity;
- d) contain measured dimensions and highway stationing in ground units;
- e) contain measurement data that describes the geometric area of the corridor and closes mathematically;
- f) contains information that does not lend to alternate interpretations; and
- g) be written to facilitate the relocation of the corridor by any other professional land surveyor.

9.6 Legal Property Surveys

The Contractor's PLS shall perform the survey of existing property boundaries included in the legal description and a land survey of any Additional Right of Way or easements required for the selected treatment. This survey shall be in accordance with 20 CSR 2030-16. The results of the land survey will be included in the Location Survey Plan that will serve as the recordable survey plat.

The Contractor's PLS shall be responsible for verifying, furnishing and recording of any public survey corners necessary for legal descriptions used in deed writing and/or the development of the Location Survey Plan. The Contractor shall reference Chapter 3 of the *MoDOT Project Development Manual* to ensure that the public survey corners are obtained in accordance with such requirements. The Contractor's PLS shall tie any public survey corners used in the Location Survey Plan to the highway survey alignment.



9.7 Bridge Surveys

Bridge surveys shall be completed in a manner as necessary for the permitting and design of the Project Bridge. The use of existing or commercially available data in lieu of *Project Development Manual* field survey requirements is permitted.

9.7.1 Retaining Walls and Rehabilitated Bridges

The information obtained for bridge surveys for retaining walls and Bridge Rehabilitations shall be at the Contractor's discretion.

9.7.2 Stream Crossings

The requirements of *MoDOT Project Development Manual Section 3-02*, shall be modified as follows:

- a) Contours for a minimum of 100' upstream and 100' downstream shall be reported.
- b) A minimum of two valley sections, extending to a reasonable amount above design high water, shall be reported. One section shall be upstream and one shall be downstream.
- c) One typical channel section extending to a reasonable amount above design high water, shall be provided.
- d) Minimum photographs requirements are the 360 degree panorama of the bridge sight.
- e) The low water elevation does not need to be reported.

9.8 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Location Survey Plan(s) for New Land Acquisition required for any Additional Right of Way purchases		As soon as practical In year 1 and early year 2.	9.5, 9.6



10 GEOTECHNICAL

The Contractor shall determine the need for geotechnical information and conduct investigations as necessary to complete the analyses, design and construction.

10.1 Geotechnical Report

The Contractor shall prepare and submit a copy of the Geotechnical Report with the As-Built Documents. The Geotechnical Report shall include a detailed method statement describing the general philosophy and methods of design and construction and the rationale for selection of the proposed construction methods for all geotechnical and foundation aspects of the Project. The method statement shall indicate how material and design details are chosen to match selected construction methods and construction details and the soil, rock and groundwater environment for the site.

The Geotechnical Report shall define the engineering and design approach that will be followed in order to develop technically and environmentally acceptable and durable foundations, cut and fill slopes, retaining structures and geotechnical designs for the Project.

The Geotechnical Report shall be prepared and signed and sealed by a Professional Engineer or Professional Geologist registered in the State of Missouri.

10.2 Geotechnical Data

The Contractor shall form its own interpretation of any existing geotechnical data that is obtained or may become available from the Commission. If the Contractor obtains or is provided existing geotechnical data from the Commission, the Contractor assumes the sole risk of liability or loss on these documentary interpretations and conclusions to its detriment, delay or loss.

10.3 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Geotechnical report		Submit with As-Built Documents	10.1

11 SIGNING, PAVEMENT MARKING, AND LIGHTING

11.1 Signing

The Commission will install new signing as required, except for any signs that are damaged or removed by the Contractor. Such damaged or removed signs shall be installed with new posts consistent with the type on that route and new sign panels in accordance with Applicable Standards. Signs shall be detailed in accordance with Chapter 8 of *MoDOT's Project Development Manual*.

All Signing that is no longer required shall be identified as removals on the Design Documents by the Contractor and removed by the Commission.

The Commission shall furnish and install delineation on the bridge and approach per Applicable Standards, as detailed by the Contractor.

11.2 Pavement Marking

The Contractor shall provide temporary pavement markings during Contractor Control, as well as in the permanent location as a condition of Acceptance of Structure. If pavement markings are to be relocated during construction, temporary marking shall be provided. Conflicting pavement markings, either temporary or permanent, shall be removed. Permanent pavement marking will be installed by the Commission upon completion of the Project Bridge, as detailed in the Design Documents.

The pavement marking system need not be specified for the Commission's application.

11.3 Permanent Lighting

Basic lighting, per *MoDOT's PDM* Chapter 8-01 figures 1-6, shall be provided by the Contractor at any locations that currently have basic lighting and the existing lighting is being removed due to construction at any Project Bridge site.

- a) The average illumination of the traveled way including ramp terminals shall provide an average maintained intensity of not less than 0.6 foot-candles and a minimum intensity of not less than 0.2 foot-candles. Continuous lighting, per *MoDOT's PDM* Chapter 8-01 figures 9-10, shall be provided where continuous lighting is currently used, and the existing lighting is being removed due to the construction of the Project Bridge.
- b) The average illumination of the traveled way and ramp connections shall provide an average maintained intensity of not less than 0.6 foot-candles, and a minimum intensity of not less than 0.2 foot-candles.
- c) The average illumination of cross streets shall provide an average maintained intensity of not less than 0.4 foot-candles, and a minimum intensity of not less

than 0.2 foot-candles.

- d) Must provide a uniformity ratio of 4:1 or better for 45 foot mounting height and 6:1 or better for 30 foot mounting height

Lighting shall be provided under all bridges over 75 feet wide where necessary to maintain the continuity of existing or proposed lighting.

The average illumination in pedestrian tunnels shall provide an average maintained intensity of not less than 0.5 foot-candles. Pedestrian level lighting shall be provided for sidewalks on bridges.

The Contractor shall contact the Commission a minimum of 30 Calendar Days in advance of proposal to locate existing facilities in the area of highway lighting. If any lighting is damaged by construction activities, the Contractor shall replace in kind with new materials. Lighting poles shall be kept in the current location, relocation will not be allowed, unless the Contractor proposes an alternative design that does not effect performance or safety near the lighting. Lighting must be completely operational or completely off. Lighting shall remain completely operational when bridges are open to all lanes of traffic.

Any changes in lighting design must meet the illumination criteria in MoDOT's *Engineering Policy Guide*, the "EPG". The Contractor shall submit lighting calculations showing the proposed lighting plan meets the illumination criteria if different than the standard layouts in the EPG. If the location is currently using a 30-foot pole design for lighting, the Contractor may propose replacing the existing lighting poles with 45-foot pole design lighting. However, the entire interchange must be converted to the same system. All pull boxes located on the bridges shall be replaced.

If current lighting wiring is located under the Project Bridge or not in conduit, the Contractor shall replace wiring and add pull boxes and conduit to the Project Bridges. The new pull box shall be located in the toe of the barrier wall. If any conduit located on the Project Bridges is damaged by construction activities, it shall be replaced.

All non-breakaway light poles removed at any time due to the Work shall be replaced with AT type poles.

Any changes made to the lighting system must complete the 15 day system test as outlined in the *Missouri Standard Specifications for Highway Construction*. All products used must be as listed on the *Traffic Signal and Highway Lighting Approved Products List* and an *Equipment and Materials List* (MoDOT's form D-15) shall be submitted with the As-Built Documents prior to Acceptance of Structure.

Missouri Standard Specifications for Highway Construction will apply for permanent lighting.



11.4 Navigation Lighting

Navigation lighting shall be kept operational with a permanent system. *Missouri Standard Specifications for Highway Construction* will apply for navigation lighting.

If the navigation lighting system is indicated for replacement, the installation will be completed according to the *Missouri Standard Specifications for Highway Construction*. If navigation lighting is replaced, products from the *Traffic Signal and Highway Lighting Approved Product List* shall be used and an *Equipment and Materials List* (MoDOT's form D-15) shall be submitted with the As-Built Documents prior to Acceptance of structure.

11.5 Aviation Lighting

Aviation lighting shall remain operational at all times.

If aviation lighting is replaced, products from the Traffic Signal and Highway Lighting Approved Product List shall be used and an Equipment and Materials List shall be submitted with the As-Built Documents prior to Acceptance of Structure.

Deliverable	Approval	Schedule	Reference Section
Equipment and Materials list		Submit with As-Built Documents prior to Acceptance of Structure	11.3, 11.4, 11.5

12 HYDROLOGY AND HYDRAULICS

The Project shall include all Work for the design and construction of drainage facilities at each Project Bridge location including temporary and permanent erosion control measures.

12.2 Coordination with Other Agencies

The Contractor shall coordinate all sewer and drainage issues with affected regulatory agencies that have interest or jurisdiction over the project.

The Contractor shall include the Commission in all contacts with affected regulatory agencies.

12.3 Commission Drainage Facilities

Commission drainage facilities include pipes, closed conduits, culverts, bridges, natural channels and man-made channels receiving storm water that are owned and maintained by the Commission. The following criteria apply:

- a) Gutter Flow Spread: Design Spread shall not exceed the lesser of 6 ft or the Shoulder width plus 3 feet for an 8.5 in/hr intensity. Matching existing spread on existing decks that are used-in-place is acceptable.
- b) Bridge and Culvert Hydraulic Design Criteria: The Commission encourages the Contractor to establish the appropriate hydraulic design performance criteria at each location a Project Bridge is being replaced or widened. However, if the appropriate criteria does not meet the criteria established below, a design exception documenting the reason for deviation is required. In no case shall roadway overtopping frequency be reduced. If the Commission does not grant a Design Exception to match or exceed the hydraulic performance of the existing bridge, the Contractor is entitled to a Change Order or a Bridge Substitution.
- c) The following requirements are applicable to Project Bridges that are replaced, Bridge Rehabilitations that have the bottom of superstructure elevation lowered or Project Bridges that have their substructure widened:
 - i) For Roadway Overtopping, the water level shall be no deeper than one foot below the lowest Shoulder point:
 - during a 25-year event for Minor Routes;
 - during a 50-year event for Major Routes; and
 - during a 100-year event for interstate Routes.
 - ii) The freeboard for all bridges shall be evaluated for the 50-year event.

The freeboard shall be greater than one foot for drainage areas less than 20 square miles and greater than two feet for drainage areas greater than 20 square miles. The Design High Water (DHW) shall be based on the return period used for the freeboard (50 year).

- iii) Backwater and headwater for bridges and box culverts on all routes shall meet NFIP requirements. The maximum backwater compared to natural conditions shall be two feet for the 100 year event.

12.4 Methods to Estimate Flow

The Contractor shall ensure that the conditions in the watershed conform to the limitations method of analysis. For all methods, available historical data shall be reviewed and the design flow justified as meeting the local Project conditions.

12.5 Hydraulic Design

The *Corps of Engineers Hydrologic Engineering Center's River Analysis System* (HEC-RAS) shall be used to develop water surface profile models for the hydraulic analysis of bridges. Hydraulic analysis is required for Project Bridges that are replaced, rehabilitated Project Bridges that have their substructure widened and substructures used in place that have SI&A item number 113 not valued at condition 5, 8, 9 or N.

Calculated scour limits shall be within or above the limits of the footings. Scour countermeasures may be considered in engineering scour analysis.

12.6 Regulatory Floodway and Floodplains

The Contractor shall complete hydraulic studies to assess floodplain and regulatory floodway impacts. All impacts shall be documented and meet the requirements of all Federal and State of Missouri regulations. The Contractor shall obtain a *Floodplain Development Permit* from the State Emergency Management Agency (SEMA) for construction within areas of identified flood hazard prior to proceeding with construction.

The Contractor shall upon discovery notify the Commission, if the bridgework will impact FEMA/SEMA buyout property.

The Contractor shall provide the following deliverable items:

- a) *Floodplain Development Permit*
- b) A "No Rise" Certificate for construction within a regulatory floodway.

12.7 Stream Gages

Stream gages currently attached to a Project Bridge affected by the proposed treatment strategy shall be carefully removed, stored and reinstalled prior to Final



Completion of such Project Bridge.

The following Project Bridges have USGS stream gages attached:

Taney	S0848
Polk	N0586
Washington	A0460
Vernon	F0283
St. Louis	Z0557
Harrison	N0353
Schuyler	T0892
Daviess	X0117
Clinton	A0190
Cass	N0485
Polk	A2009
Butler	N0762
Dade	R0163

Currently identified Substitute Bridges with USGS stream gages attached include:

Madison	T0071
St. Clair	N0932
McDonald	S0086
Cedar	A2063
Iron	T0113

The Contractor shall notify the USGS three weeks prior to removal and reinstallation of any USGS gages. The USGS will provide coordination, location and reinstallation instructions for each of their gages.

USGS contact:

Paul Rydlund Jr.
Supervisory Hydrologist
573-308-3572



12.8 Deliverables

The following are required when hydraulic analysis is performed. For the Bridge Survey Report, Bridge Hydraulics and Scour Report or Culvert Hydraulics Report, use the forms available on MoDOT’s web sight.

Deliverable	For Approval	Schedule	Reference Section
<i>Flood Plain Development Permit</i>		Before Construction	12.6
<i>“No-Rise” Certificate</i>		Before Construction	12.6
<i>Bridge Survey Report</i>		With As-Built Documents	12.8
<i>Bridge Hydraulics and Scour Report or Culvert Hydraulics Report</i>		With As-Built Documents (Project Bridges requiring hydraulic analysis only)	12.8
Input and output files from water surface profile models		With As-Built Documents (Project Bridges requiring hydraulic analysis only)	12.5

13 ROADWAYS AND PAVEMENTS

13.1 Traffic and Accident Analysis

The Commission will furnish the Contractor traffic information for the construction and design years. Design-year traffic volumes shall be used to determine design-year levels of service (LOS) for each Project Bridge location.

13.2 Design Exceptions

Design of the Project shall be in accordance with the requirements of this RFP and AASHTO. The Contractor shall be responsible for obtaining Design Exceptions from the Commission and the FHWA for deviations in accordance with the ITP. Design Exceptions subsequent to Contract execution shall be in accordance with Book 1, Section 13.4.6, Technical Change Orders.

13.3 Non-Vehicular Transportation Provisions

The provision to accommodate bicycle and/or pedestrian facilities associated with the proposed treatment should be included when the local jurisdiction agrees to completely fund the additional cost for incorporation of the non-vehicular facility into the proposed treatment. Proposed treatments that will disturb existing bicycle and/or pedestrian facilities shall include provisions for replacement of the facility.

The provision to accommodate bicycle and/or pedestrian facilities associated with the proposed treatment should be considered when any one or more of the following conditions exist:

- a) The local jurisdiction has a comprehensive bicycle and/or pedestrian policy in effect that includes the area of the Project Bridge location and would require the accommodation of non-vehicular traffic.
- b) There is public support through local planning organizations or other local jurisdictions for the inclusion of bicycle and/or pedestrian facilities.
- c) Bicycle and/or pedestrian traffic generators are located near the Project Bridge location (i.e. residential neighborhoods, employment centers, shopping centers, schools, parks, libraries, etc.) and there are no reasonable alternative crossings of a natural or man-made barrier (i.e. bridges over rivers, roadways or railroads, or under access-controlled facilities).
- d) There is evidence of bicycle and/or pedestrian traffic at, on, under or adjacent to the proposed Project Bridge location and the local community supports the incorporation of facilities at this time.

13.4 Pavement Selection



The Contactor shall minimize the disturbance and replacement of roadway pavements to the greatest extent possible. Where pavement replacement is necessary and adjacent to Project Bridge treatments, the new pavement thickness shall generally be equivalent to the existing pavement thickness on four inches of aggregate base but not less than 5 3/4 inches of pavement on four inches of aggregate base. For these sections, the new pavement may consist of asphaltic concrete, cold mix or hot mix, or Portland cement concrete pavement, at the Contractor's option. If the AADT is greater than 2000, the cold mix asphalt option is not allowed.

14 SIGNALS AND INTELLIGENT TRANSPORTATION SYSTEMS

14.1 Temporary and Permanent Traffic Signalization

The Contractor shall keep any existing signals functional, including maintaining any existing communication links between the signal controllers and other equipment. If existing signals must be shut down, the Contractor shall provide temporary signals or appropriate traffic control. Temporary signals shall be provided according to the *Missouri Standard Specifications for Highway Construction* and the *Missouri Standard Plans for Highway Construction*.

The Contractor shall contact the Commission a minimum of 30 Calendar Days prior to construction in order to locate existing facilities in the area of signals.

If the signals will be altered by closing an approach or changing traffic patterns, the Contractor shall submit a signal timing and phasing plan or provide the appropriate traffic control to the Commission for approval prior to altering the traffic pattern.

The Contractor shall replace or repair any conduit located on Project Bridges, damaged or destroyed by the Work. As an alternative, if the conduit contains interconnect wiring only, the Contractor can install a wireless interconnect system on the affected bridges, instead of replacement conduit.

The Contractor shall at minimum replace in kind any detection loops on bridge decks or roadway pavements that are destroyed by the Work, or install a video detection system on the affected Project Bridges. If the geometrics of an intersection are altered, the Contractor shall submit a location plan for the placement of new detection loops or video detection system and such geometrics must be approved by the Commission. If the Contractor chooses to use video detection, the Contractor must also upgrade the equipment as necessary to use the system and make it operational.

The Contractor shall relocate or replace any other signal facilities altered or destroyed because of the Work, including but not limited to cabinets, conduit, bases, pull boxes, etc.

For any modified signals, the Contractor shall complete the 15-day system test as outlined in the *Missouri Standard Specifications for Highway Construction*.

The Contractor shall use products from the *Traffic Signal and Highway Lighting Approved Products List* and an *Equipment and Materials List* (MoDOT's form D-15) shall be submitted with the As-Built Documents prior to Acceptance of Structure.

Missouri Standard Specifications for Highway Construction shall apply for permanent traffic signalization.



14.2 Intelligent Transportation Systems

The Contractor shall relocate or replace any ITS equipment; cabinets, conduits, pull boxes, data collection equipment, etc., that are altered or damaged because of the Work. The Contractor shall keep any existing dynamic message signs and traffic sensors functional.

14.2.1 Communication System

The Contractor shall relocate or replace any communication equipment; cabinets, conduits, pull boxes, underground fiber optic network, etc., which may be altered or damaged because of the Work.

14.3 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Signal timing and phasing plan	Yes	As needed, 4 weeks prior to planned construction	14.1
Detection loop or video plan	Yes	As needed, 4 weeks prior to planned construction.	14.1
Equipment and Materials list		Submit with As-Built Documents prior to Acceptance of Structure	14.1

15 STRUCTURES

15.1 General

Designs shall be in accordance with applicable State of Missouri and Federal regulations.

The Contractor shall request a bridge number for each bridge. All correspondence relative to a Project Bridge shall contain the bridge number in the subject line. The bridge number shall be stenciled on each Project Bridge in accordance with the provisions contained in the *Missouri Standard Specifications for Highway Construction*. The letters “BIP” shall be stenciled with the same font below the bridge number.

Regardless of the treatment strategy the following requirements shall be met:

- a) At Completion of Initial Construction, no bridge shall be deficient.
- b) The Initial Construction Period Work shall eliminate all load postings, except due to the commercial zone posting truck.
- c) The coating condition shall be at minimum condition “fair” at Completion of Initial Construction.
- d) Curbs and Railings shall provide adequate safety and shall not, in combination with the Project Bridge width, restrict the mobility of equipment and machinery beyond that of the existing Project Bridge and railing.
- e) The minimum curb to curb width for Project Bridges that receive Bridge Rehabilitation shall be a minimum of 22 feet, but no case less than the existing curb-to-curb width. All other Project Bridges shall have a minimum curb-to-curb width of the greater of 24 feet or the existing approach roadway including Shoulders. Item number 32 from SI&A shall not be used to determine the approach roadway width.
- f) Pedestrian access and mobility shall not be decreased.
- g) The Contractor shall provide revetments, slope protection and bank protection that contain no noteworthy deficiencies at the Completion of Initial Construction. The Commission will maintain the revetment and slopes unless damage is a result of drainage from the bridge or Contractor error or omission.

The Commission will perform NBIS Inspection and evaluation for Project Bridges.



15.2 Rehabilitation

At Acceptance of Structure, rehabilitated Project Bridges shall meet or exceed the minimum values listed in Table 1.

TABLE 1 - Guide Item								
58	59	60	62	68	69	71	72	113
Deck cond.	Super cond.	Sub cond.	Culvert cond.	Deck geometry	Under-clearance	Waterway adequacy	Approach align	Scour
6	6	6	6	4	4	4	4	*

* Values of 5, 8, 9 or N are acceptable. Calculated scour depth shall be within or above limits of footing.

Table 1 is based upon the *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*.

The Commission staff will assign SI&A values for each bridge. In doing so, the Commission's staff assigning the SI&A values will meet the requirements of Title 23 CFR for inspection personnel. The Commission will base all ratings on the NBIS and the Condition Rating descriptions contained in Section 2 of MoDOT's *Bridge Inspection Rating Manual* available at:

<http://www.modot.mo.gov/business/manuals/bridgeinspectrating.htm>

15.3 Design Loading

Designs shall be in accordance with either *AASHTO Standard Specifications for Highway Construction* or *AASHTO LRFD Bridge Design Specifications*. The Design Truck for newly constructed elements shall be as follows:

Location	Specification	
	LFD	LRFD
NHS and within Commercial Zones	HS-25	HL-93
Other	HS-20	HL-93

15.4 Load Rating / Posting Values

The Contractor shall load rate all Project Bridges. The load ratings shall be in accordance with the *Load Rating for Design Build Bridges* memorandum. A report for each Project Bridge shall be supplied detailing the ratings for all axle configurations identified by the memorandum. The Contractor shall use VIRTIS software to rate each Project Bridge. The input and output shall be supplied to the Commission in electronic format. Project Bridge types not supported by VIRTIS shall be rated by hand calculations or other load rating software. Calculations, input and results shall be supplied to the Commission in an acceptable format.

At Completion of Initial Construction and throughout the remainder of the Maintenance Period, regardless of treatment strategy, Project Bridges shall not be posted for any restriction on legal loads. This requirement includes lane and speed restrictions. The commercial zone posting truck, MO5, is excluded from this requirement. The minimum ratings shall be as follows:

- a. Missouri H20, 23 Tons; and
- b. Missouri 3S2, 40 Tons.

Existing substructure to be used in place shall have adequate operating capacity.

15.5 Maintenance / Bridge Inspections

Commission staff will perform annual routine and intermediate Bridge inspections for all Project Bridges. The Commission will notify the Contractor of routine annual NBIS Inspections. However, the Commission may, but has no obligation, to notify the Contractor of intermediate bridge inspections, which are performed as result of emergencies or the Commission's audit process. The Commission will submit to the Contractor, at a minimum, NBIS Inspection reports on an annual basis. Results of all annual routine and all intermediate inspections are subject to the performance criteria established herein.

15.5.1 Maintenance Period

The Contractor shall perform, subcontract for or procure the required maintenance and rehabilitation Work required pursuant to the terms and conditions of the Contract Documents, subject to limitations in Book 1, Section 10.2.2. As necessary and applicable, the Contractor shall:

- a) furnish design services;
- b) provide management and supervision services for the required Work; and
- c) provide for the maintenance of traffic.

The Contractor is required to maintain all Bridge Elements in good working order. These include but are not limited to: expansion devices, bearings, railings, protective coatings, bridge approaches and drainage systems. The Commission's NBIS Inspection staff will assess the condition of these Bridge Elements, but such assessments shall be subject to the third party NBIS Inspection process in accordance with Section 17.4.

If the Commission load posts, or otherwise restricts a Project Bridge due to condition subsequent to Completion of Initial Construction, the Contractor shall take immediate action to return the Project Bridge to unrestricted operation.

The Contractor shall maintain the wearing surface of all Project Bridges in satisfactory condition.

The coating systems shall be maintained in “fair” condition. Any coating identified as “poor” on a Project Bridge shall be restored to “fair” or better within 24 months subsequent to receipt of the inspection report or notification.

Definition of coating system condition are as follows:

- a) Good – The coating system is sound with no evidence of chalking, cracking, and fading, blistering, peeling or flaking.
- b) Fair – The coating system may be chalking, fading, cracking, peeling, blistering or other early sign of coating system distress but there are no large areas of exposed metal. There is less than 1 percent surface rust.
- c) Poor – The coating system is showing widespread distress with some failure areas. Surface or freckled rust has formed but does not exceed 3 percent.
- d) Very Poor – The coating system is showing widespread distress with many failure areas. Surface rusting does not exceed 10 percent. Section loss in base metal may be occurring.
- e) Failed – More than 10 percent of the surface showing coating failure and rusting. Base metal not protected.

The girder with the lowest coating system rating will dictate overall bridge coating rating.

15.5.2 Allowances

During the Maintenance Period, NBIS Items 58, 59, 60 and 62 (Condition Rating) will be allowed to fluctuate within the following established parameters:

- a) During the Maintenance Period, the condition of any Project Bridge shall not be rated below 6 for more than 24 consecutive months nor shall a Project Bridge have a Condition Rating of less than 6 on inspection reports for five total years during the contract Maintenance Period.
- b) Following Completion of Initial Construction, no Condition Ratings shall fall below 4. Upon notification from the Commission that a Project Bridge has been identified with a Condition Rating less than 4, the Contractor shall take immediate action to repair, rehabilitate or replace such deficiencies.

15.5.3 Non-compliance

The Contractor shall have six months following written notification to restore noncompliant NBI items 58, 59, 60, 62 and Bridge Elements to conditions specified in this Section. If corrections are not completed within the allotted time, or if at any time following Acceptance of Structure a Project Bridge is closed due to condition, the Commission, at the expense of the Contractor, shall be the right to immediately

pursue corrective measures. Compensation for the reasonable direct and indirect costs incurred by the Commission will be made by:

- a) reduced Payment Installment(s);
- b) bond forfeiture; or
- c) combination thereof.

If the Commission exercises its right to pursue corrective measures, the treatments and procurement of work to restore a Project Bridge to the minimum performance level are the Commission's discretion, but will not exceed the requirements of Applicable Standards or Additional Applicable Standards. Corrective measures employed by the Commission may exceed the minimum stated performance levels.

Once notified that the Commission is taking corrective action, the Contractor shall refrain from working on the affected item unless approval is obtained from the Commission. In the event that the Commission elects to take corrective action through a third party contractor; the Commission shall promptly assign to the Contractor any warranties or indemnities provided by such third party contractor in respect of such corrective work.

15.5.4 Final Acceptance

The Condition Ratings for the last inspection cycle prior to Final Acceptance shall be condition 6 or better. All Bridge Elements of the Project Bridge shall be in working order at Final Acceptance. Coatings shall be evaluated at fair or better. Conditions of Final Acceptance are subject to the provisions for non-compliance as stated above.

15.5.5 Exclusions

Unless necessary repair work covered by Section 15.5 is directly caused by acts or omissions of the Contractor, both prior to Contractor Control of a specific Project Bridge and after Acceptance of Structure for a specific Project Bridge, the Contractor shall have no obligation to repair deficient Bridge Elements and Bridge Components attributed to the following circumstances:

- a) Damage to a Bridge caused by or resulting from Commission or third party Work including damage caused by snowplows.
- b) Damage to a Project Bridge caused by or resulting from accidents including collisions, spills, fires, explosions, chemicals and releases of Hazardous Materials.
- c) Damage to a Project Bridge caused by or resulting from Force Majeure Events unless the damage was caused or materially contributed to by the work or omissions of the Contractor.



- d) Vandalism, Civil Strife, Hostilities, Graffiti removal and theft.
- e) Damage to a Project Bridge caused by or resulting from equipment, trucks and machinery operated on the bridge without an approved permit and in violation of legal weight restrictions or other legal restrictions prohibiting the operation of such vehicles upon the Project Bridge.

The Commission will remove drift accumulation in accordance to standard practice, unless the accumulation is directly attributed to a design flaw, an error or an oversight of the Contractor.

15.6 [Additional Technical Requirements

Prestressed Concrete Box Beams shall incorporate transverse post tensioning. A reinforced concrete overlay shall be provided for Prestressed Concrete Box Beams with ADT>5000.]

15.[7] Deliverables

At a minimum the Contractor shall submit the following to the Commission:

Deliverable	For Approval	Schedule	Reference Section
<i>Virtis</i> rating of each Bridge		Before construction of each Project Bridge	15.4

16 MAINTENANCE OF TRAFFIC

The Commission will develop, install, maintain and remove temporary traffic control for all Project Bridges on (x) Form R that are not constructed under staged construction and (y) Form T that are constructed with a detour utilizing an existing route. Changes in traffic control for Project Bridges on Form T methods shall be in accordance with the Proposal, subject to Book 1, Section 13.

At least 120 Calendar Days prior to start of construction on a Project Bridge the Contractor Shall:

- a) notify the Commission of the scheduled date to start construction for any Project Bridge with respect to which the Commission is responsible for developing the traffic control plan;
- b) provide any plan sheet detailing any bypass for Form R Project Bridges; and
- c) provide traffic control plans for any Project Bridges for any Project Bridge with respect to which the Contractor is responsible for developing the traffic control plan.

Notwithstanding the foregoing, any Project Bridge scheduled to commence within 4 months following Execution, notification will be required no earlier than 30 Calendar Days prior to the scheduled start of construction.

Any Contractor-provided MOT Plan shall identify the Contractor's strategy to provide for the safe and efficient movement of people, goods and services through and around each Project Bridge while minimizing impacts to local residents, business and commuters, such MOT Plan shall include:

- a. Traffic Control Plans (TCP);
- b. plan to maintain resident, business and school access to emergency and other service providers;
- c. plan to minimize traffic impacts to school districts, businesses, farmers and local residents;
- d. plan to maintain and control pedestrian, bicycle and other non-vehicular traffic.

Access to all parcels within each improvement limit shall be maintained or the Contractor shall provide alternative access. Contractor shall describe the MOT Plan with reasonable, measurable tasks and milestones.

16.1 Traffic Control Plans

When traffic control plans are the responsibility of the Contractor, the Contractor shall develop and submit, for the Commission's review and approval, Traffic Control

Plans for each stage of construction on each Project Bridge that shows the Contractor's proposed construction staging and proposed traffic control devices consistent with the MOT Plan. Revisions to a TCP shall also be submitted to the Commission for review and approval. The TCPs shall include, at a minimum, a detailed diagram of the Work Zone that shows the location of all traffic control devices, lane widths, Work Zone speed limits, temporary bypasses, and detour routing.

16.2 Requirements

The Contractor shall conform to the following:

- a) The Contractor shall notify the Commission of any lane and road closures necessary to perform work on each Project Bridge by submitting a *Notice of Intent to Perform Work* form prior to instituting or changing such traffic control measures and after such improvements have been completed. This form shall be submitted at least 48 hours prior during the Initial Construction Period. During the Maintenance Period the *Notice of Intent to Perform Work* shall be submitted a minimum of 14 Calendar Days in advance of any lane closures and a reasonable effort shall be made to coordinate such maintenance work with other projects and activities. Total road Closures during the Maintenance Period will have to be coordinated a minimum of 60 Calendar Days prior with the appropriate District Engineer. The *Notice of Intent to Perform Work* form is located at <http://www.modot.org/asp/intentToWork.shtml>.
- b) The Contractor shall notify the Commission 20 Calendar Days prior to of any vertical clearance reduction that provides less than 18 foot clearance, any load capacity reductions or any width reduction that results in a restriction of less than 20 feet. Notification shall be in the form of the MoDOT *Overdimension/Overweight Workzone Restriction Request Form*.
- c) Any Project Bridge that is or has an overhead obstruction shall have a MoDOT Motor Carrier Services Bridge Clearance Report completed and submitted to the Commission before the over-dimension/overweight Work Zone Restriction is removed. This submittal should be prior to the bridge opening and as close as reasonably practical.
- d) The Contractor shall provide a paved surface for all Major Route bypasses.
- e) The Contractor's placement of construction equipment, materials and vehicles shall comply with AASHTO policies and guidelines.
- f) The Contractor shall be responsible for maintaining the existing traffic flow through the job site during construction of Project Bridge listed on Form T, built under staged construction or built using a bypass. If disruption of the traffic flow occurs and unreasonable Traffic Delays occur, then the Contractor shall review the construction operations that contributed directly to the disruption of the traffic flow and make adjustments to the operations to



prevent the queues from reoccurring. The Commission will be responsible for all detour routes, with the reasonable cooperation of the Contractor for implementing any necessary adjustments to the operations to prevent disruption of the traffic flow resulting in unreasonable Traffic Delays.

16.3 Construction Restriction

Due to the reconstruction of Interstate route 64 the following bridges located in the St. Louis area shall not have lane restrictions until after January 31, 2010 or the completion of the route 64 Design Build Project:

Br. #	Route	Feature Intersected
A0210	OR 270 E	Coldwater Creek
F0131	MO 180 E	Coldwater Creek
Z0557	RT D E	BR RVR Des Peres

16.4 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Final Maintenance of Traffic Plans provided by the Contractor	Yes	120 Calendar Days prior to start of Construction	16
Submit <i>Notice of Intent to Perform Work</i> form		48 hours Prior to Impacts	16.2
Submit <i>Notice of Over-dimension / Overweight</i> (Form Provided by MoDOT)		20 Calendar Days prior to restriction	16.2
Motor Carrier Services <i>Bridge Clearance Report</i> (Form Provided by MoDOT)		Prior to removal of restrictions and as close to bridge opening as practice.	16.2
Traffic Control Plans (contractor's responsibility)	Yes	120 Calendar Days prior to start of construction	16.1

17 MAINTENANCE DURING CONTRACT PERIOD

17.1 Maintenance Prior To Initial Contractor Control

The Commission will perform periodic bridge inspections and maintenance to keep the Project Bridge safe and operational until the Project Bridge is under Contractor Control.

17.2 Maintenance During Contractor Control

The Contractor will be responsible for the safety and all maintenance of the work site and bridge from mobilization until the Project Bridge is open to unimpeded traffic and at any other time the Project Bridge is under Contractor Control.

17.3 Maintenance After Initial Contractor Control

The Contractor shall be responsible for the repair and maintenance of sidewalks on bridges.

The Commission will perform Routine Maintenance for all Project Bridges that are not under Contractor Control. The Commission is responsible for Routine Maintenance items included, but not limited to the following:

- a) snow removal;
- b) application of de-icing chemicals;
- c) carcass removal;
- d) graffiti removal;
- e) repair or replacement of bridge fill erosion unless caused by actions of the Contractor;
- f) mowing and vegetation control;
- g) striping and sign maintenance; and
- h) drift removal, unless drift accumulation was caused by design flaw or Contractor error or omission.

The Contractor shall be responsible for maintenance activities required to meet the requirements of Section 15, Book 2.

Examples of maintenance work that the Commission will not perform includes but is not limited to the following:

- a) sealing or cleaning deck joints;

- a) bearing preservation and lubrication;
- b) bearing seat cleaning;
- c) fastener maintenance;
- d) spot painting steel members;
- e) repair minor abutment /bent spalls;
- f) fender maintenance; and
- g) slope erosion repair if caused by drainage from bridge deck or a Contractor error or omission.

During the Maintenance Period and Initial Construction Period the Commission will continue to perform, at its reasonable discretion, emergency or “short-term” repairs to preserve the safe, uninterrupted operation of its facilities. Repairs performed by the Commission shall neither diminish the Contractor’s obligation to maintain these facilities nor be considered as a basis for compensation should the Commission repairs adversely affect treatments planned by the Contractor.

Examples of the Commission’s “short-term” repairs include, but are not limited to the following:

- a) filling potholes with cold mix asphalt;
- b) removing hazardous spalls;
- c) installing temporary shoring;
- d) removing debris; and
- e) addressing immediate hazards.

The Commission will notify the Contractor of such repairs and if further corrective action is required. The Commission will not pursue reimbursement for the above “short-term” repairs provided the Contractor is in compliance with the provisions contained herein.

17.4 Bridge Inspections

Bridge Condition Ratings will be assigned using the guidelines contained in the MoDOT’s *Bridge Inspection Rating Manual*.

The Commission will schedule and perform an annual NBIS Inspection on all Project Bridges during the Maintenance Period. The Contractor’s representative shall accompany the Commission bridge inspector and conduct a concurrent, independent Bridge NBIS Inspection. In addition, the Contractor shall have the right to elect to

have the Independent Engineer present at any and all bridge inspections.

At the conclusion of each Project Bridge NBIS Inspection and prior to leaving the bridge site, the Commission bridge inspector and the Contractor's representative shall compare NBIS Inspection results and attempt to resolve differences in Condition Ratings and maintenance recommendations. In the event an agreement on Condition Ratings cannot be reached, a copy of NBIS Inspection results with supporting documentation shall be provided to the other party within 14 Calendar Days of the NBIS Inspection. Within 30 Calendar Days of completing all annual routine NBIS Inspections of Project Bridges, the Commission and Contractor representatives will meet to review NBIS Inspection results and attempt to resolve disputed Condition Ratings. Project Bridges with Condition Ratings in dispute at the conclusion of this meeting will be inspected by a mutually agreed upon independent third party bridge inspector. The Commission will arrange for all third-party NBIS Inspections on Project Bridges with disputed Condition Ratings. The third party NBIS Inspections shall occur within six months of completing annual routine NBIS Inspection on all Project Bridges. Third party NBIS Inspections shall use the rating guidelines contained in this Contract to determine Condition Ratings. For avoidance of doubt, the Commission has the right to use the ratings it deems appropriate to update the NBI database, but this will not affect the Contractor's right to a third-party NBIS Inspection, which findings would be updated at the next subsequent revision. If the third party NBIS Inspection Condition Rating(s) is (are) less than 6 for the bridge component (Item 58, 59, 60, or 62) in dispute, the time requirement referred to in Section 15.5 of Book 2 to raise the Condition Rating to 6 or greater shall begin on the date of the initial disputed NBIS Inspection. If the independent bridge inspector lowers a Condition Rating to a 5 or less on a Project Bridge that had previously been rated as a 6 or greater by both the Commission and Contractor bridge inspectors, then the time requirement to raise the Condition Rating to a 6 or greater shall begin on the date of the third party NBIS Inspection. For purposes of this Contract, the third party NBIS Inspection results are considered final and cannot be disputed.

The costs of third party independent NBIS Inspection shall be borne equally by the Contractor and the Commission, unless the findings of the third party NBIS Inspection supports all the Contractor's disputed Condition Rating(s) with respect to a particular Project Bridge, in which case the Commission will be responsible for payment of NBIS Inspection costs with respect to that particular Project Bridge, or unless the findings of the third party NBIS Inspection supports all of the Commission's disputed Condition Rating(s) with respect to a particular Project Bridge, in which case the Contractor will be responsible for payment of NBIS Inspection costs with respect to that particular Project Bridge.

Payment for the Contractor's part of the third party independent NBIS Inspection fee will be due no later than 30 Calendar Days following the receipt of an invoice from the Commission, which will follow the receipt of the third party NBIS Inspection results.

17.5 Maintenance of Right of Way

During Contractor Control, the Contractor shall maintain properties and provide safety and security measures to preserve the Right of Way and easements. This item include preventing, minimizing or correcting problems in the vicinity of the bridge construction limits, such as mowing vegetation, vandalism, trespassing, rodent infestation, weed control, illegal dumping or disposal of rubble and other debris.

17.6 Approach Slabs, Pavements, Non-Bridge Elements

The Contractor shall be responsible for maintaining all Bridge Approach Slabs that are attached to or bear on a corbel of an abutment. The Contractor shall not be responsible to maintain accepted approach roadway pavements and non-bridge elements (signs, lighting, striping, etc.) during the Maintenance Period, unless the defects are directly attributed to errors or omissions of the Contractor.

17.7 Maintenance Plan

The Contractor shall submit for approval, a Bridge Maintenance Plan that meets the requirements of the FHWA to use Highway Bridge Program Funding for the Work proposed for all Project Bridges in this project.

17.8 Option To Use Commission Contractors

The Commission will inform the Contractor of scheduled asphalt overlay projects that include the area of any Safe and Sound Project Bridges upon award of any such contract to provide the Contractor with opportunity to negotiate specific work associated with the Project Bridges while an overlay contractor is mobilized and working in the immediate area.

- a) The Project Bridge must be located within the asphalt overlay project boundaries.
- b) The Commission accepts no liability for damages to the Project Bridge as a result of milling off the existing asphalt overlay or the application of the new asphalt overlay.
- c) The Commission does not warranty the thickness, compaction or quality of the asphalt overlay.
- d) All costs associated with work within the Safe and Sound Project Bridge limits shall be borne by the Contractor, and be payable directly to the overlay contractor.



17.9 Deliverables

At a minimum, the Contractor shall submit the following to the Commission for review or approval:

Deliverable	Approval	Schedule	Reference Section
Bridge Maintenance Plan	Yes	Prior to any construction	17.7