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MONTANA DEPARTMENT OF TRANSPORTATION



Design-Build Guidelines

MARCH 1, 2004
(Update #3 – April 14, 2008)

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ABBREVIATIONS

Adjusted Score Design-Build	(ASDB)
Americans with Disabilities Act	(ADA)
Construction Engineering and Inspection	(CEI)
Construction Quality Reporting	(CQR)
Critical Path Method	(CPM)
Design-Build	(DB)
Design and Construction Criteria Package	(DCCP)
Disadvantaged Business Enterprise	(DBE)
Engineering Project Manager	(EPM)
Environmental Protection Agency	(EPA)
Equivalent Single Axle Load	(ESAL)
Federal Highway Administration	(FHWA)
Independent Quality Assurance	(IA)
Intelligent Transportation Systems	(ITS)
Maintenance of Traffic	(MOT)
Memorandum of Agreement	(MOA)
Montana Environmental Policy Act	(MEPA)
Montana Code Annotated	(MCA)
Montana Department of Transportation	(MDT)
MT Department of Environmental Quality	(DEQ)
National Environmental Policy Act	(NEPA)
National Highway System	(NHS)
Operations and Maintenance	(O&M)
Preliminary Engineering	(PE)
Quality Assurance	(QA)
Quality Control	(QC)
Request for Proposal	(RFP)
Request for Qualifications	(RFQ)
Right of Way	(R/W)
Statement of Qualifications	(SOQ)
State Transportation Improvement Plan	(STIP)
Technical Review Committee	(TRC)
Utility Agreement	(UA)

CHAPTER ONE

INTRODUCTION

1.1 PURPOSE

To establish the Montana Department of Transportation (MDT) process for procuring and administering the design, construction, and Construction Engineering and Inspection (CEI) services within one contract.

1.2 AUTHORITY

Montana Code Annotated, MCA, Sections 60-2-134 through 60-2-137 authorizes the Montana Transportation Commission (Commission) and MDT to establish and implement a Design-Build Contracting Program for highway construction projects. The Federal Aid program for Design-Build Contracting is authorized by 23 CFR Parts 627, 635, 636, 637 and 710.

1.3 SCOPE

This procedure affects all MDT Divisions, Bureaus, Sections and Districts associated with the design and construction of transportation projects or transportation-related facility projects.

1.4 BACKGROUND

Design-Build combines into a single contract the design, construction, and in certain cases, Construction Engineering and Inspection (CEI) [on Federal Aid projects MDT must have specific authorization from Federal Highway Administration (FHWA) if the Request for Proposal (RFP) includes CEI services], and acceptance requirements for a project, all in accordance with MDT design standards, specifications and contract administration practices. These projects allow the Design-Build Contractor to participate in the design as a means to reduce costs, maintain quality and expedite construction.

The design-build contracting process and contract administration will follow standard MDT practices, unless differences are otherwise identified in the RFP. The Construction Engineer acts as the design-build program manager and sponsors design-build projects. The Construction Bureaus are responsible for conducting the design-build contracting process for projects in close coordination with other MDT offices.

CHAPTER TWO

DEFINITIONS

For purposes of this procedure, the following definitions apply:

2.1 **Adjusted Score Design-Build (ASDB)** means the contract award is based on the lowest adjusted score, which is determined by dividing the Bid Price Proposal amount by the total Technical Proposal score.

2.2 **Bid Proposal** means a separately sealed Technical Proposal and Bid Price Proposal submitted by each proposer.

For a "Best Value" contract, the Technical Review Committee (TRC) opens the Technical Proposals for evaluation and scoring purposes. However, since the Bid Price Proposals have not been opened, contract time does not begin. The TRC evaluates and scores the Technical Proposals. MDT then conducts a "bid opening" where the Bid Price Proposal is opened. After posting an award notice, Bid Price Proposals will become public record.

2.3 **Design-Build Contracting** means the process of entering into a single contract between MDT and a Design-Build Contractor in which the Design-Build Contractor agrees to design and build a highway, structure or facility, or any other items required in an RFP.

2.4 **Design-Build Contractor**, also known as Design-Build Firm (Firm), means an individual, partnership, corporation, joint venture or other legally recognized entity that is appropriately licensed in Montana and that provides the necessary design and construction services, including contract administration. The entity may include a construction contractor as the primary party with a design professional as the secondary party or vice versa. The contractor or design professional cannot team with other partners to submit more than one proposal per project. The secondary, either designer or contractor, on a design-build team cannot change after award, without the prior written approval of MDT. Consultant firms that have been contracted by MDT to develop the RFQ and/or RFP for a design-build project are not allowed to compete as part of a proposing Firm.

2.5 **Design and Construction Criteria Package (DCCP)** means the document provided by MDT that contains the design and construction information necessary to guide a prospective Firm in the preparation and submission of a proposal for a design-build project. This package clearly defines the criteria essential to ensure that the project is designed and constructed to meet the needs determined by MDT. This package is part of the RFP.

2.6 **Full Oversight** means FHWA has review and approval authority for actions and decisions as outlined in the current MDT/FHWA Partnership Agreement. FHWA cannot delegate responsibility for requirements beyond Title 23 United States Code.

2.7 **Statement of Qualifications (SOQ)** is used to refer to the process that establishes criteria for evaluating interested Firms. Criteria required for the SOQ is stated in the advertisement. Firms desiring to submit proposals on design-build projects must submit an SOQ setting forth the qualifications of members of the Firm and providing any other information required by the announcement of the project (Request for Qualifications).

2.8 **Building Project** means a project to provide rest areas, MCS facilities, welcome centers and other buildings incidental to the highway system.

2.9 **Non-Responsive** refers to any proposal that does not substantially comply with the criteria defined in the RFP as determined by the TRC and Selection Committee.

2.10 **Project** means the design-build project to be designed and constructed as described in the public announcement.

2.11 **Engineering Project Manager (EPM)** is MDT's designee responsible for the management and administration of the design-build project.

2.12 **Request for Proposal (RFP)** contains a detailed scope of work, including design concepts, technical requirements and specifications, time allowed for design and construction, MDT's estimated cost of the project, deadline for submitting a proposal, selection criteria and a copy of the draft Contract. The RFP package is only provided to the short-listed Firms in the ASDB contracting method. FHWA approval of the RFP is required on Full Oversight projects prior to authorization and release of the RFP to short-listed Firms. The RFP must clearly define all functions and responsibilities required by the Firm. At a minimum, the RFP should consist of the following:

2.12.1 **Dates:** Technical and Bid Price Proposal due dates; MDT's selection schedule; delivery of services/products date; and MDT's submittal review time periods (if required).

2.12.2 **Design and Construction Criteria Package (DCCP):** The design and construction criteria package clearly defines the specifications essential to ensure that the project is designed and constructed to meet the needs determined by MDT. It is included in the RFP and guidelines for preparation/presentation of Technical Proposals and the following:

Proposal evaluation criteria
Price proposal requirements
Require Firm to Identify its Project Managers
Insurance requirements
Subcontract services
DBE requirements
Labor and EEO Requirements

Bonding and Insurance requirements

2.13 **Request for Qualifications (RFQ)** means a part of the design-build selection process that contains the desired minimum qualifications of the Firm, a scope of work statement, project requirements, amount of reimbursement (stipend) that MDT has determined will be paid to prospective Firms who qualify for the short list, but are not awarded a contract, and selection criteria that MDT will use in compiling the short list of prospective Firms to receive the RFP.

2.14 **Responsive** refers to a proposal that substantially addresses the information and level of detail requested in the RFP and complies with the DCCP included with the RFP.

2.15 **Selection Committee** reviews proposals from short-listed Firms and recommends the Firm to be awarded the contract. After the TRC evaluates the Technical Proposals and submits its findings to the Selection Committee, the Selection Committee reviews the TRC findings and the Bid Price Proposals, makes a final selection, and submits a recommendation for award to the Commission.

As a minimum, the Selection Committee is comprised of the Construction Engineer (who serves as Chairperson), the appropriate District Administrator, the appropriate District Construction Engineer, and an appropriate Bureau Chief as appointed by the Construction Engineer. An FHWA representative will be a non-voting member of the Selection Committee. A representative from the Contract Plans Bureau will be a non-voting member and will serve as Recording Secretary at all meetings. Each member of the Selection Committee may appoint a senior management level alternate, as appropriate.

2.16 **Technical Review Committee (TRC)** will evaluate and score the SOQ, establish the ranked short list of Firms, and evaluate and score Technical Proposals of the short-listed Firms.

The TRC is comprised of the Design-Build Engineer, members of the Design-Build Team, EPM and others as agreed upon by the preceding identified members, or appointed by the Construction Engineer. An FHWA representative will be invited for full oversight projects (according to the current MDT/FHWA Partnership Agreement). There will be a minimum of five members. For the success of the project, it is essential that members of the TRC be involved in development of the RFQ, RFP and DCCP.

For bridge projects, the TRC should include a Bridge Bureau representative from the District in which the project is located. For projects with significant hydrologic and hydraulic requirements, the TRC should include a representative from the Hydraulics Section.

For building projects requiring major renovations, additions, or new facilities that are intended for general public access, the TRC should include an architect, Facilities Manager and other appropriate MDT staff based on the nature of the work requested, complexity of the project, and availability of personnel for a timely selection.

2.17 **A+B Bidding** means an adjustment to the Bid Price Proposal to reflect the worth of time ("B"). This adjustment factor is based on the Firm's proposed number of days to complete the project multiplied by a value per day ("B") established by MDT in the RFP. This factor will be used for selection purposes only and will not affect MDT's liquidated damages schedule or any applicable special provisions for incentives/disincentives.

CHAPTER THREE

ADJUSTED SCORE DESIGN-BUILD BID PROCESS

There are currently seven "Best Value Award Methods" being used for design-build projects:

- Low Bid DB
- Adjusted Bid DB
- Adjusted Score DB
- Weighted Criteria DB
- Quantitative Cost/Technical Trade-Off
- Qualitative Cost/Technical Trade-Off
- Fixed Cost – Best Proposal

The Adjusted Score Design-Build (ASDB) approach may be used when overall outcomes can be clearly defined and will typically fit the type and size of projects anticipated in Montana.

3.1 PROJECT IDENTIFICATION

MDT will establish the selection criteria for design-build projects and decide if contracting a specific project using the Design-Build method will benefit MDT and its customers. The project will then be identified and included in the work program.

It is anticipated that Account Numbers and Class Numbers used for Design-Build projects will be the same as other types of MDT projects and include the following:

ACTIVITY	ACCOUNT #	CLASS #
Preliminary Engineering	9102	10 and 11
Right-of-Way Costs	9202	10 and 11
Utility Relocation Costs	9302	10 and 11
Construction Engineering Costs	9402	10 and 11

Construction Costs	9502	10 and 11
NHTSA Engineering Costs	5002	10 and 11
NHTSA Construction Costs	5003	10 and 11

When it has been determined that a proposed design-build project will be funded and proceed, MDT's Fiscal Programming Bureau will obtain three separate programming obligations for design-build projects. First will be an obligation for the estimated cost of preliminary engineering and environmental work required to develop the RFQ, RFP and DCCP. The authorization for PE (first obligation step) precedes any chargeable federal-aid reimbursable work to develop the RFQ, RFP and DCCP. The second obligation is for R/W work, if required. The third obligation is for the Contract and will be obtained after completion but before release of the RFP and DCCP and will be based on the estimated cost of all activities necessary to complete the project after award of the contract, including payment of any stipends. Program obligations may be modified to reflect actual costs for R/W; after the Contract is awarded and the total cost is known; and the final modification to reconcile the authorized obligation with the final expenditures. Programming and obligation of design-build project funds should be obtained for all work activities required by MDT and the Firm based on preliminary estimates. Separate accounting records should be maintained for MDT charges to the various Account Numbers during the project and those contained in the Contract. The example Schedule of Values included in the RFP should specify the desired work activity accounting numbers and values should be assigned to each respective work activity account number by the Firm in order for MDT to track the cost of each activity.

Any anticipated stipends and incentives should be programmed in the Contract obligation.

3.2 DEVELOPMENT OF THE DESIGN AND CONSTRUCTION CRITERIA PACKAGE (DCCP)

Individuals knowledgeable in the contracting requirements will undertake development of the DCCP for a project and design professionals experienced in the application of the performance criteria appropriate to the project needs. It is essential to the success of the project that members of the Technical Review Committee (TRC) be involved in development of the RFP and DCCP. Early involvement by the TRC is a key to efficient and timely procurement of design-build services. Members of the MDT Design-Build Team and the EPM should be members of the TRC.

If the project is subject to Full Oversight, the RFP must have FHWA approval prior to authorization and release to short-listed Firms. It is critical that FHWA be involved throughout development of the RFP and DCCP in order to meet FHWA requirements and expedite approval.

The RFP and DCCP should clearly and completely identify requirements and services, including any information, data, and services to be furnished by MDT. The RFP and DCCP will provide a summary of the project's objectives and furnish sufficient information so Firms can prepare bid proposals (that includes a Technical Proposal and Bid Price Proposal). Criteria may include geotechnical analysis, surveying, permitting and utility coordination. The RFP and DCCP will state the specifications, design criteria

and standards to be used in the design and construction of the project, unless otherwise noted in the RFP.

DESIGN AND CONSTRUCTION CRITERIA PACKAGE

(a) For Contracts when CEI services are included, the Firm will provide QC Engineering, QA Engineering services and use MDT Specifications (including Materials Manual) for preparation of Technical and Bid Price Proposals. MDT will provide IA services in accordance with the Specifications, Materials Manual and the specific Project Quality Control Guidelines.

For Contracts when CEI services are not included, the Firm will provide QC Engineering services and use the MDT Specifications, Materials Manual and the specific Project Quality Control Guidelines for preparation of Technical and Bid Price Proposals. MDT, or a CEI Consultant contracted by MDT, will provide QA Engineering services and MDT will provide IA services in accordance with the Specifications, Materials Manual and the specific Project Quality Control Guidelines.

(b) For Contracts when CEI services are included, add the following scope of service requirements to the RFP and DCCP:

- MDT is responsible to provide IA and will perform oversight duties including: project management; inspection review; report review; contract administration; contract payment and any IA verification testing.

- The Firm will provide QC Engineering and QA Engineering. All activities will be under the direction of the Quality Control Engineer, a Professional Engineer licensed in Montana.

- Any reference in the Specifications (including Materials Manual) to testing by MDT or the Contractor will be assumed to mean by the Firm.

3.3 CONTRACT NUMBER ASSIGNMENT

Design-Build projects will be assigned project numbers using the same process as other MDT construction projects.

3.4 OBLIGATION

The Contract Plans Bureau and Design-Build Engineer will ensure that a request for obligation of funds is approved by the Fiscal Programming Bureau before releasing the RFP.

3.5 ADVERTISEMENT

The time period for advertisement will be from mail-out or posting of the RFQ to receipt of the SOQ. The actual length of time that the advertisement is publicized is at the discretion of MDT. Advertisements will be publicized at:

http://www.mdt.mt.gov/business/contracting/current_letting.shtml

Additionally, MDT may utilize other forms of communication, such as newspapers, magazines, mail-outs, television or radio to announce the project.

The advertisement will include, as a minimum, the name and description of the project; the County location of the project; major type(s) of work required; any minor types of work that are required for the project, but not normally associated with the major work; estimated construction cost range of the project, if applicable; how and where Firms can respond; any additional technical qualifications desired; criteria on which an SOQ will be evaluated for the short-listing process; time frames for SOQ submittals and submitting bid proposals; process for modifications or addenda of RFQ; number of copies to be received; how respondents will be selected; and tentative dates for short-list and final selection.

All advertisements should summarize MDT's selection schedule for the prospective Firms. The selection schedule should provide an outline of specific calendar dates and clearly identify the time allotted for the preparation of proposals. Each project advertisement should be drafted to fit the unique needs of that particular project. The advertisement for a Contract with CEI services should also have the following in the "Project Description":

"Construction Engineering and Inspection (CEI) services will be provided by the Firm."

3.6 STATEMENT OF QUALIFICATIONS

For ASDB projects and other "Best Value" contracting methods, a Statement of Qualifications (SOQ) will be required from interested Firms. An SOQ should be sent to the Contract Plans Bureau. At least three SOQ should be received in order to proceed with the RFP. If three SOQ are not received, MDT may re-advertise. SOQ should not typically be more than sixty pages in length and include a Contact Person, with name, phone number and e-mail address. Buildings or complex projects may require more detailed SOQ. SOQ will be evaluated and scored based on the required criteria stated in the RFQ advertisement.

3.7 CONSIDERATIONS FOR REQUEST FOR PROPOSAL DEVELOPMENT

Identifying a project for Design-Build:

(1) Prior to advertisement, existing R/W must be verified and a determination made whether the project can be built within existing R/W. If additional R/W will be required, a decision must be made by MDT in the identification stage if R/W services will be

included in the Contract or addressed separately by MDT. MDT will typically provide R/W services and obtain any required R/W, including Construction Permits, for Design-Build Projects. The RFP may not be issued or Contract awarded prior to completion of R/W activities. Construction activities may not begin on any portion of a project until possession of all R/W and easements necessary for construction of the project has been obtained by the State or a local government entity and the R/W certification has been issued for construction of the project. (See Chapter 8, Right of Way Issues on Design-Build Projects.)

(2) Providing CEI services is an option in the design-build process. MDT must make a decision in the project identification stage if CEI services will be part of the Contract.

(3) MDT will designate a multi-disciplinary Design-Build Team to assist in development of the RFQ, RFP and DCCP. Team members will be identified early so that all disciplines that are essential to the type of work in the project scope are aware of their role and responsibilities. The Team should consist of no more than ten MDT members and one FHWA representative.

(4) The type of funding must be identified in order to include the correct bid documents in the RFP. If Federal funds are involved, all the normal procedures for approval and authorization must be followed. Programming and obligation of project funds should follow MDT accounting procedures and must be completed prior to advertising the project. This process takes some time, so allow at least four weeks.

(5) Advertisement of the RFQ will be posted on the MDT web site and depending on project needs other sources for notification may be utilized.

Stipends - The issue of partial reimbursement for preparation of proposals will be addressed early in the process so funds are made available. Federal funds may be used to partially reimburse short-listed firms for their effort in the preparation of the proposals. If the project is relatively small, eliminating the reimbursement may be MDT's option.

Once a project has been identified as Design-Build:

(1) Design-Build lends itself to allowing preliminary work to be performed on a project prior to advertisement. Such work may include survey, preparation of preliminary horizontal and vertical alignments, preliminary hydraulic studies, geotechnical investigations, permitting or other items of work that could be performed by in-house MDT staff, independent of the design and construction. The more information available, the more detail can be included in the RFP and DCCP and still allow the Firm design flexibility. A decision will be made by MDT related to the extent and amount of preliminary work to be performed before development of the RFQ, RFP and DCCP for the project advertisement.

(2) Establish a preliminary schedule. A design-build schedule is very different and does not resemble a design/bid/build schedule. Consider the terminology normally used for a schedule and that used with design-build. It may not be the same and needs to be

understood by those monitoring the schedule. The RFQ, RFP and DCCP should be complete and ready for release when the advertisement appears. A design-build schedule is very front-end loaded for RFQ, RFP and DCCP development, reviews, appropriate approvals, and advertisement time. Federal Aid projects require FHWA involvement throughout development of the RFQ, RFP and DCCP and require FHWA approval of the RFP prior to release to short-listed Firms.

(3) Preparing an RFP and DCCP is time consuming and requires review by various disciplines within MDT. Time should be allowed for two reviews and for modifications. A decision to include CEI services will be made early so that it can be included in the RFP. Develop and obtain approval of any Memorandum of Agreement (MOA) with local agencies related to projects within local agency jurisdiction.

(4) Use of Design-Build eliminates unnecessary items. During development of the RFP and DCCP, any request for documentation, plans, quantities, pay-items, calculations or electronic files should be evaluated to determine if it is necessary to include them in the RFP.

(5) MDT review times will be set in the RFP. These times are absolute. If comments are not provided to the Firm by the cut off date, the MDT Engineering Project Manager may direct the Firm to continue their work as if approved. The Design-Build Team members will discuss review times with the reviewing units to ensure their understanding. Review times will be significantly shorter (about 14 calendar days) than in the current MDT consultant plan review process. The reviews will be for “meeting design criteria” only. There should be less concern for appearance of submitted items.

(6) Although there are established design-build Firms, most of the responses to MDT advertisements for design-build projects will likely be received from two or more separate companies that have teamed up specifically for a project. A Contractor or Design Consultant may lead the team, but Contractors have more bonding capacity than Design Consultants and assume most of the risk. Design Consultants have a better knowledge of the professional services contracting procedures and are more familiar with writing technical proposals than Contractors.

3.8 GUIDELINES FOR REQUEST FOR PROPOSAL

1) Project Time/Schedule

- MDT’s selection schedule should correspond to the advertisement and include the time from RFQ advertisement to Notice to Proceed (NTP) using specific calendar dates and time allotted for preparation of qualification statements and proposals.
- MDT’s time period for services and/or products to be delivered.
- MDT’s time of performance requirements in the scope of services (elapsed consecutive calendar days from NTP).
- Require Firm to develop project schedule using CPM.
- Firm’s submittal of design development drawings.
- Firm’s submittal of construction documents.

- 30-60 day plans preparation and review period front-loaded in schedule prior to construction (additional geotechnical investigations and clearing/grubbing may begin during this period).
- MDT or third party dates or time regarding site availability, completion of environmental report/permits, or delivery of MDT equipment or materials (elapsed days).
- MDT's submittal reviews (if required) within a specific time period.

2) Payout Schedule

- Example Schedule of Values.
- Invoicing and payment process.
  - Progress payments based on: a) monthly, or b) specific tasks completed.
- Provisions for tracking DBE participation.

3) Technical Proposal

- MDT must provide detailed instructions regarding content and format.
- MDT will provide Technical Proposal Evaluation Criteria and Scoring Guide.

4) Bid Price Proposal

- Firm's proposal will include lump sum amount using the blank Bid Price Proposal Form.
- Proposal Bond.
- Address Fuel Price Adjustment
- Address any Cost Escalation Provisions
- MDT may allow the Bid Price Proposal to be submitted later than the Technical Proposal. This must be stated in the RFP.

5) Subcontract Services

- RFP will contain language-allowing subcontracting by Firms.

6) DBE Goals and Requirements

- MDT's goals/requirements established: a) for the whole project, or b) for each category of services (i.e., design, R/W, CEI services, construction).

7) Scope of Services

- MDT's project objectives.
- Design Services and Requirements
  - Geotechnical Analysis/Reports
  - Surveying
  - Right of Way
  - Permitting

- Utility Coordination

- Specifications
- Design Criteria and Standards
- Design Quality Control
- Process for component plan submittals
- Process for Releasing work for Construction
- CEI Services/Requirements may include:
  - Construction Inspection
  - Off-site Prefabrication
  - Materials Sampling and Testing
  - As Built Drawings
  - Construction Staking
- Requirements on types and frequency of:
  - Reports
  - Sampling and testing materials
  - Submittal of shop drawings
  - Level of detail and type of documentation of construction materials

If Firm hires CEI Consultant, CEI Consultant must provide monthly reports to MDT with outline of progress, problems, corrective actions proposed/implemented and status of corrective actions. For Federal Aid projects, FHWA must authorize the RFP to allow CEI Consultant to be part of Firm.

- Construction Services/Requirements

  MDT Specifications (standard, supplemental, or special provisions).

  May require reference to local/state building codes, national standards or others.

  Any particular construction processes/techniques necessary (describe unique values desired and let the Firm select construction method/technique).

- Permits

  MDT will state what Permits are anticipated and required, who will be responsible for obtaining, and how coordination will occur.

  MDT needs to contact resource agencies up-front and determine what will NOT be permitted for the project.

- Design Plans and Engineering Calculations Review
- Design plans, shop drawings, engineering calculations (including, but not limited to) required for submittal by the Firm to MDT for verification of compliance (not approval).
- Requirements for packaging submittals and backup information.
- Shop drawing review routing process.

- Utilities - The Firm will provide MDT with utility relocation plans and other information required to obtain Utility Permits. Utility Permits will be processed and issued by MDT.

- Easements/Right of Way

  Existing R/W must be verified and a determination made whether additional R/W will be needed. If additional R/W is required, the scope must clearly identify whether R/W services are included in the Contract or will be handled separately. (See Chapter 8, Right of Way Issues on Design-Build Projects).

  The Firm is responsible for acquisition and cost of temporary easements or leases it may require for construction equipment, materials, and operations on property that will not be incorporated into construction of the project.

- Existing Project Features or Systems

  Scope will specify the responsibility for demolition and disposal or salvage of existing features or systems no longer necessary to the project.

- Salvage Materials

  Specify materials to be salvaged, ownership of salvaged materials and their disposition (stockpile requirements and location).

- Quality Control (QC) Requirements

  Scope must identify QC requirements that apply (in addition to those in specifications, policies and procedures) and those that do not apply (designer not required to submit phase plans to MDT for review).

  Firm is required to explain its QC program for design, plans preparation and construction.

  MDT should develop and provide project specific construction related Quality Control Guidelines that follow the MT-601 format.

- Independent Assurance

  MDT will continue the IA program whether MDT or Firm hires CEI Consultant.

  MDT's EPM and FHWA have the right to review records/conduct verification tests to ensure quality products/services are provided.

- Survey Requirements

  Scope will specify any survey information required.

  MDT will provide Firms any existing survey and mapping information available.

- Final Documents

Scope will define final documents required by the Firm at project completion to include: final as-built plans (100% automated), engineering reports, shop drawings, test results, documentation and daily reports. Scope should designate a specific completion date for submittal of the final "as-built" plans and include provisions for a draft submittal for MDT review and approval prior to the final submittal.

- Staffing Requirements

  Scope will outline minimum training, experience requirements and staffing level for key professional personnel and key construction personnel.

- Geotechnical Requirements

  Scope will specify geotechnical information or reports required by MDT. MDT may perform preliminary geotechnical work in preparation of the RFP and DCCP or geotechnical investigations to save short-listed Firms time and expense. MDT will provide available existing geotechnical information to short-listed Firms. Establish a review and approval process for geotechnical reports.

- Items To Be Furnished by MDT

  Scope will include sections detailing items and services to be furnished by MDT such as data reports, computer services, materials, equipment, testing devices or other items that may affect Bid Price Proposals, technical approach or environmental permits.

- Computer Services

  Scope should include list of MDT computer programs allowed to be used during design and construction of the project. Firms should identify in their technical proposal which programs will be used.

- Issue Escalation

  Scope will include an issue escalation matrix or process for addressing questions/disagreements related to design and construction, stating chain of command in MDT (beginning with the EPM). Time frames for resolving the conflict should also be included. Firms will provide a similar list of people.

- Warranty/Contractor Guarantee

  Scope with project warranty/contractor guarantee requirement should show the specified number of years and details of coverage. As a general rule, routine maintenance is not covered by warranty.

- Professional Liability and Bonding

  Scope will include all insurance requirements, including professional liability insurance requirements, with dollar amounts and length of time clearly specified.

Firms must be capable of providing Performance and Payment Bonds for the full amount of the design-build contract.

- Public Involvement

  Scope must clearly define the level of coordination/involvement with interested persons, groups and organizations required for the project.

- Construction Problems Resolution

  Scope should define process to resolve construction problems.

  a) If resolution does not change the original intent of the RFP and Technical Proposal, the Firm will be responsible for developing the design solution to the construction problem and the CEI Consultant will be responsible for review and concurrence. If CEI Consultant has concerns, the MDT EPM will involve appropriate personnel to resolve.

  b) If resolution alters the original intent of the RFP and Technical Proposal, the Firm will develop and send proposed solution to the MDT EPM for review and concurrence by the appropriate personnel to resolve. The CEI Consultant will be copied.

- Scope should address “Buy America” requirements.
- Scope should address requirements outlined in the Work Zone Safety and Mobility Policy.

3.9 PREPARATION OF REQUEST FOR PROPOSAL

If the project is a Federal Aid project, the RFP will be submitted to FHWA for approval prior to release to short-listed Firms. The project must be authorized for construction (funds obligated) before advertisement or release of the RFP to the short-listed Firms.

(1) Project Time/Schedule

The RFP will state a time period in which the services and products are to be delivered. Time of performance requirements in the RFP will be stated in elapsed consecutive calendar days from the date identified in the NTP so changes in the schedule to solicit, receive, evaluate, select and award can be changed without affecting the project schedule. When the completion date is critical, the RFP must include a "but-not-later-than" qualifier in the project schedule. An outline of the selection schedule should be included in the RFP. MDT’s selection schedule is the schedule of the entire selection process and should include all activities from initial RFQ advertisement to NTP. The schedule should be stated in specific calendar dates and should clearly identify the time allotted for preparation of SOQ and proposals.

The Firm's project schedule should depict the stage in the design-build process that the Firm intends to build each element, segment or phase of the project. The Firm's project schedule will be developed using CPM techniques and specify the time frame for interim activities. These activities may include submittal requirements of the Firm, such as design development drawings or construction documents. The

CPM schedule should also include activities for requirements of MDT directly or through a third party, such as site availability, completion of an environmental report, permits or the delivery of MDT furnished equipment or materials. The RFP should list any non-working days required by MDT.

The interim activity deadline requirements should be stated in elapsed days and may be an obligation of the Firm or MDT. The obligation of MDT to complete specific submittal reviews, if required, within a specified time period may also be included in the project schedule.

It is recommended that the RFP require a 30 to 90 calendar day plans preparation and review period be front-loaded into the schedule prior to allowing the Firm to begin actual construction. This will allow the design process to proceed ahead of the construction and provide sufficient time for MDT to conduct conformity reviews. The plan preparation time must be clearly outlined in the RFP so the Firm can include it in their contract time calculation.

It may be appropriate to allow certain construction activities such as geotechnical investigations, clearing and grubbing and culvert installation to begin during the plans preparation period. Specific details related to allowed activities should be included in the RFP.

(2) Payout Schedule

The RFP must clearly address the invoicing and payment process, including a payout schedule. The payout schedule should be based on major, well-defined tasks related to the Firm's Schedule of Values and project schedule. The payout schedule should also include provisions for tracking DBE participation. Details of the payout schedule will be finalized between the selected Firm and MDT after the project is awarded. Examples of payout schedules are based on monthly payments or percentage completion of work items shown in the Schedule of Values.

(3) Technical Proposal

The RFP will include well-defined Technical Proposal requirements. This should include detailed instructions regarding the content and format.

(4) Price Proposal

The RFP will include well-defined Bid Price Proposal requirements. Design-build projects are bid lump sum and paid through a payout schedule based on a Schedule of Values of major work activities or tasks. The Firm's Price Proposal will include the lump sum price, using the Bid Price Proposal Form.

The RFP will include an example Schedule of Values for appropriate work items that reflect the scope of the work being priced. The RFP will also include any "Do Not Bid" pay items and quantities (Contingency) in the Bid Price Proposal Form.

(5) Subcontract Services

The RFP will contain language that allows Firms to subcontract portions of their work. Member firms of the Firm (contractor or designer) cannot be changed after contract award without prior written consent of MDT.

(6) DBE Requirements

The RFP will address MDT's commitment to diversity in contracting. Utilization of women and minority-owned businesses is encouraged by MDT for all projects.

(7) Technical Proposal Evaluation Criteria and Scoring Guide

The RFP will include the evaluation criteria and point system to be used by the TRC to evaluate Technical Proposals on ASDB projects. The criteria will be established by the TRC to meet the needs of a specific project.

(8) General Liability Insurance, Professional Liability and Contract Bonding

General Liability Insurance: The RFP will include current Specifications regarding general liability.

Professional Liability: The RFP will stipulate the amount and term of coverage for professional liability insurance required.

Proposal Bonding: A proposal guaranty in an amount not less than ten percent (10%) of the total Bid Price Proposal amount will accompany each Firm's Bid Price Proposal.

Contract Bonding: The RFP will require that Firms be capable of providing a performance and payment bond in the full amount of the Contract.

(9) Public Involvement

Since public involvement may be an important aspect of project development, the level of public coordination and involvement required for a specific project will be defined in the RFP. Public involvement includes communicating information regarding development of the project to all interested persons, groups and government organizations.

(10) Complex Issues

If there is an issue related to having independence for verification testing and oversight, the following scenarios provide clarification:

Scenario 1: The design, construction and inspection are included in one Contract. For Federal Aid projects on the NHS, FHWA regulations (23 CFR Part 637) require MDT to provide verification testing and oversight (IA) outside of the Firm's contract. This can be accomplished with MDT forces or with an Oversight CEI Consultant contract procured by MDT. The Oversight CEI Consultant procured by MDT must be completely independent of the Firm (Contractor, Designer and CEI Consultant). There is no requirement for independence within the Firm.

Scenario 2: Similar to Scenario 1, but using State funding. The design, construction and inspection are included in one Contract. Because no Federal funds are being used for the project, there is no requirement that MDT provide verification testing and oversight outside of the Firm's contract. The Firm's CEI Consultant must be independent of the Firm. There is no requirement for independence within the Firm.

Scenario 3: Includes only the design and construction in the Contract. The CEI Consultant is contracted directly with MDT. MDT's CEI Consultant must be independent of the Firm. There is no requirement for independence within the Firm.

The criteria to determine independence is that the Consultant providing CEI services for MDT must be independent of the Firm, regardless of their contracting agent.

If a consultant developed or assisted in development of the RFP and DCCP for MDT, the consultant must be independent of the Firm, but MDT may contract with the same consultant for CEI services.

Any CEI Consultant contracted by MDT for design-build projects will be in accordance with MDT's Consultant Services Procedures Manual.

3.10 SHORT LIST DEVELOPMENT BY TECHNICAL REVIEW COMMITTEE

The TRC, comprised of members as identified in Section 2.17, Chapter 2, Definitions, will develop the short list based on SOQ received from responding Firms. Contract Plans Bureau will provide the TRC with a copy of all SOQ and supporting information to be used for evaluation purposes received from responding Firms. Based on this information, the TRC will short-list a minimum of three (or all responding, if less than three Firms submit SOQ) and maximum of five Firms to be considered. The evaluation process for short listing should include all entities within the Firm, including contractor, designer, CEI Consultant (if applicable) and any major subcontractors listed in the SOQ. No person developing the short list may act as a voting member on the Selection Committee making the final selection recommendation.

The evaluation criteria for short listing apply to both construction contractor(s) and design professional members of the Firm, when applicable:

1) Past performance ratings received by key members of the Firm on current and previous MDT projects, or other performance data supplied by the Firm.
2) Information contained in the SOQ. As a minimum, the Firm's construction contractor and design consultant current workload, bonding capacity and past performance.

3.10.1 Short List Evaluation Guidelines

The purpose of this section is to provide guidelines to allow the TRC to evaluate SOQ and reduce them to a ranked short list of qualified Firms eligible to receive the RFP and DCCP.

Contract Plans Bureau will evaluate the Firm's bonding capacity prior to sending the SOQ to the TRC.

The TRC should take into consideration the following criteria as it applies to the project, but not all criteria will apply or may have little value for the particular project. The TRC should determine the criteria in advance and its importance in evaluation of the SOQ to produce the ranked short list. The TRC is to determine the specific appropriateness of items 2 and 3, since MDT does not initially have a history with firms using the design-build process. The criteria are:

1. Past Performance Grades: Contractor, Designer, and CEI Consultant (if CEI is included in Contract).
2. Experience of the businesses working together.
3. Design-Build experience of the Firms.
4. Similar type work experience.
5. The current workload of the Firms.
6. Time delays on past projects.
7. Experience of key personnel.
8. Safety record.
9. Firm organization and regional experience.
10. Environmental record.
11. Incidents of litigation/dispute history.
12. R/W and Utilities
13. Quality Management Plan
14. Other categories the TRC determines.

3.10.2 Joint Experience of the Firms Working Together

It may be beneficial to have information about joint experience that the Firm's major members have had in the past. Traditional projects may have involved the Designer and Contractor working together during construction. This could include, but not be limited to design-build. They may have a history of working with each other that has supported their coming together as a team. Many Design Consultants use Contractors for constructability reviews as well as Contractors using Design Consultants for design issues. This past history can also include projects where the Design Consultant member designed the plans and the Contractor built the project. Even though some of these projects may or may not have been transportation projects, it still demonstrates that the firms have a confidence level in each other that has led to teaming again. This may be considered a positive in the short-listing process, as compared to a Designer and Contractor that have not worked together in the past.

3.10.3 Design-Build Experience of the Firms

Consider the individual Firm members past experience with design-build projects of similar type projects (bridge, roadway, facilities, buildings) as well as the experience of the complete team on past design-build projects. Consider the overall project type, as well as the complexity and unique features of past

projects as compared to the demands of the advertised project. Past design-build experience could be drawn from projects contracted by MDT, other DOTs, private industry or local governments. The criteria should carry a heavy emphasis on very sensitive projects. Projects, such as a complex bridge project, would be the standard for giving the criteria a heavy emphasis. Many companies currently doing business with MDT do not have a history of design-build. A poor history or record by one Firm member will impact the Firm's overall proposal and therefore impact other Firm members.

3.10.4 Similar Work Type Experience

Consider experience that clearly demonstrates that the Firm has performed construction of the same type, scope and complexity as the advertised project.

3.10.5 The Current Workload

Verification of the Firm's bonding capacity should exclude any Firm unable to fully bond the project from being considered. There may be several design-build projects in progress concurrently throughout the state. These projects will attract Firms that are familiar with the process and have an established team. This may lead to the same Firm submitting an SOQ on multiple projects. Knowing the Firm members' current workload and potential workload (both Contractor and Design Consultant work load) will assist the TRC in determining the Firm's ability to perform the work for the project currently under consideration. In addition, both the Contractor and Design Consultant may have been successful in winning recent design/bid/build projects. The Firm's staff identified in the SOQ may be identified in other SOQ or already working on other projects. The TRC should take into consideration the current workloads of both the Contractor and Design Consultant teaming to submit the Firm SOQ. This consideration should also include projects for other local governments and private industry. If members of a Firm have already been selected for several projects, it may benefit MDT to consider other Firms in order to allow them a chance to perform design-build for MDT.

3.10.6 Time Delays on Past Projects

Timely completion of past projects should carry a heavy emphasis. Members of Firms that have demonstrated the ability to finish jobs on time when they have encountered conditions differing from those represented in the plans on current or past projects should be given greater consideration. There is no known reporting format to substantiate this performance. It will be subjective information MDT personnel will have based on past experience with Contractor, Subcontractor and Designer performance. Firms with five or more days of liquidated damages on three or more contracts in the past five years should not be considered. Reports of other owners (Cities and Counties) on non-MDT projects should also be evaluated.

3.10.7 Experience of Key Personnel

Consider the experience of key personnel who are proposed by the Firm to be in charge of the day-to-day work on the project. This includes the key persons in responsible charge of construction, design, inspection and testing. If key persons are included in the Firm's SOQ and proposal, it is considered a commitment by the Firm that the named key persons will continue to be actively involved in the project.

3.10.8 Safety Record

The Firm's performance in the safety area can be considered by past performance on construction projects or any citations by OSHA for safety violations. One method to accomplish this is to review each Firm member's current Experience Modification Rate and request copies of each Firm member's OSHA Form 300A for the last two years.

3.10.9 Firm Organization and Regional Experience

Organization of the proposed Firm and subcontractors and ability of the members to work together should be evaluated for ability to perform the project. The Firm members experience with local and state government entities, permit and regulatory agencies and community groups can also be evaluated.

3.10.10 Environmental Record

Performance of the Firm and its members can be evaluated by reviewing citations issued by Department of Environmental Quality (DEQ), the Army Corps of Engineers and Environmental Protection Agency (EPA). This information will generally be published in newspaper articles. MDT's experience with the Firm related to National Pollutant Discharge Elimination System (NPDES) permit requirements can also be used.

3.10.11 Incidents of Litigation/Dispute History

Review contractor claims records. A history of contractor claims pertaining to additional compensation or time extensions that are not negotiated and resolved through an Administrative Settlement, or final estimate quantities disputes that proceed, after final acceptance, to court or arbitration. Also, a history of disputes being escalated to the Board of Contract Appeals (or the equivalent with other owners) by a member of the Firm should be considered.

3.10.12 R/W and Utilities

Review the performance history of Firm members for R/W services (if applicable) and utility relocation work.

3.10.13 Quality Management Plan

Credit may be given for a timely, complete and comprehensive quality management plan that incorporates effective QC/QA and includes all phases of the project.

3.10.14 Other

There may be other criteria, unique to the proposed project that warrants inclusion in the initial evaluation criteria that is not listed above. The TRC should recognize this in development of the RFQ.

The TRC may take many approaches to reach a short list. The short list should be a list with the preferred ranking of Firms eligible to receive the RFP. The list should have a summary of strengths and/or weaknesses of each Firm. Some processes that may be used by the TRC include:

(1) Matrix ranking giving categories equal weighting.
(2) Matrix ranking giving categories with unequal weighting.
(3) Individual ranking, group discussion and group ranking.
(4) Group discussion, individual ranking, most top rankings win.

A detailed description of how all four of the above processes work is included in Section 3.12, Methods of Evaluation.

3.11 REVIEW PROCESS FOR DEVELOPING A SHORT LIST

(1) The TRC should establish meeting procedures, confidentiality expectations, set rules of order and determine the methodology and criteria it will employ in the selection process in advance of evaluating the SOQ. Non-voting technical advisors may also be used for needed expertise.

(2) Check all evaluation criteria to make sure minimum qualifications are met for each criterion.

(3) Each TRC member will evaluate the relative merits of each Firm using any logical method that can be justified as long as the method stays within the published evaluation criteria. The end result of this evaluation process will be a list, using whole numbers and starting with the number 1 that ranks each Firm starting with the strongest Firm and ending with the weakest Firm.

(4) The rankings of all TRC members will be put in numerical order with the Firm that has the lowest numerical value ranked first. The numerical list will then be numbered starting with the number 1, with whole numbers in order to establish the final ranking. If averaging is used, Firms may have the same average numerical ranking value. Thus, these Firms will receive the same final ranking. As an example, there may be two Firms that are ranked third.

(5) The TRC, as a group, will establish a written list of strengths and weaknesses for each Firm in order to justify that Firm's final ranking. Firms at the top of the ranking list must have more strengths than weaknesses and Firms at the bottom must have more weaknesses than strengths. SOQ evaluation scores will not be released. The unsuccessful Firms will be provided information regarding their relative scores compared to those of other Firms.

(6) To determine the inclusion of Firm #4 and #5 on the short list, their respective scores must be within four percent of the average score of the top three Firms.

(7) The Selection Committee will review the TRC evaluation, scoring and ranking of short listed Firms prior to releasing the list.

3.12 METHODS FOR EVALUATION

The following are detailed explanations for four methods that may be used in conducting evaluations for short listing.

3.12.1 Matrix Ranking Giving Categories Equal Weight

(1) Develop a matrix using the aforementioned evaluation criteria.
(2) Rank each Firm by criteria on a 1 to 10 scale, with 10 being best. This can be done by the group or by individual TRC members.
(3) If done by individuals, average the individual TCR member scores per criteria for each Firm.
(4) Sum up the averaged score per criteria by Firm, highest score wins.

3.12.2 Matrix Ranking Giving Categories Un-Equal Weight

(1) Develop a matrix using the aforementioned evaluation criteria and determine the scoring weight to give each criterion.
(2) Rank each Firm by criteria on a 1 to 10 scale, with 10 being best. Ranking should be performed by each individual TRC member.
(3) Apply the pre-determined scoring weight to all evaluation criteria ranking.
(4) Add the total scores of all TRC members for each Firm, highest score wins.

3.12.3 Individual Ranking, Group Discussion, Group Ranking

(1) Each TRC member ranks the Firms, 1 thru the number of Firms there are to be evaluated, prior to getting together as a group using the aforementioned criteria.
(2) The group discusses the strengths and weaknesses of each Firm.
(3) The group then ranks the Firms.

3.12.4 Group Discussion, Individual Ranking, Most Top Rankings Win

(1) Group discussion of strengths and weaknesses of all Firms using the aforementioned criteria.
(2) Individuals on the TRC rank all Firms from 1 thru the number of SOQ there are to be evaluated.
(3) Average the individual rankings.
(4) The Firm with the lowest average is the top ranked Firm for the short list.

3.13 PRE-PROPOSAL MEETING FOR SHORT-LISTED FIRMS

The TRC may conduct a pre-proposal meeting for all short-listed Firms in order to discuss the project in detail and to clarify any concerns. FHWA and MDT Civil Rights Bureau should be invited to attend the meeting.

The purpose of the meeting is to provide a forum for all concerned parties to discuss the proposed project, answer questions on the RFP and DCCP, Contract, CPM schedule, method of compensation, instructions for submitting proposals and other relevant issues. The Firms will be instructed to direct all questions after the meeting in writing to the Contract Plans Bureau.

During and after the meeting, it is the responsibility of the Contract Plans Bureau and Design-Build Engineer to ensure that each short-listed Firm develops its Technical Proposal with the same information. If a Firm receives information from MDT relating to the project prior to the information cutoff date, MDT will ensure that all short-listed Firms receive the same information in a timely fashion. The project file will clearly document all communications with any Firm regarding the RFP and DCCP by the Contract Plans Bureau.

At the conclusion of the meeting or when it is reasonable to assume that no further changes regarding the RFP and DCCP will be required, Contract Plans Bureau, along with the Design-Build Team, will update the criteria as necessary. The updated RFP and DCCP will be made available to each member of the TRC prior to evaluation of the Technical Proposals. If significant changes result from the meeting, the short-listed Firms will be provided the updated criteria and any changes occurring in the RFP and DCCP. When applicable, FHWA must also approve such changes to the RFP and DCCP.

3.14 PROPOSALS SUBMITTED BY SHORT-LISTED FIRMS

MDT will request proposals from not less than three (or all responding, if less than three Firms submit SOQ) or more than five Firms. Firms will be asked to develop and submit proposals based on the RFP and DCCP. Proposals will be segmented into two parts, Technical Proposal and Bid Price Proposal. Technical and Bid Price Proposals will be received at the location and by the date and time noted in the advertisement. Technical and Bid Price Proposals will be submitted in separate sealed packages and appropriately labeled. It is recommended that a minimum of two weeks be provided between the due date of the Technical Proposal submittal and the Bid Price Proposal submittal.

Bid Price Proposals will include all design-build package bid forms. The Contract Plans Bureau will send the Technical Proposals to the TRC and hold all sealed Bid Price Proposals until Technical Proposal scores are provided by the TRC. If a Firm withdraws from consideration after MDT requests a proposal, MDT may continue the process, if at least two proposals are received.

(1) Technical Proposals

A Technical Proposal should include a detailed project schedule using CPM (or other techniques as appropriate), preliminary design plans, preliminary specifications, technical reports, calculations, permit requirements, total contract time and other data requested in response to the RFP. The package will indicate clearly that it is the Technical Proposal and will identify the Firm's name, project description and any other required information.

(2) Bid Price Proposals

Bid Price Proposals will include one lump sum cost for all design, construction, and construction engineering and inspection (if CEI services are included) of the proposed project. The package will indicate clearly that it is the Bid Price Proposal and will identify the Firm's name, project description and any other required information.

3.15 TECHNICAL REVIEW COMMITTEE EVALUATES PROPOSALS

The TRC should establish meeting procedures, confidentiality expectations, set rules of order and determine the methodology and criteria it will employ in the evaluation and scoring process in advance of evaluating the Technical Proposals. The TRC will evaluate each Firm's Technical Proposal based on the rating criteria provided in the RFP. FHWA must be provided one copy of the Technical Proposal for Full Oversight projects at the same time to ensure consistency with the design criteria specified in the RFP.

Each TRC member is responsible for scoring each Technical Proposal for all evaluation criteria. TRC members may solicit information from other persons to assist them in those areas where they do not possess an appropriate level of expertise. A minimum of three TRC member scores is required for each evaluation criteria prior to adding or averaging the scores for development of a final Technical Proposal score.

The TRC will submit a final total Technical Proposal score for each Firm to the Contract Plans Bureau and FHWA on Full Oversight projects. During this technical review process, it is recommended that the TRC meet together to discuss their thoughts on each proposal. This is intended to be a structured meeting to discuss concerns and to determine how well each proposal met the criteria. Rating points for each proposal should not be discussed at the meeting until all TRC members have completed their evaluations and scored each Firm. The purpose of the meeting is to give each TRC member a better understanding of the technical merits of each proposal, not to develop a group score.

The Contract Plans Bureau will notify all short-listed Firms of the date, time and location of the public opening of the sealed Bid Price Proposals.

The Contract Plans Bureau will publicly open the sealed Bid Price Proposals and divide each Firm's price by the total Technical Proposal score provided by the TRC to obtain an adjusted score. The lowest adjusted score will be considered the best value proposal. The following example shows how the selection formula would work:

FIRM	TOTAL TECHNICAL SCORE	BID PRICE PROPOSAL AMOUNT	ADJUSTED SCORE (Best Value)
A	90	$6.7 Million	74,444
B	80	$6.5 Million	81,250
C	70	$6.3 Million	90,000
D	90	$6.3 Million	70,000
E	70	$6.7 Million	95,714

3.16 A+B BIDDING IN THE TECHNICAL EVALUATION FOR ASDB

An ASDB bid may include a bid adjustment for the “B” (value of time) part of A+B Bidding. This adjustment will be based on the Firm's proposed number of days to complete the project multiplied by a cost/day value (“B”) established by MDT (number of days times cost/day = price proposal adjustment [increase]).

This adjustment will be used for selection purposes only and will not affect MDT’s liquidated damages schedule or constitute an incentive/disincentive to the Contract. MDT will establish the cost/day value and include it in the RFP. The Firm will determine the contract time necessary to perform all design-build functions. Using zero base line, the Firm will multiply its contract time by the cost/day value contained in the RFP. This value added to the Bid Price Proposal amount will constitute the time-adjusted price.

The following example is how this selection process would work using a “B” value of $2,000/day:

	Total Technical Score	Contract Time (Days)	Time Value (Days x $/day)	Bid Price Proposal	Time Adjusted Price (Time Value + Bid Price Proposal)	Adjusted Score
A	90	300	$600K	$6.7 M	$7.3 M	81,111
B	80	250	$500K	$6.5 M	$7.0 M	87,500
C	70	400	$800K	$6.3 M	$7.1 M	101,428

For an ASDB bid, the time-adjusted price amount will be divided by the total Technical Proposal score to determine the lowest adjusted score. In the above example, Firm A would be awarded the contract under this scenario.

If the "B" value is used, it is required that an incentive/disincentive clause also be included in the Contract with a dollar amount per day equal to or greater than the "B" value amount. The incentive/disincentive will create a more balanced approach by helping to eliminate the manipulation of proposed contract time.

3.17 STIPEND FOR SHORT-LISTED FIRMS

When MDT intends to compensate the successful and unsuccessful short-listed Firms for submitting a proposal, MDT will process an invoice received from each Firm immediately after Contract award. Before the Contract is awarded, the Design-Build Engineer will ensure that funds have been obligated and approved by MDT in accordance with the contract funds approval procedure. An invoice is required to document the terms and conditions for compensation. On ASDB projects, the unsuccessful short-listed Firms may receive compensation (lump sum) for their efforts in preparing a proposal if the proposal is determined to be responsive by the TRC. The intent to compensate and the amount of this compensation will be noted in the RFP. A stipend is not intended to compensate the Firms for the total cost of preparing proposals. Compensation will be commensurate with the level of effort required to develop a bid proposal. In return, MDT reserves the right to use any concept or idea in the Technical Proposals, as MDT deems appropriate.

GUIDELINES FOR ESTIMATING STIPEND AMOUNTS FOR PROJECTS

ESTIMATED CONTRACT VALUE	ALL PROJECT TYPES	RANGE OF STIPEND
< $1M	0.0080 * Estimate	$0K - $8K
$1M - $5M	0.0060 * Estimate	$6K - $30K
$5M - $10M	0.0050 * Estimate	$25K - $50K
> $10M	0.0040 * Estimate	$40K +

Note: * Estimate only. Actual stipend could vary based on the nature of work.

Examples:

1. A $6 M roadway reconstruction project would have a recommended stipend of $6, 000,000 x (0.0050) = $30,000.

2. A $3 M new bridge project would have a recommended stipend of $3,000,000 x (0.0060) = $18,000.

The decision to pay a stipend will be at the discretion of MDT. The amount and conditions of the stipend must be included in the RFQ advertisement and RFP. Estimated stipend funds will be included as a separate line item in the cost estimate for the Contract prior to issuance of the RFP. Federal funds may be used to compensate the short-listed Firms.

The Firm awarded the Contract and the unsuccessful short-listed Firms will receive partial compensation (stipend) for the cost to prepare the proposal, if the proposal of unsuccessful Firms is determined to be responsive by the TRC. The Firms should submit an invoice for payment of the stipend on a lump sum basis after the selection/award process is complete. Compensation is intended to be on a pass/fail basis (responsive or non-responsive). If a proposal is deemed to be non-responsive by the TRC, then no compensation will typically be made.

3.18 SELECTION PROCESS BY SELECTION COMMITTEE

A short-list profile may be developed for each short listed Firm by the TRC. This information, along with supporting data that the Selection Committee deems appropriate, will be packaged and presented to Selection Committee members for review prior to or at the scheduled selection meeting.

The following is one example of a Technical Proposal Evaluation Factors Score Sheet that would be applied to each Firm's Technical Proposal.

1. Environmental Protection/Commitments (_____ points)

Credit will be given for minimizing impacts to the environment during all phases of design/construction and ensuring that all environmental permits and commitments are honored. The amount of credit should be proportional to the amount of reduction in wetlands or other types of mitigation quantities.

2. Maintainability (_____ points)

For building facilities, credit will be given for a design that minimizes periodic and routine maintenance. The following elements should be considered: access to provide adequate inspections and maintenance of plumbing, HVAC and electrical systems and quality of construction materials. Credit will be assigned for exceeding minimum material requirements to enhance durability of structural components and for providing extended warranties/guarantees for major elements such as roof systems, siding, doors and fixtures.

3. Warranty/Contractor Guarantee (_____ points)

For other than building facilities, credit will be given for the extent of the warranty coverage.

4. Schedule (_____ points)

Credit will be given for a comprehensive and logical schedule that minimizes contract duration while adhering to applicable Specifications. Proper attention should be provided to the project's critical path elements.

5. Coordination (_____ points)

Credit will be given for a coordination plan and effort that includes, as a minimum, coordination with the following groups:

- MDT Management Team
- Community and Businesses
- Adjacent Property Owners
- Permitting/Environmental Agencies
- Utility Owners
- Local Governments

6. Quality Management Plan (_____ points)

Credit will be given for a timely, complete and comprehensive quality management plan that incorporates effective QC/QA and includes all phases of the project.

7. Maintenance of Traffic (_____ points)

Credit will be given for a Maintenance of Traffic (MOT) scheme that minimizes disruption of roadway traffic and implements the Work Zone Safety and Mobility Policy. This will include, but not be limited to, minimization of lane closures, lane widths, visual obstructions, detours and significant reductions in speed limits.

8. Aesthetics (_____ points)

A narrative description with conceptual sketches for proposed aesthetics will be considered in the geometry, economy, and appropriateness of structure type, structure finishes, shapes, proportion and form. Architectural treatments such as tiles, colors and emblems will not be considered as primary aesthetic treatments.

9. Design and Geotechnical Services Investigation (_____ points)

Credit will be given for the quality of the following elements:

- Quality and quantity of design resources
- Design coordination and plans preparation schedule
- Construction coordination plan minimizing design changes
- Geotechnical investigation plan
- Structure design

10. Construction Engineering Inspection (_____ points)

Evaluation of construction engineering and inspection capabilities will be based on the reputation, qualification and experience of the CEI Consultant team assigned to the project. Credit will be given for a comprehensive CEI program managed by qualified, competent and experienced field/construction personnel. Experience in providing CEI services on projects of a comparable nature, size,

and complexity and on projects for MDT, other DOTs or public agencies will be considered in evaluating proposals.

11. Construction Methods (_____ points)

Credit will be given for construction methods that minimize impact to the traveling public and the environment, reduce costs, improve worker safety and minimize contract duration. Credit will be given for exceeding minimum material requirements to enhance durability of project components.

12. Design-Build Experience (_____ points)

Credit will be given for the Firm's experience on similar work and the individual team member's successful design-build experience. Consideration will be given to:

- Firm leadership and areas of responsibility.
- Experience of Key personnel.
- Firm internal coordination plan.
- Firm commitment to and history of providing a quality project, completed on time and within budget.

13. Litigation/Dispute History (_____ points)

Review contractor claims records. A history of contractor claims pertaining to additional compensation or time extensions that are not negotiated and resolved through an Administrative Settlement, or final estimate quantities disputes that proceed, after final acceptance, to court or arbitration. Also, a history of disputes being escalated to the Board of Contract Appeals (or the equivalent with other owners) by a member of the Firm should be considered.

14. Landscaping (_____ points)

Credit will be given for the quality of the elements presented in a narrative describing the theme, use of native plants and methods to minimize maintenance, if applicable.

3.19 SELECTION COMMITTEE RECOMMENDS AWARD

Unless all proposals are rejected, the Selection Committee will approve an award recommendation to the Firm with the lowest adjusted score. The Commission will determine whether to authorize MDT to enter into a contract for the price proposed. In the advertisement and pertinent proposal documents, MDT will reserve the right to reject all proposals.

Contract Plans Bureau will post the results and provide notification to each Firm submitting a proposal of the award of the project or rejection of all proposals within thirty (30) calendar days of final selection or determination to reject all proposals.

The Contract Plans Bureau, in conjunction with the Selection Committee and TRC, will provide justification for the selection upon written request by the non-selected Firms and arrange a formal meeting to explain and review technical scores to clarify non-selection of the Firms. Technical Proposal evaluation scores will be reviewed and unsuccessful Firms will be provided information regarding their relative scores compared to those of other Firms.

3.20 BID PRICE PROPOSALS EXCEED COST ESTIMATE

If all Bid Price Proposals exceed the Engineer's Cost Estimate for the project by more than 25% and the Selection Committee does not reject all proposals, the following procedure will be followed to continue with the selection process:

1) Selection Committee will recommend postponing the award and the Construction Engineer will notify all short-listed Firms in writing of the selection process status.

2) TRC will review the Engineer's Cost Estimate and Scope of Work for the project with the goal of reducing scope by deleting specific items, modifying the specifications for specific items to less expensive items, examining the feasibility of downsizing the overall project, and correcting any errors in the original cost estimate.

3) Construction Engineer and TRC members will conduct a group meeting with all proposing Firms to review and discuss the following items:

    - Advise Firms whether their Technical Proposals were acceptable and considered responsive. Technical Proposal evaluation scores will remain confidential.
    - Advise Firms that all Bid Price Proposals were substantially higher than the MDT budget and cost estimate and that MDT is reviewing the scope of work, cost estimate and available funding.
    - Ask the question: If the project scope of work is revised, is the Firm still interested in continuing with the process?
    - Ask the question: Is the project duration provided adequate to complete the project or would a longer duration reduce the overall project costs?
    - Ask the question: Is there project related risk that was not identified in the RFP?
    - Provide each Firm a list of specific Revised Scope of Work items. Review, discuss and answer questions during the meeting.
    - Request input from each Firm regarding the time required to revise appropriate sections of their Technical Proposals, Bid Price Proposals and submit a "Best and Final" offer. TRC will evaluate and score Technical Proposals using the same original evaluation criteria and only modify those evaluation criteria scores impacted by the revised Technical Proposal.
    - "Best and Final" Bid Price Proposals will be submitted sealed and will be publicly opened after the "Best and Final" Technical Proposals are evaluated and scored by the TRC. Procedure to determine adjusted scores

and Firm with the best value "Best and Final" proposal will remain the same as outlined in the RFP.

4) If the "Best and Final" offers received are within the revised scope of work and cost estimate range, the contract will be awarded to the Firm that was determined to be the best value. MDT will provide the successful Firm copies of the unsuccessful Firm's Technical Proposals to review any of the innovative options and cost-savings alternatives proposed by the other Firms, provided each unsuccessful Firm accepts the stipend payment.

CHAPTER FOUR

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CHAPTER FIVE

DEVELOPMENT OF THE DESIGN AND CONSTRUCTION CRITERIA PACKAGE FOR THE RFP

5.1 DESIGN SERVICES REQUIREMENTS

The design requirements (criteria) and specifications are essential to ensure that the project is constructed to meet the needs determined by MDT. The following guidance is provided for various design requirements that should be in the DCCP for each project type:

(1) Bridge project requirements may include but are not limited to alignment, prescribed typical section elements, design criteria, design guidelines, desired aesthetics, project schedule, standard detail drawings, subsurface soil data, minimum vertical and horizontal clearance requirements, load rating, hydraulics, scour requirements, roadway approach needs, environmental commitments and ADA requirements.

The Traffic Control Plan specifying Maintenance of Traffic (MOT) requirements, such as the number of lanes to be maintained and the lane closure times, should also be noted.

(2) Building project requirements may include but are not limited to building size, net and gross interior space provisions, building systems, material quality standards, allowed budget amount, project schedule, site development requirements, aesthetic requirements, landscaping, electrical service, telephone service, domestic water requirements, sanitary sewage requirements, storm water disposal, parking provisions, ADA requirements, regulatory, environmental and permitting requirements.

(3) Roadway project requirements may include but are not limited to alignment, grade, project limits, typical section elements, design controls and criteria, controlling roadway and traffic design standards, traffic signals, project schedule, drainage, pavement design, signing and pavement marking, traffic control plan, bicycle and pedestrian designs, ADA requirements, lighting, landscaping and access control.

(4) Traffic systems project requirements may include but are not limited to Intelligent Transportation System (ITS) elements involving location of field infrastructure, location of central control center, communication plant, software requirements for traffic management software and operating software and traffic control plan for construction. The DCCP will address design, procurement, installation, integration testing, training and warranty.

5.2 CONSTRUCTION ENGINEERING AND INSPECTION SERVICES REQUIREMENTS

The criteria must clearly define the CEI services and requirements if these services are to be provided by the Firm. Services may include construction inspection, off-site prefabrication, QC Engineering, QA Engineering, as-built drawings, surveying and other services necessary for the specific project.

Requirements may include but are not limited to the type and frequency of reports, submittal of shop drawings, the level of detail and type of documentation for materials used in the construction of the project and other requirements necessary for the specific project. Requirements will include the collection and furnishing of information needed for final certification.

If the CEI Consultant is hired by the Firm, it is recommended that the CEI Consultant be required to provide a monthly report to MDT that outlines progress made, problems that occurred, corrective actions proposed/implemented and the status of corrective actions. The purpose of this report is to provide MDT with a summary of the CEI Consultant's efforts and to enhance accountability. The CEI Consultant cannot be part of the Firm if the project is a Federal Aid project on the NHS, unless specific approval has been received from FHWA.

5.3 CONSTRUCTION SERVICES REQUIREMENTS

The criteria will reference any applicable MDT Specifications deemed appropriate by the Design-Build Team/TRC. In addition, it may be necessary to reference local or state building codes, national standards or other specification requirements pertinent to the specific project.

The Design-Build Team/TRC should consider whether there are any particular construction processes or techniques that need to be specified in order to satisfactorily construct the project. As a general rule, it is better to describe unique social,

environmental and community values desired and let the Firm select the best construction method and technique.

5.4 PERMITS

MDT must determine who will be responsible for permits and how the coordination process will be handled. FHWA holds MDT responsible for all permits on Federal Aid Projects. The RFP will clearly state when the Firm is to be responsible for identifying and obtaining all required permits. A detailed list and explanation of potential environmental related permits is included in Chapter 9, Project Development and Environmental Process, of these Guidelines. Any permit requiring additional permanent R/W or easements must comply with the MDT Right of Way Operations Manual.

The RFP will identify the required permits and easements and the MDT contact that must approve commitments made by the Firm on behalf of MDT as a result of obtaining permits.

Known commitments and/or permit requirements, especially those affecting the Firm's construction options and costs, should be clearly defined and supplied to the Firms prior to preparing technical proposals. Initial resource agency coordination meetings should begin as the RFP and DCCP are being developed. This does not reduce the Firm's responsibility to acquire all necessary permits or to modify project permits as necessary when the Firm's design alters conditions under which the original permit was obtained. The following are examples of some, but not all, permitting issues/concerns:

- Restrictions for construction access
- Horizontal and vertical requirements for bridge span
- Blasting restrictions or requirements for existing bridge removal
- Special turbidity control requirements
- Mitigation ratios and special mitigation requirements
- Other site-specific permitting restrictions that may include time restrictions affecting construction activities
- Local ordinances, including noise and hours of operation
- Subdivision permits
- Building permits

5.5 DESIGN PLANS AND ENGINEERING CALCULATIONS REVIEW

The design criteria will clearly define any documentation (including, but not limited to, design plans, shop drawings or engineering calculations) that is to be received by MDT. Under design-build, these submittals are not for MDT's approval, but only for verification of compliance with the RFP and DCCP. The RFP and DCCP will also clearly state any requirements for packaging submittals and backup information that MDT may desire in order to avoid fragmented submittals but not hinder early construction using partially completed plans or component plan packages. The RFP and DCCP should also define the shop drawing review (routing) process.

Plan Content Requirements:

ROADWAY PLANS

Item	Required when Applicable to Project Type	Required when Specified	Not Required
Title Sheet	X		
Table of Contents	X		
Notes	X		
Linear and Level Data	X		
Control Diagram	X		
Typical Sections	X		
Summary of Quantities			X[1]
Hydraulic Data Summary Sheet			X[1]
Box Culvert Data		X	
Storm Drain Plans and Profiles		X	
Detail Sheets	X		
Plan and Profile Sheets	X		
Special Profiles		X	
Back-of-Sidewalk Profile		X	
ADA Requirements		X	
Ramp Terminal Details		X	
Intersection Layout/Details		X	
Retention/Detention Ponds		X	
Cross Sections	X		
SWPP Plan	X		
Traffic Control Plans	X		
Utility Plans	X		
Water Plans		X	
Sanitary Sewer Plans and Profiles		X	
Miscellaneous Structures Plans	X		
Signing and Striping Plans	X[2]		
Electrical Plans (Signals/Lighting)	X[2]		
Landscape Plans	X		
Mitigation Plans	X		

1. Preliminary Summary Tables are required when 90% complete plans are submitted for review and approval. Summary tables should also be used for items of work not typically depicted by plan detail (mail boxes, side drain).

2. Traffic Plan Tabulation of Quantity sheets are not required.

If sufficient data is available, MDT may provide the complete pavement design package as part of the RFP and DCCP. If MDT does not provide the pavement design, project specific pavement design criteria will be provided as part of the RFP and DCCP to ensure a reasonable pavement design is provided by all competing Firms. The project specific pavement design criteria will be developed in accordance with MDT Surfacing Design Guidelines. MDT will provide Non-Destructive Testing (NDT) Deflection Data and the Firm will calculate the resilient modulus. MDT Surfacing Design Section may recommend the Performance Grade (PG) binder based on Equivalent Single Axle Load (ESAL) loading, geographic location, weather extremes and type of project.

BRIDGE PLANS

Item	Required when Applicable to Project Type	Required when Specified	Not Required
List of Drawings	X		
Bridge Plan Quantities	X		
Bridge General Layout	X		
Footing Plan	X		
Log of Boring	X		
End Bent or Abutment	X		
Backwall and Footing Details	X		
Wingwall Details	X		
Architectural Details	X		
Intermediate Bents or Piers	X		
Pier and Pier Footing Details	X		
Expansion Shoe and Bearing Details	X		
Diaphragm Details	X		
Beam End Details	X		
Erection Plan	X		
Girder/Beam Details	X		
Slab Details	X		
Transverse Slab Section	X		
Slab Reinforcement Plan	X		
Girder Elevation Details	X		
Girder Chamber Diagram	X		
Field Splice Details	X		
Superstructure Construction	X		
Sequence	X		
Miscellaneous Details	X		
Barrier Details	X		
Pedestrian/Hand Rail Details		X	
ADA Details		X	
Phase Construction Details		X	
Falsework/Forming Plans	X		
Reinforcing Bar List		X	
Detour Plan and Profile	X		
Detour Bridge Details	X		
Retaining Wall Sheets	X		
Standard Drawings	X		
Existing Bridge Sheets		X	
Mitigation Plans	X		

5.6 UTILITIES

MDT will be responsible for identifying the existence, features and locations of any utilities within the anticipated limits of construction. The Firm will be responsible for coordinating any required utility relocations or adjustments necessary for satisfactory completion of the contract work and for work necessary to otherwise accommodate all utilities within the limits of construction during construction and upon satisfactory completion of the adjustment and relocation work. For projects with significant utility

conflicts, MDT may require that each proposing Firm identify and provide a Utility Coordinator in the Technical Proposal.

MDT will make available to the Firm for inspection, all available existing utility permits, plans and utility relocation information, including 23 CFR, part 645, Subpart A and B, Administrative Rules of Montana and Volume III of the MDT Right of Way Manual. MDT makes no guarantee as to the completeness or accuracy of utility information and the Firm relies on the completeness or accuracy of such information at its own risk.

The Firm will provide copies of preliminary utility relocation plans for each utility to MDT for review and approval prior to starting utility relocation work. After all utility relocation work is completed; the Firm will provide MDT copies of as-built utility relocation plans and permit applications for each utility. MDT will process and issue Utility Permits

In case of utility caused delays, the Firm will refer to the MDT Specifications.

The Firm will be responsible for utility relocation costs as provided by Montana law.

5.7 EASEMENTS AND RIGHT OF WAY

Prior to the RFQ advertisement, existing R/W must be verified and a determination made whether the project can be built within existing R/W. If additional R/W and Construction Permits is required, in order to avoid potential schedule delays, MDT will typically provide all R/W services for Design-Build Projects instead of including R/W services in the Contract. The RFP may not be issued to short listed Firms or Contract awarded prior to completion of R/W activities. Construction activities may not begin on any portion of a project until possession of all R/W and easements necessary for construction of the project has been obtained by the State or a local government entity and R/W certification has been issued for construction of the project. (See Chapter 8, Right of Way Issues on Design-Build Projects.)

5.8 EXISTING PROJECT FEATURES OR SYSTEMS

The RFP and DCCP will include a section that specifies the responsibility for demolition and disposal or salvage and stockpile of existing features or systems that are no longer necessary to the project.

5.9 QUALITY CONTROL REQUIREMENTS

The RFP and DCCP will address any QC requirements that the Firm must follow in addition to those already in the referenced specifications, policies and procedures that will ensure quality products (plans, materials and construction). The criteria should also note any standard QC practices that do not apply, such as the designer submitting phase plans to MDT for review.

5.10 INDEPENDENT ASSURANCE

Whether MDT hires the CEI Consultant or the CEI Consultant is part of the Firm's

responsibilities, MDT will continue with its IA program. In addition, MDT and FHWA may review records and conduct verification tests at any time in order to ensure quality products and services are being provided.

5.11 SURVEY REQUIREMENTS

The RFP and DCCP will specify any survey information required by MDT and provide the Firms any existing survey information that is available.

It may be necessary for MDT to perform some preliminary survey work in the preparation of the RFQ, RFP and DCCP. MDT must determine who will provide the survey control for layout, the layout itself and determine if it is to be tied to the State Plane Coordinate System. All survey work performed by the Firm will be performed by a Montana Licensed Surveyor and will adhere to the requirements of MDT's Survey Manual and Montana law.

5.12 FINAL DOCUMENTS

The RFP and DCCP will clearly define the final documents required by MDT from the Firm upon completion of the project. These documents should include: as-built final plans (100% automated, including sheet files and geometric data files), computer files containing the as-built design plans, engineering reports, shop drawings, test results, documentation, daily reports, quantities list, labor certificates, warranties for equipment installed on the project and certificates of occupancy, if required. Copies of final plans "Approved for Construction" and as-built plans should be provided to the MDT Planning Systems Supervisor and Road Inventory and Mapping Supervisor.

The Firm will provide all design-build electronic files to MDT using the following procedure:

1. CD/media arrives from Firm (as-built files) to EPM, then is forwarded to District Engineering Officer (DEO).
2. DEO loads files into DMS to the "AB" directory which should be completed in 3 business days.
3. DEO e-mails all Functional Managers (and those with related responsibilities), informing them these files are in place on DMS and include any additional instructions.
4. Project related questions by functional Managers should be directed to the project EPM.

5.13 STAFFING REQUIREMENTS

The RFP and DCCP will outline the minimum training and experience requirements for any professional personnel and/or construction personnel deemed appropriate by MDT and/or required by regulatory agencies.

5.14 GEOTECHNICAL REQUIREMENTS

The RFP and DCCP will specify any geotechnical information or reports required by MDT. MDT may perform some preliminary exploratory geotechnical work and provide resulting data prior to preparation of the RFP and DCCP. MDT may conduct other geotechnical investigations in order to save the short-listed Firms the time and expense. MDT will provide copies of any existing exploratory data and other geotechnical information that is available to all short listed Firms invited to submit a proposal.

5.15 ITEMS TO BE FURNISHED BY MDT

The RFP and DCCP will include a section that details any items or services to be furnished by MDT. This section should include any information (data, reports), support functions (computer services), materials, equipment, testing devices, or other items that would affect the price or technical approach. Such information might also include survey data, geotechnical information, bridge hydraulic reports, existing plans, utility permits and R/W plans, if available.

As a general rule, MDT should provide a typical section package as a part of the design criteria. MDT must also determine if MDT will provide the pavement borings and pavement design or if the Firm will perform this work.

The following are examples of other information that might be necessary for MDT to provide in order to clarify the design and construction criteria:

- Preliminary geotechnical survey including bridge borings, wall borings and roadway borings within the limits of the possible alignments.
- To ensure seed mixtures are compatible with conditions in the project area, MDT should provide re-vegetation specifications in the RFP and DCCP.
- ADA Accessibility Guidelines
- Site specific permit surveys potentially affecting or restricting the Firm's allowable construction methods, schedule and cost. Examples:
    - Survey showing limits of contaminated sites within the R/W that potentially affect excavations such as building bridge bents and drainage structures. Verbiage requiring special conditions such as coordination with a specialty contractor should be included in the contract.
    - Limits of jurisdictional wetlands within the R/W and on adjacent properties. Also, any permit implications affecting construction access in these areas needs to be addressed.
    - Endangered species survey.
    - Other environmental related commitments and surveys.
    - Asbestos survey on building projects when existing buildings are modified or demolished.

- Lead and other heavy metals paint survey.

5.16 ISSUE ESCALATION AND RESOLUTION

The RFP and DCCP will include an issue escalation and resolution matrix or process that clearly defines the procedure for addressing questions or disagreements that may arise. This process should state the chain of command within MDT and require the Firm to provide a similar list of people in responsible charge. For MDT, the process should begin with its EPM and continue through the District Construction Engineer, District Administrator, MDT Construction Engineer and MDT Chief Engineer. Consideration should be given to the level that issue escalation begins, depending on the type of issue.

Typically, issues should be resolved at the lowest possible level. Each level of escalation should also include a time frame for resolving the conflict. Construction issues that arise will be resolved through the following process:

- If the resolution does not change the original intent of the Technical Proposal or RFP, then the Engineer of Record (EOR) or Architect who works for the Firm will be responsible for developing the design solution to the construction problem and the CEI Consultant will be responsible for review and concurrence. If the CEI Consultant has concerns, then the relevant District Office will be involved through the EPM.

- If the resolution alters the original intent of the Technical Proposal/RFP, then the EOR or Architect will develop the proposed solution and submit to MDT through the EPM for review and approval with a copy provided to the CEI Consultant. The EPM will submit a copy to FHWA for approval on Full Oversight projects. The RFP must clearly define what constitutes an alteration of the original intent.

When MDT will perform CEI for a project, replace “CEI Consultant” with “MDT” in the above text.

5.17 WARRANTY/CONTRACTOR GUARANTEE

The RFP and DCCP will generally include a provision for a project warranty/Contractor guarantee with a specified number of years and the details as to what is to be covered. As a general rule, routine maintenance is not covered by a warranty/Contractor guarantee. Standard warranty/Contractor guarantee forms or clauses may need to be modified to fit project specific needs. Building projects should have a warranty of no less than one year.

Any warranties/Contractor guarantees that are developed for Full Oversight projects will be tied to specific features or products. The warranty/Contractor guarantee will be tied to warranty bond/guarantee criteria to ensure that the Firm undertakes any corrective work necessary during the life of the warranty/Contractor guarantee. All warranty/Contractor guarantee language in the RFP used in construction contracts for Full Oversight projects should be approved by FHWA.

CHAPTER SIX

OBLIGATION OF FUNDS

6.1 OBLIGATION FOR STIPENDS

The successful Firm and short-listed Firms not selected may receive a stipend (lump sum) for their efforts, if the TRC and Selection Committee determines their proposal is responsive. These Firms will submit an invoice on a lump sum basis after the award process is complete. The invoice amount will be based on the amount shown in the RFQ and RFP. Funds for stipends will be included in the Contract obligation.

6.2 OBLIGATION FOR CONTRACT

When it has been determined that a proposed design-build project will be funded and proceed, MDT's Fiscal Programming Bureau will obtain three separate programming obligations for design-build projects. First will be an obligation for the estimated cost of preliminary engineering and environmental work required to develop the RFQ, RFP and DCCP. The authorization for PE (first obligation step) precedes any chargeable federal-aid reimbursable work to develop the RFQ, RFP and DCCP. The second obligation is for R/W work, if required. The third obligation is for the Contract and will be obtained after completion but before release of the RFP and DCCP and will be based on the estimated cost of all activities necessary to complete the project after award of the contract, including payment of any stipends. Program obligations may be modified to reflect actual costs for R/W; after the Contract is awarded and the total cost is known; and the final modification to reconcile the authorized obligation with the final expenditures.

6.3 TECHNICAL GUIDELINES

On State and Federally-funded projects, when CEI services are performed by CEI Consultants that are not members of the Firm and not included in the Contract, a separate contract will be advertised and awarded by MDT for CEI services. MDT will select a CEI Consultant in accordance with the MDT Consultant Services Procedures Manual. For Full Oversight projects, when the CEI services are proposed for inclusion in the Contract, FHWA must review and approve CEI services to be performed by the Firm.

Once a project is identified as a design-build project, it should be decided who is going to perform the services necessary to bring the project to completion. These services include utilities/railroad, permits, geotechnical investigations, survey/mapping, R/W and CEI. Depending on the project, some or all of these services may be performed by MDT prior to issuing the RFP.

6.4 COMPENSATION TO SHORT-LISTED FIRMS

When MDT intends to compensate the successful Firm and the short-listed Firms for

submitting a responsive proposal, MDT will process an invoice for payment from each Firm after Contract award. An invoice is required to document the terms and conditions of compensation (stipend). The intent is to compensate the amount that is noted in the RFP package that is based on the guideline formulas outlined in **Section 3.17**. The amount is not intended to compensate the Firms for the total cost of preparing proposals.

CHAPTER SEVEN

FEDERAL AID AUTHORIZATION FOR DESIGN-BUILD PROJECTS

The following instructions cover the planning, authorization and closeout of Federal funds allocated to design-build projects. Projects are authorized under 23 CFR, Part 636.

Federal Aid authorization for design-build projects is also subject to provisions of the current Partnership Agreement executed between FHWA, MDT and the Montana Transportation Commission. This agreement identifies types of projects and functions subject to oversight by FHWA and those projects and functions delegated to MDT.

FHWA will perform the following review and approval functions on Federal Aid projects on the NHS, if applicable: Concept/Development Documents such as Preliminary field Review, Scope of Work or Plan-In-Hand Reports; Pavement Surfacing Designs; Final PS&E; Design Exceptions; Civil Rights and DBE Programs; Concurrence in Award; Value Engineering Proposals; Time Extensions; Contract Change Orders; Contract Claims; Innovative Contracting Procedures; Standard and Supplemental Specifications and Detailed Drawings; and Final Acceptance. FHWA involvement in Federal Aid design-build projects on the NHS will be governed by project specific roles identified during development of the RFQ, RFP and DCCP.

7.1 PLANNING FOR USE OF FEDERAL AID FUNDS ON PROJECTS

The scheduling of the obligation of Federal Aid funds on design-build projects is important from the following perspectives:

A. MDT plans for the obligation of Federal Aid funds apportioned and allocated to Montana using the MDT planning process and development of the State Transportation Improvement Plan (STIP).

B. Unlike typical design/bid/build construction that uses activities/events pertaining to the letting schedule, design-build projects must be authorized before advertisement for the RFQ, before the RFP is released for proposals and after FHWA approval of the RFP. FHWA approval, fund authorization and distribution of the RFP occur before receipt of proposals.

C. The FHWA Division Office must approve the RFP for Federal Aid projects on the NHS. The FHWA Division Office requests at least two weeks to review the

RFP before granting their approval. Since several draft submittals and re-submittals may occur, the authorization request is only processed after final written package approval.

D. These package approvals are necessary for FHWA participation in the project. The design-build project authorization request should be processed immediately upon notice of receipt of package approval. After receipt of FHWA authorization approval, the RFP can be distributed to the short listed Firms.

E. Firms responding to the RFP may propose changes to the project scope that could invoke an amendment to the planning process and/or NEPA reevaluation.

7.2 PREPARATION OF REQUEST FOR AUTHORIZATION

Since the need for additional R/W must be determined and the environmental documentation may be necessary before the RFP is approved, these activities normally will be authorized with Federal funds in advance of the Contract authorization. MDT's PE work should serve as the basis for the original federal project authorization, followed by a R/W services authorization, if required.

The sequence of federal authorizations is as follows:

1. Planning process for PE (STIP)
2. Authorization for PE
3. PE advance activities are performed by MDT
4. Planning Process for R/W
5. Authorization R/W, if required
6. Planning Process for Construction
7. Authorization for Design-Build Contract.
8. The Federal Aid program authorization previously established will need to be modified after the contract is awarded. Generally, these contract price modifications should occur following Contract award. Proposals that differ significantly from what was anticipated in the NEPA document may cause a reevaluation and/or an amendment to the STIP.
9. Final program authorization modification for project closeout, if needed to balance authorization to final expenditures.

7.3 DOCUMENTATION REQUIREMENTS TO SUPPORT FEDERAL AUTHORIZATION

The form of documentation requirements for design-build is different than typical design/bid/build construction projects. Design-build authorizations with Federal funds, whether Full Oversight or not, should be supported by:

1. R/W certification prior to issuing the RFP.
2. Written FHWA and/or MDT approval of the RFP.

3. Electronic signatures from FHWA authorizing funds for the project.

The RFP documentation should affirm if other checklist items, such as utilities, permits and NEPA status are complete or when they will be completed.

7.4 CLOSING DESIGN-BUILD PROJECTS

From a Federal Aid funding perspective, closing design-build projects is not expected to be dissimilar from typical design/bid/build construction project closeout. The final completion stage will be initiated by MDT based on an executed Certificate of Completion. The Firm will be responsible for compliance with all permits until the work covered by the permit is completed and the permit is closed. Since each project may require different types of permits, the RFP should specify by whom, how and when permits will be closed. In most cases, MDT's preference is to have the Firm close all permits, but there may be some permits that extend a considerable time period beyond project completion and it may be beneficial for MDT to close these permits.

The MDT EPM must provide the Certificate of Completion and the contract time sheet to the Construction Administration Services Bureau (CAS) verifying completion of the project. The CAS Bureau will review the costs and prepare the final federal program authorization modification. The CAS Bureau requests final acceptance from FHWA. After FHWA acceptance, the CAS Bureau, in conjunction with the Financial Management Bureau, prepares the final voucher for submittal to FHWA.

CHAPTER EIGHT

RIGHT OF WAY ISSUES ON DESIGN-BUILD PROJECTS

8.1 GENERAL

Prior to advertisement for the RFQ, existing R/W must be verified and a determination made whether the project can be built within existing R/W. If additional R/W will be required, a decision must be made by MDT in the identification stage if R/W services will be included in the Contract or addressed separately by MDT. MDT will provide all R/W services and obtain any required R/W and Construction Permits for Design-Build Projects unless otherwise specified. For projects where MDT is obtaining the R/W, the RFP will not be issued to the short listed Firms prior to completion of R/W activities. Whether R/W is obtained by MDT or is included in the design-build Contract, Construction activities may not begin on any portion of a project until possession of all R/W and easements necessary for construction of the project has been obtained by the State or a local government entity and R/W certification has been issued for construction of the project.

8.2 COMPLIANCE WITH EXISTING REQUIREMENTS

All existing laws, rules, regulations and procedures detailed in the MDT Right of Way Operations Manual; the Uniform Relocation Assistance and Real Property Acquisition

Policies Act of 1970, as amended; 23 CFR Part 710; and 49 CFR Part 24; apply to the acquisition of R/W under the design-build process.

The acquisition of R/W is a complex and highly regulated activity. Property owner legal rights may not be violated. Contact with property owners should be limited to persons fully knowledgeable in Federal and State requirements for the acquisition of property for transportation purposes under eminent domain. Any discussion of price for the acquisition of private property with the owner of that property prior to establishment of just compensation by MDT may result in the project being deemed ineligible for Federal funding. The RFP must contain a requirement that all Firms who intend to submit proposals on the project are restricted from discussing R/W acquisition with owners of private property potentially to be acquired by MDT for the project. There is no prohibition against Firms acquiring property for borrow pits or material sites or acquiring Firm leases, since these properties would not be incorporated into the project and title will not be held by MDT.

Any person or entity that acquires R/W within the project limits after the project becomes federalized will be disqualified from bidding on the project. A federalized project is a project with federal fund participation in any project phase. For purposes of this guideline, the term “federalized” includes those projects that are proposed for Federal funding in MDT’s tentative work program or in the STIP.

8.3 RIGHT OF WAY PLANS, TITLE COMMITMENTS AND DEEDS

Decisions regarding who will prepare R/W plans, legal descriptions, title commitments and deeds must be made during development of the RFQ and RFP for the project.

8.3.1 R/W plans, legal descriptions and deeds may be obtained either as part of the Contract or through a separate R/W services contract with MDT. R/W plans, legal descriptions and deeds must comply with the MDT Right of Way Operations Manual.

8.3.2 Title searches may be obtained either as part of the Contract or through a consultant under separate contract with MDT. A decision must be made on how title commitments will be obtained; either by the Firm as part of the Contract or by MDT.

8.3.3 Preparation of title commitments is a legal service and must be performed under the direction of an attorney. The only exception to this rule is if title insurance is purchased. In that event, the documents would be prepared and the closing would be handled by the title company issuing the title insurance policy. If the Firm will be responsible for providing the deeds, a litigation guarantee must be provided on all parcels and title insurance provided on all parcels acquired through closings. The purchase of title insurance may be required. Title commitments will be paid at the promulgated rate established by MDT. For those parcels that do not proceed to closing, MDT will pay a flat cancellation fee to be specified in the RFP. MDT will estimate the cost of title insurance using the most recent cost estimate and set promulgated rates. The RFP will include the estimated amount for title commitments that will be included in the Firm’s Bid Price Proposal. The Firm must include in its bid, the flat rate cancellation fee to be paid for those parcels that do not proceed to closing. If the actual cost of title

insurance provided on parcels which proceed to closing plus the cancellation fees for those parcels which do not proceed to closing exceeds the amount of the estimate, MDT will reimburse the Firm the difference. If actual costs plus cancellation fees are below the amount of the estimate, the Firm will only be entitled to be paid up to the amount of the actual costs.

8.4 RIGHT OF WAY SERVICES

A decision regarding how R/W services will be provided must be made during the PE phase of the project. R/W services may be included as part of a Contract. R/W services may also be provided through a separate right of way consultant contract with MDT.

8.4.1 Funding Issues. Since the need for additional R/W must be determined and the environmental documentation may be necessary before the RFP is approved, these activities normally will be authorized with Federal funds in advance of the Contract authorization. MDT's PE work should serve as the basis for the original Federal project authorization, followed by a R/W services authorization, if required.

8.4.2 Professional Services. R/W services fall mainly in the category of professional services and consultants must be qualified to complete the following types of work:

a. Appraisal Services. This work includes, but is not limited to cost estimating, preparation of appraisals and appraisal review. If appraisal services are included in the Contract, the appraiser and the reviewer may not be from the same appraisal firm. An appraiser may not participate in acquisition or negotiations.

b. Acquisition, Negotiation and Order of Taking. This work includes, but is not limited to verifying title work, conducting negotiations for the acquisition of property, arranging land owner payments and preparing condemnation documents as outlined in the MDT Right of Way Operations Manual.

c. Acquisition Relocation Assistance. This work includes, but is not limited to relocation planning and providing relocation assistance services to displaced persons, businesses, farm and ranch operations or non-profit organizations.

d. Right of Way Clearing and Leasing. This work includes, but is not limited to preparation of inventories, property inspections, conducting negotiations for short-term leases prior to construction of a project, and preparing, obtaining, managing, and reviewing contracts for consultant and contract services related to hazardous material services.

8.4.3 Legal Services. Legal services for R/W work are not included in the design-build Contract. R/W legal services will be performed by MDT using applicable State or Federal funds.

8.4.4 Other Right of Way Services. If asbestos services are included in a Contract, companies with proper licenses and certifications must perform these services. Asbestos surveys and asbestos abatement may not be performed by the same

consultant/contractor. Asbestos surveys, O&M plans and abatement specifications must be reviewed and approved by an MDT employee or a consultant with a current EPA certification as an asbestos building inspector and/or management planner, as appropriate. This consultant may not be from the same firm as the consultant who prepared the documents or the contractor who will abate the asbestos. At the time an RFP is issued, a determination will not have been made as to whether asbestos abatement is required on any buildings. This determination cannot be made until such time as the property is acquired and vacated. Therefore, if asbestos abatement services are to be included in the Contract, MDT will estimate the amount and cost of abatement necessary on the project. The RFP will identify the estimated cost for abatement services. This estimated amount will be included in the Bid Price Proposal, with a provision that if actual costs exceed the amount of the estimate, MDT will reimburse the Firm the difference and if actual costs are below the amount of the estimate, the Firm will only be entitled to be paid up to the amount of the actual costs.

8.5 FEDERAL AUTHORIZATION

On Federal Aid projects, Federal authorization is required prior to beginning any R/W activities. For those projects that include R/W in the Contract, authorization for R/W services may be obtained at the same time as the authorization for the Contract, as long as MDT has controls established by contract to preclude the start of negotiations prior to release of the RFP. R/W plans, title commitments and legal descriptions must also be complete prior to the start of negotiations (see ***Section 8.9.1***).

8.5.1 Right of Way Land. R/W landowner payments, fees and costs, and relocation assistance payments may be authorized separate from the Contract. MDT's PE work should serve as the basis for the original Federal project authorization, followed by a R/W services authorization, if required.

8.5.2 Right of Way Support. Authorization of R/W consultant support services for acquisition/relocation and other support services (appraisals, demolition, asbestos survey, asbestos abatement, MDT expert witnesses) will depend on how R/W services are to be provided and how the project is programmed.

8.6 RESPONSIBILITIES RETAINED BY MDT

The following responsibilities must be retained by MDT and cannot be included in any contract: approval of just compensation; approval of settlements for the acquisition of real estate, either pre-litigation or during litigation; final MDT acceptance of purchase agreements; approval of title policy exceptions; approval of relocation assistance payments; legal services; and R/W certification.

Approval of the control survey, R/W plans and other documents associated with R/W mapping will be in conformance with existing MDT procedures.

8.7 RIGHT OF WAY CERTIFICATION

Prior to advertisement for the RFQ, existing R/W must be verified and a determination made whether the project can be built within the existing R/W. This will include an on site inspection of the R/W to verify there are no encroachments. All projects require a certification of R/W prior to releasing the RFP to short listed Firms. This certification, signed by MDT, may be a R/W certification for construction. The certification for construction will state either no additional R/W is required for the project or additional R/W is required for the project and all R/W activities have been completed in accordance with applicable Federal and State regulations.

8.8 RIGHT OF WAY PROJECT OVERSIGHT

8.8.1 Right of Way Operations Manager. MDT will designate the R/W Operations Manager to serve as the contact and coordination point between the Right of Way Bureau, MDT's EPM and the Firm. On design-build projects with R/W services contracted directly by MDT, the R/W Operations Manager will serve as contact and coordination point with the R/W Consultant. The R/W Operations Manager is responsible for management and oversight of the R/W services for MDT.

8.8.2 Quality Control Checkpoints. MDT has certain responsibilities that cannot be delegated to a Consultant or the Firm. These areas of retained responsibility provide the basic quality control checkpoints for MDT oversight of the R/W activities. They will require attention and precise coordination to ensure proper delivery of the R/W services.

a. Setting Just Compensation. In all cases, MDT must approve the amount of just compensation prior to offers to purchase being made to property owners.

b. Approval of Settlements. Pre-litigation or litigated settlements for real estate and/or owner's attorney fees and costs must be submitted to MDT for approval. Pre-litigation settlements cannot be closed until MDT has approved acceptance.

c. Relocation Assistance Approvals. MDT must review and approve all project needs assessments, all last resort housing eligibility determinations prior to offering to displaced persons, and all relocation assistance claims prior to making any payments.

d. Eminent Domain Legal Services. When a settlement cannot be reached through pre-litigation negotiations, MDT will provide legal services using applicable State or Federal funds. When the MDT Consultant or Firm Consultant (when R/W services are included in the Contract) requests that a parcel be placed in suit, MDT must determine that all reasonable efforts to negotiate a pre-litigated settlement have been exhausted. Precise coordination between the MDT R/W Operations Manager, MDT Legal Services, MDT's Consultant and the Firm Consultant is essential.

e. Certification of R/W for Construction. When the Firm requests R/W certification for the project in order for construction activities to begin (when

R/W services are included in the Contract), MDT must perform a field review of the area subject to the certification prior to granting certification.

Additionally, MDT must ensure that the certification meets the requirements of a certification for construction, as described in the MDT Right of Way Operations Manual, in the areas of acquisition and relocation assistance. If asbestos survey, asbestos abatement and demolition services are not part of the Contract, then the R/W certification must also meet the requirements for a certification for construction in the property management area.

8.8.3 Quality Control/Quality Assurance Plan. A R/W QC/QA Plan is required to be part of the Contract (when R/W services are included in the Contract). The MDT R/W Operations Manager will use the periodic reports generated by the Firm's Consultant in accordance with the QC/QA plan to monitor quality of the R/W activities. Additionally, the MDT R/W Operations Manager may establish key points or activities to periodically review during the delivery of the R/W services for the project in order to further monitor the quality of the R/W services.

Examples of key activities recommended for periodic review by the MDT R/W Operations Manager are: notice delivery; content of contacts with property owners, business owners, and displaces; replacement housing payment (RHP) calculations; and selection of comparable replacement properties.

8.9 CONTRACT REQUIREMENTS

Contracts proposed for projects needing R/W will require certain contract provisions.

8.9.1 Notice to Commence R/W Acquisition. Whether R/W services are included in the Contract or provided by MDT, MDT must issue a Notice to Commence R/W Acquisition prior to any offer being made to acquire R/W. Environmental approval and completion of R/W plans, title commitments and legal descriptions are required before the notice to commence may be issued.

8.9.2 Notice to Commence Construction Activities. On all projects that require additional R/W, MDT must issue a Notice to Commence Construction Activities prior to the start of any construction activities on the project or any portion thereof. This requirement is applicable whether the R/W services are included in the Contract or will be handled separately by MDT. The notice to commence may not be issued until such time as the R/W necessary to support those construction activities is acquired and a R/W certification for construction is issued.

8.10 SCOPE REQUIREMENTS

For projects with R/W services included in the Contract, the MDT Right of Way Bureau must be involved in developing the scope of work for R/W services. If feasible, it is recommended that the scope of work be developed using existing MDT R/W contracts for such services as a basis. The delivery of R/W services involves many complex

activities and the scope must clearly define the activities in order to avoid potential contract disputes and delays in project schedules.

8.11 SCHEDULING

Due to the complexities involved in the R/W process and the necessity for MDT involvement at various stages in that process, scheduling is a very important issue and must be carefully addressed in the Contract (when R/W services are included) to ensure reasonable times are provided for both the Firm and MDT to fulfill their contract obligations. Since the acquisition of R/W may depend on court action and unforeseen circumstances that may arise, it is recommended that the Contract include a provision to assign the risk for project delays due to R/W issues. This section refers to provisions that should be incorporated into the Contract (when R/W services are included) and is not intended to include or provide the contractual language. MDT Legal Services should draft the proper contractual language at the time the Contract is prepared.

8.12 FIRM LEASES

On some construction projects, the Firm may determine it is in its best interest to obtain short-term leases (sometimes referred to as contractor easements) for the sole purpose of Firm use, such as areas for storage of equipment. Such leases may not be used for property incorporated into the construction of the project. These leases are negotiated directly between the Firm and the property owner and do not involve MDT. They may be acquired at any time.

CHAPTER NINE

PROJECT DEVELOPMENT AND ENVIRONMENTAL PROCESS

9.1 ENVIRONMENTAL PROCESS

All MDT projects are required to be in compliance with the National Environmental Policy Act (NEPA), Montana Environmental Policy Act (MEPA) and other applicable environmental laws and regulations. This compliance extends from the design phase through the construction phase and into maintenance of a project after construction is completed. NEPA/MEPA regulations are the basis for protection of the environment. They establish the policy and goals and provide means to carry out the policies. The regulations instruct MDT on methods to be used to comply with the procedures and achieve the goals. These procedures ensure that potential social, economic and environmental impact information is available to public officials and citizens before decisions are made and before action is taken related to projects (See 23 CFR Part 771). These documents outline commitments made, conceptual design, avoidance measures, mitigation measures, effects on ROW and resources and other items that may be of public interest. The project design, construction and maintenance must comply with information contained in the environmental documents.

On Federal Aid projects, FHWA usually serves as the lead federal agency for compliance with NEPA and MDT serves as the lead state agency.

9.2 COMMITMENTS

The Firm will be responsible to comply with commitments set forth in the NEPA/MEPA documents for the duration of design and construction of the project.

9.3 PERMITS

Construction activities are regulated by environmental rules and regulations that are administered by federal, state and local agencies. Environmental permits are required from one or more regulatory agencies for most land alterations such as addition of impervious surfaces, construction, alteration or abandonment of storm water management facilities and wetlands or surface water impacts. The time at which these permits can be obtained vary with the type of project, its impacts and the requirements of a specific resource agency. The acquisition of permits can result in having to re-address environmental issues during design, so it is very important to prepare a complete and thorough document during the PE phase and before preparation of the RFP. The Firm will be responsible to obtain permits required for permanent and temporary project facilities.

The following permits may be required, depending on the type of project and potential impacts to various resources:

a. Water Quality Permits

- Federal Clean Water Act (404 Permit) – There are two types of permits, Nationwide and Individual. Nationwide permits require at least 45 calendar days to obtain approval. Individual permits require at least 120 calendar days to obtain approval. This permit is required when placing fill material in waters of the United States. This includes placing fill material in beds or banks of drainage, below the ordinary high water elevation of a stream or river or within a designated wetland. This permit is obtained from the Army Corps of Engineers.
- Federal Rivers and Harbors Act (Section 10 Permit) – This permit is required when working on, over or under water classified as Section 10. In Montana, the Missouri River, Yellowstone River and the Kootenai River are classified as Section 10 waters. The Firm should coordinate with MDT Environmental Services to identify specific locations along these rivers. This permit is obtained from the U.S. Army Corps of Engineers.
- Stream Protection Act 124 – This permit is obtained from Montana Fish, Wildlife and Parks. It is required for work that may affect the natural existing shape and form of any stream or its banks or tributaries.
- Short-Term Water Quality Standard for Turbidity (DEQ 318) – This permit is obtained from the DEQ. It is required for any construction activity that will cause short-term or temporary violations of surface water quality standards for turbidity.

- Montana Pollutant Discharge Elimination System Permit (MPDES Permit) for Construction Dewatering – This permit is obtained from the DEQ. It is required when discharging construction water into surface waters.
- Montana Pollutant Discharge Elimination System Permit (MPDES Permit) for Storm Water – This permit is obtained from the DEQ. It is required when there is more than one acre of disturbed ground that could result in storm water runoff discharging into surface waters.

b. Floodplain Development Permit – This permit is obtained from the Local Floodplain Administrator. It is required if planning new construction within a designated 100-year floodplain.

c. Montana Land-Use License or Easement on Navigable Waters – This license or easement is required when a project is on lands below the low water mark elevation of State navigable waters. The license or easement is obtained from the Montana Department of Natural Resources and Conservation.

d. Other – Other permits or authorizations may be required, depending on the type of project or the construction work proposed by the Firm. For specific requirements or unusual conditions, the Firm should contact MDT Environmental Services. Other types of permits may include:

- UST Removal
- Hazardous Waste Disposal
- Water Rights

In the interest of shortening the permit application and approval period, the following methods will be proposed to the various resource agencies for design-build projects:

1. MDT will coordinate with the resource agencies and keep them involved in the decision-making during development of the PE, RFQ, RFP and DCCP and have one-on-one periodic meetings with the resource agencies to obtain “preliminary” commitments in writing during development of the PE, RFQ, RFP and DCCP to help expedite the permit application and approval process after award of the Contract and start of design and construction.

2. MDT may perform enough preliminary engineering work early to identify permit constraints or requirements during development of the PE, RFQ, RFP and DCCP. This would eliminate part of the permitting scope of work from the Contract, but would require additional MDT resources. Prior written concurrence should be obtained from the resource agencies if this procedure is to be utilized.

3. The Firm should identify construction activities that can begin before final permits are received. This would enable the Firm to start design for project features that do not require permits. The Firm could start working in those areas while work continues on other design and permit application activities.

The Firm will be responsible for compliance with all permits until the work covered by the permit is completed and the permit is closed. Since each project may require different types of permits, the RFP should specify by whom, how and when permits will be closed. In most cases, MDT's preference is to have the Firm close all permits, but there may be some permits that extend a considerable time period beyond project completion and it may be beneficial for MDT to close these permits.

9.4 REEVALUATIONS

After award of the Contract, if the Firm proposes design changes that result in construction activities outside the environmentally cleared "footprint", invalidates previous commitments, or results in a change of project scope from that identified in the approved environmental document, a written reevaluation may be required. The Firm will be responsible for preparing and obtaining approval of any reevaluation resulting from the proposed change and the time required for agency approval. Prior to performing the reevaluation, the Firm will coordinate with MDT and the impacted resource agencies to determine if the proposed design changes warrant a reevaluation. The Firm will be responsible for conducting any required additional environmental studies and completing the documentation for the environmental reevaluation. For Federal Aid projects, MDT will obtain FHWA approval of the form of the NEPA reevaluation and the reevaluation before the Firm can proceed with the proposed design change.

CHAPTER TEN

GEOTECHNICAL (SOILS AND FOUNDATIONS) PROCESS

10.1 DESIGN-BUILD PROJECTS

Design-build projects are handled differently than the typical design/bid/build projects. For a design-build project, the Firm takes on many of the responsibilities and control normally provided by MDT or its representatives. This requires a change in the approach to the project by the various groups involved. For a design-build project to work properly, this change in approach must happen.

10.2 RESPONSIBILITIES

The responsibilities between MDT's Geotechnical Engineer and the Firm can be broken down as follows.

10.2.1 Planning and Development Phase

MDT's Geotechnical Engineer – Gathers readily available existing data on the conditions at the site. Helps prepare the RFQ, RFP and DCCP including any geotechnical limitations/requirements and construction requirements for the project.

10.2.2 Technical Proposals and Bidding Phase

a. MDT's Geotechnical Engineer – Provides enough geotechnical exploratory data related to the project so the Firms can prepare preliminary design and determine costs. Provides any existing geotechnical information available for the project site. Any geotechnical investigations performed by MDT prior to bidding are based on the best available information. Answers questions from the prospective Firms through the Contract Plans Bureau.

b. Firm – Reviews exploratory data and other geotechnical information provided by MDT and perform any data analysis required to make a determination of the appropriate design and construction method based on the Firm's approach/equipment. Firms should coordinate any plans to perform additional exploratory work prior to submitting their proposal with MDT's Geotechnical Engineer. Submits Technical and Bid Price Proposals.

10.2.3 Design/Construction Phase

a. MDT's Geotechnical Engineer – Verifies design and construction are in compliance with the contract documents by providing QA Engineering (if not included in the Contract) and IA Engineering.

b. Firm – Meets the requirements set forth in the contract documents. The Firm:

1) Gathers additional geotechnical data and testing such as borings and/or load tests, if required.
2) Continues with the design process.
3) Constructs the project and performs QC Engineering and QA Engineering, if included in the Contract.

10.3 PRESENTATION OF GEOTECHNICAL DATA

The geotechnical investigations performed by the Firm for design-build projects must be handled differently from the normal design/bid/build project. The Firm will perform Geotechnical investigations required for design and analysis of data.

Geotechnical investigations performed by the Firm will be compiled in a format that presents the work that has been performed and the data analyzed. The data is typically compiled in a geotechnical report. The purpose of the geotechnical report is to present the data collected in a clear manner. The format and contents of the geotechnical report are dependent on the type of project and the amount of investigations performed by the Firm. Most projects will generally require either a roadway subsurface investigation or a structure related subsurface investigation, or both. All geotechnical reports must be reviewed and approved by MDT prior to finalization and use for design.

This chapter describes the format for presentation of geotechnical data for each type of project. General outlines of the topics to be discussed in the geotechnical report are presented. Not every project will follow these formats exactly. However, for any given

project, certain items may be unnecessary while other items will need to be added. Also included in this chapter are discussions on the finalization and distribution of the geotechnical report.

10.4 ROADWAY SUBSURFACE INVESTIGATION

The geotechnical report for a roadway subsurface investigation should present data and analysis information. The following is a general outline of the topics that should be included.

a. Soil conservation services (SCS/USDA) and USGS maps.
b. Description of significant geologic and topographic features of the site.
c. Description of width, composition and condition of existing roadway.
d. Description of methods used during subsurface exploration, in-situ testing, and laboratory testing along with the raw data from these tests.
e. Analysis of the geotechnical data and provide geotechnical engineering recommendations.

10.5 STRUCTURES SUBSURFACE INVESTIGATION

The geotechnical report for a structure should present geotechnical data and analysis information. The following is a general guide to the contents of a typical structure subsurface investigation report.

a. Vicinity map, including potentiometer map, USGS and soil survey maps (SCS/USDA), depicting project location.
b. Description of the methods used in the field investigation, including the types and frequencies of all in-situ tests.
c. Boring location plan plots of boring logs and/or cone soundings. Note the size of rock core sampled. The minimum acceptable rock core diameter will be 1.875 inch, but 2.5-inch diameter rock cores are preferable.
d. Analysis of the geotechnical information.
e. Results of corrosivity tests.
f. Any other pertinent information.
g. Description of the laboratory-testing phase, including any special test methods employed.
h. Suggestions on handling any potential problems identified.

10.6 DESIGN-BUILD SCOPE OF WORK

The following are some examples of what should be considered for inclusion in the scope of work.

1. Any geotechnical or design restrictions placed on the Firm.
2. Any special requirements that must be met such as additional geotechnical work or any required testing over and above what is normally required.
3. Provisions for review and approval of all geotechnical related investigations and resulting reports.

10.7 TECHNICAL PROPOSALS AND BIDDING PHASE

The MDT Geotechnical Engineer may be a member of the TRC or act as an advisor to the TRC and will be responsible for reviewing and evaluating Technical Proposals for the following:

1. Proposals meet appropriate codes and guidelines.
2. Addressing any identified geotechnical problems.
3. Meets any given restrictions and special requirements.
4. Proposed geotechnical investigation, design and construction procedures, including QC and QA.
5. Innovative design and construction practices.

10.8 DESIGN AND CONSTRUCTION PHASE

The MDT Geotechnical Engineer will be responsible during the design/construction phase for the following:

1. Review of construction criteria and documentation.
2. Review and approval of geotechnical investigation data and resulting reports.
3. Issue escalation and construction problem resolution.
4. QA Engineering, if not included in the Contract.
5. IA Engineering.

CHAPTER ELEVEN

STRUCTURES PROCESS

11.1 STRUCTURES GUIDELINES

The Structures Manual will remain virtually intact for design-build projects since the issues contained in the manual are structural design parameters that are not project specific. The manual contains issues that require project specific input and decisions that need to be addressed and the directions specified in the RFP and DCCP. Most urban or high profile projects have certain issues that are mandated due to public input and corridor uniformity. These specific features that may be required include: aesthetic features, specific structure types, minimum bridge length, minimum span lengths, bent types, cross-sections, foundation types, lighting, navigational channel requirements, coloration, surface textures, wall types and utility attachments. Decisions and issues that are normally addressed during the design phase of a project that MDT does not wish to leave up to the Firm should be addressed and mandated in the RFP and DCCP. This includes items such as the minimum amount of foundation testing and soils tests to be performed, content and frequency of public meetings and construction phasing. Any desired feature should be described in enough detail to adequately transfer the requirements to the Firms so a responsive proposal can be developed.

As a minimum, the cross-sectional requirements, operational importance of the bridge, environmental classifications and limits of hazardous materials must be stated in the RFP. Consideration should be given to performing a geotechnical investigation, lead paint survey, hydraulic analysis for issues not directly affected by the structure selection and providing this information to the Firms. Known permit issues affecting structure type or construction methods also need to be included in the RFP and DCCP. Supplying this type of information to the Firms will provide for uniformity in the engineering assumptions used to produce the technical proposal, minimize the risk of unforeseen issues and keep costs to a minimum. The RFP and DCCP will include a requirement that the Firms provide a type, size and location report with the Technical Proposal.

CHAPTER TWELVE

PRELIMINARY ESTIMATES

12.1 PRELIMINARY COST ESTIMATE PROCESS

If there is only one project in the Contract, one of the following pay item codes will utilized:

		METRIC	ENGLISH	UNIT
1.	Design-Build (Roadway Construction)	800000000	800000000	Lump Sum
2.	Design-Build (Bridge Construction)	800000001	800000001	Lump Sum
3.	Design-Build (Buildings)	800000002	800000002	Lump Sum

The Preliminary Cost Estimate for design-build projects may be derived in a number of ways:

1. Data from the District
2. Historical Data from current projects (Contract Plans Bureau)
3. Long Range Estimate
4. Bid Tabs from a similar current project
5. Square Foot Cost from a similar bridge project

The cooperative effort of the Design-Build Team, TRC, Selection Committee, the District and Contract Plans Bureau in providing "possible" anticipated pay items, a well defined scope-of-work and a "major checklist" of work tasks will be very helpful in improving the accuracy of the project estimate.

Design Costs (PE) will be included in the Preliminary Cost Estimate as well as CEI services costs. The following is a recommendation on how to estimate these costs:

	Dollar Range	Percent
* 1. PE	$0 to $1,000,000 =	20% of the Construction Cost
	$1,000,000 to $5,000,000 =	15% of the Construction Cost
	$5,000,000 up =	10% of the Construction Cost
* 2. CEI	$0 to $1,000,000 =	15% of the Construction Cost

$1,000,000 to $5,000,000=	12% of the Construction Cost
$5,000,000 up =	10% of the Construction Cost

The "automatic award" criteria should be increased to 25% (with FHWA approval) instead of the current 10%. This means that MDT will only review those projects that are 25% or more above the estimate.

Geotechnical costs will be included as a separate item in the Preliminary Cost Estimate. This will vary, depending on the amount of preliminary geotechnical work that was performed up front by MDT. (Range = 0 - 5% of Construction Cost)

The costs of Permits may also be included as a separate item in the Preliminary Cost Estimate. (Check with Environmental Services Bureau for additional cost information)

R/W will be included as a separate item in the Preliminary Cost Estimate, even if the Right of Way Bureau has purchased any additional R/W before the project RFP is released.

The cost of utility adjustments and relocations will be included as a separate item in the Preliminary Cost Estimate.

***** *Check with the Contract Plans Bureau, Districts and/or other appropriate MDT offices for additional cost information.*

CHAPTER THIRTEEN

CONTRACT ADMINISTRATION

13.1 GENERAL

These guidelines are intended to identify issues and concerns that are unique to design-build projects and are for use by MDT personnel.

13.2 SCOPE OF SERVICES FOR CEI CONSULTANT PROJECTS

When MDT hires the CEI Consultant for a design-build project instead of including these services in the Contract, the scope of services will differ from conventional design/bid/build projects and should be supplemented and revised as follows:

13.2.1 Design Coordination. Unlike conventional design/bid/build projects, design-build projects require that the Firm complete the design of the project after bid award. The CEI Consultant should be under contract and working after the contract is awarded because the Firm may choose to begin some construction phases very soon after notice to proceed. Typically, the Firm will require some time after award to complete design work, especially for larger projects, before any construction begins. Since the CEI Consultant is available, it is desirable to assign the responsibility for design review coordination to the CEI Consultant. It is very important that the CEI Consultant have knowledge and experience in the design of projects, including MDT plans processing procedures and the following project specific issue areas: geotechnical, structural, buildings, roadway, drainage, utilities and permitting. The degree to which the CEI

Consultant will be involved in the actual review of design submittals should be clearly covered in the CEI Consultant scope of services.

13.2.2 Quality Control/Quality Assurance/Independent Assurance. Design-build projects usually require the Firm to perform QC level materials sampling as well as QC level inspection. The CEI Consultant, whether hired by the Firm or MDT, is expected to perform predominantly QA sampling, testing and inspection. When MDT contracts the CEI Consultant, the scope of services should reflect this approach, since conventional scope of services stress only QC level involvement. Since the environmental permit agencies may not allow Firms to perform permit testing such as turbidity, the CEI Consultant could be expected to perform these tests, if required, and any anticipated testing should be covered by the scope of services. The scope of services should address specific QA tasks that must be performed by the CEI Consultant. MDT will perform QA Engineering if CEI services are not included in the Contract. MDT will perform IA Engineering.

13.2.3 Scheduling. Most design-build projects will require the Firm to submit a CPM schedule that will be used to determine the Firm's monthly estimate. The CPM schedule will be required to be resource loaded and will generate project costs over time. MDT will review and approve the CPM schedule for reasonableness and will base the monthly estimates on the approved schedule. Whether the CEI Consultant is hired by the Firm or by MDT, it is important that the CEI Consultant have proven experience with CPM scheduling, since this experience will be critical to managing payment of the Firm. For a CEI Consultant hired by MDT, the scope of work should specify this experience requirement and this experience should be specified in the RFP when CEI services are to be included in the Contract.

13.2.4 Staffing. Design-build projects typically require less QA Engineering than for conventional projects, so the number of field inspectors that will be required is also less. In addition, because of simpler monthly estimates and final estimates, there should be less need for Office Engineer support.

13.3 PAYMENTS

13.3.1 Monthly Estimates. The Firm will develop a list of general pay items based on a resource loaded CPM schedule and include them in a Schedule of Values. An example Schedule of Values should be included in the RFP with details regarding content and submittal timing. The pay items (Schedule of Values) may contain a number of individual units and the monthly payment due the Firm will be based on the number of units within a pay item completed of the total planned. If the total for a pay item is $100,000.00 and 5 out of 10 of the units were completed in one month, then the Firm would be due $50,000.00 for that month.

13.3.2 Final Estimate. The final estimate will be required as usual, but since all pay items are lump sum, the effort involved in preparing final estimate documents is greatly reduced. It is still recommended that MDT guidelines and procedures be followed to maintain the integrity and continuity of the Final Estimate Package.

13.3.3 Supplemental Agreement Compensation. Compensation for extra work may be required, although the design-build process is designed to minimize or eliminate extra work. The supplemental agreement process is the same as for conventional projects except that individual pay items are not available for the Firm's basis of payment. Under this circumstance, it is very important that detailed supporting calculations are submitted by the Firm with the request for additional compensation. The calculations must be detailed enough to allow MDT to perform a comprehensive evaluation of the validity of the Firm's cost estimate.

13.3.4 Pay Adjustments for Deficiencies. Adjustments will be performed according to an approved table of values referred to as the Schedule of Values developed and submitted by the Firm after Contract award and approved by MDT.

13.4 RECORDS

13.4.1 Daily Report of Construction (DRC). Design-build projects will require a DRC form to be filled out each day for every construction operation underway. Particular attention should be paid to recording what work is completed for use in preparing the monthly payment estimate and documenting pay quantities.

13.4.2 Shop Drawings.

13.4.2.1. Definitions

(a) Shop Drawings: All working, shop and erection drawings, associated trade literature, calculations, schedules, manuals and similar documents submitted by the Firm to define some portion of the project work. The type of work includes both permanent and temporary works as appropriate to the project.
(b) Permanent Works: All the permanent structures and parts thereof required for the completed contract.
(c) Temporary Works: Any temporary construction work necessary for construction of the permanent works. This includes falsework, formwork, scaffolding, shoring, temporary earthworks, sheeting, cofferdams and special erection equipment.
(d) Construction Affecting Public Safety: Construction that may jeopardize public safety such as structures spanning functioning roadways, pedestrian walkways, railroads, navigable waterways and walls or other structure foundations located in embankments immediately adjacent to functioning roadways. It does not apply to those areas of the site under the Firm's control and outside the limits of normal public access.
(e) Falsework (shoring) includes any temporary construction work used to support the permanent structure until it becomes self-supporting. Falsework includes steel or timber beams, girders, columns, piles and foundations and any proprietary equipment including modular shoring frames, post shores and adjustable horizontal shoring.
(f) Formwork includes any structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Formwork comprises common materials such as wood or metal sheets, battens, soldiers and whalers, ties,

proprietary forming systems such as stay-in-place metal forms and proprietary supporting bolts, hangers and brackets.
(g) Scaffolding is an elevated work platform used to support workmen, materials and equipment, but not intended to support the structure.
(h) Specialty Engineer versus Engineer of Record (EOR): For the purpose of the shop drawing review process as set forth in this chapter, the term "Specialty Engineer" will apply to the initiator or producer of shop drawings, regardless of whether or not that party is normally the EOR or the Specialty Engineer. The term "Engineer of Record" will apply to the shop drawing checker and certifier, regardless of whether or not that party is normally the EOR or the Specialty Engineer.

13.4.2.2 Work Items Requiring Shop Drawings. In general, MDT requires shop drawings for items of work not fully detailed in the plans that require additional drawings and coordination prior to constructing the item, including but not limited to:

(a) Bridge components not fully detailed in the plans such as concrete beam and steel girder details, post-tensioning details, bridge railing and handrails.
(b) Retaining wall systems.
(c) Pre-cast Reinforced Box Culverts.
(d) Non-standard lighting, signalization and signing structures/components
(e) Building structures.
(f) Drainage structures, attenuators and other nonstructural items.
(g) Design and structural details furnished by the Firm in compliance with the Contract.
(h) Temporary Works affecting public safety.

Other provisions of the RFP and DCCP may waive the requirement for submittals for certain items such as items constructed from standard detailed drawings. Review the RFP and DCCP to determine the submittals required.

13.4.2.3 Schedule of Submittals. The RFP and DCCP should require that the Firm prepare and submit a schedule of submittals that identifies the work for which shop drawings apply. For each planned submittal, define the type and approximate number of drawings or other documents that are included and the planned submittal date, considering the processing requirements herein. The schedule of submittals should be submitted to MDT within 60 calendar days of the start of construction operations and prior to the submission of any shop drawings. Coordinate subsequent submittals with construction schedules to allow sufficient time for review and re-submittal as necessary.

13.4.2.4 Style, Numbering and Material of Submittals.

13.4.2.4.1 Drawings: Furnish two clearly legible photocopies of all shop drawings necessary to complete the structure in compliance with the design shown on the plans. Prepare all shop drawings using the same units of measure as those used in the plans. Use sheets no larger than 24 by 36 inches [610 by 915 mm]. Consecutively number each sheet in the submittal series and indicate the total number in the series. Include on each sheet the following items as a minimum

requirement: the complete Project Identification Number, Bridge Number(s), drawing title and number, a title block showing the names of the fabricator or producer and the Firm for which the work is being done, initials of the person(s) responsible for the drawing, date on which the drawing was prepared, location of the item(s) within the project, Firm's approval stamp with date and initials, and when applicable, the signature and seal of the Specialty Engineer. A re-submittal will be required when any of the required information is not included.

13.4.2.4.2 Other Documents: Provide four sets of original documents or clearly legible photocopies of documents other than drawings, such as trade literature, catalogue information, calculations, and manuals. Provide sheets no larger than 11 by 17 inches [280 by 432 mm]. Clearly label and number each sheet in the submittal to indicate the total number of sheets in the series. Provide an additional three sets of documentation for items involved with pre-cast, pre-stressed components. Provide an additional two sets of documentation for items involving structural steel components. Prepare all documents using the same units of measure as those used in the plans. Bind and submit all documents with a Table of Contents cover sheet. List on the cover sheet the total number of pages and appendices, and include the complete Project Identification Number, a title referencing the submittal item(s), the name of the firm and person(s) responsible for the preparation of the document, the Firm's approval stamp with date and initials, and, when applicable, the signature and seal of the Specialty Engineer and the approval stamp of the EOR. Submit appropriately prepared and checked calculations and manuals that clearly outline the design criteria. Include on the internal sheets the complete Project Identification Number and the initials of the person(s) responsible for preparing and checking the document. Clearly label trade literature and catalogue information on the front cover with the title, Project Identification Number, date and name of the firm and person(s) responsible for that document.

13.4.2.5 Submittal Paths and Copies.

13.4.2.5.1 General: Shop drawings are not required for pre-qualified items. For non-pre-qualified items, determine the submittal path to be followed based on the identity of the EOR as shown adjacent to the title block on the structural plan sheets and on the key sheets of roadway plans, signing and pavement marking plans, and/or lighting plans. At the pre-construction conference, MDT will notify the Firm of any changes to the standard submittal process. MDT's review stamp will signify an officially reviewed shop drawing and will state either "Released for Construction" or "Released for Construction as Noted". Submit shop drawings to the appropriate MDT Bureau and send a copy of the letter of transmittal to the MDT EPM. For work requiring other information such as catalog data, procedure manuals, fabrication/welding procedures and maintenance and operating procedures, submit the required number of copies to the MDT EPM. Provide copies of material certifications and material tests to the MDT EPM.

13.4.2.5.2 Building Structures: Submit working, shop and erection drawings and all correspondence related to building structures, such as Rest Areas, MCS facilities,

Office Buildings and Maintenance Warehouses, to the Architect of Record for review and approval. Send a copy of the transmittal to the MDT EPM.

13.4.2.5.3 Temporary Works: For Construction Affecting Public Safety, submit shop drawings to the EOR and include the applicable calculations for the design of special erection equipment, falsework and scaffolding. Ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Specialty Engineer. Transmit the submittal and copies of the transmittal letters in accordance with Section 13.4.2.4 through 13.4.2.5.5, as appropriate.

13.4.2.5.4 Formwork and Scaffolding: The Firm is solely responsible for the safe installation and use of all formwork and scaffolding. MDT does not require any formwork or scaffolding submittals unless such work would be classified as Construction Affecting Public Safety or is otherwise required by law.

13.4.2.5.5 Other Miscellaneous Design and Structural Details Furnished by the Firm in Compliance with the Contract: Submit shop drawings and applicable calculations to the EOR. Ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Specialty Engineer. Transmit the submittal and copies of the transmittal letters in accordance with the requirements of Section 13.4.2.4 through 13.4.2.5.5, as appropriate.

13.4.2.6 Processing of Shop Drawings.

13.4.2.6.1 Firm Responsibility for Accuracy and Coordination of Shop Drawings: The Firm will coordinate, schedule and control all submittals with a regard for the required priority, including those of the various subcontractors, suppliers, and engineers, to provide for an orderly and balanced distribution of the work. Coordinate, review, date, stamp, approve and sign all shop drawings prepared by the Firm or agents (subcontractor, fabricator, supplier) prior to submitting them to MDT. Submittal of the drawings confirms verification of the work requirements, units of measurement, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers and other similar data. Indicate on each series of drawings the specification section and page or drawing number of the construction plans to which the submission applies. Indicate on the shop drawings all deviations from the construction plans and itemize all deviations in the letter of transmittal. Likewise, whenever a submittal does not deviate from the construction plans, clearly state so in the transmittal letter. Schedule the submission of shop drawings to allow for a 14-day MDT review period or a review period as specified in the RFP. The review period commences with MDT's receipt of the valid submittal or re-submittal and terminates with transmittal of the submittal back to the Firm. A valid submittal includes all the minimum requirements outlined in 13.4.2.4. Allow a 14-day MDT review time for re-submittals or a review period as specified in the RFP. Submit shop drawings to facilitate expeditious review. The Firm is discouraged from transmitting voluminous submittals of shop drawings at the same time. For submittals transmitted in this manner, allow for the additional review time that may result. Only shop drawings distributed with the "red ink" stamps are valid

and all work that the Firm performs in advance of MDT's release of shop drawings will be at the Firm's risk.

13.4.2.6.2 Scope of Review by the Engineer of Record: The EOR review of the shop drawings is for conformity to the requirements of the RFP and the DCCP and to the intent of the design at a minimum. The EOR review of shop drawings that include means, methods, techniques, sequences and construction procedures is to determine if effects on the permanent works are acceptable.

13.4.2.6.3 Special Review by the Engineer of Record of Shop Drawings for Construction Affecting Public Safety: For Construction Affecting Public Safety, the EOR will make an independent design review of all relevant shop drawings and similar documents. Do not proceed with construction of permanent works until receiving the EOR approval. Send a copy of the approval letter to the MDT EPM. The review of these shop drawings is for overall structural adequacy of the item to support the imposed loads.

13.4.2.7 Other Requirements for Shop Drawings for Bridges.

13.4.2.7.1 Shop Drawings for Structural Steel and Miscellaneous Metals: Furnish shop drawings for structural steel and miscellaneous metals. Shop drawings will consist of working, shop and erection drawings, welding procedures and other working plans showing details, dimensions, sizes of material and other information necessary for the complete fabrication and erection of the metal work.

13.4.2.7.2 Shop Drawings for Concrete Structures: Furnish shop drawings for concrete components that are not cast-in-place and are not otherwise exempted from submittal requirements. Furnish shop drawings for all details that are required for the effective prosecution of the concrete work and are not included in the RFP and DCCP such as: special erection equipment, masonry layout diagrams and diagrams for bending reinforcing steel, in addition to any details required for concrete components for the permanent work.

13.5 ROLE OF MDT ENGINEERING PROJECT MANAGER (EPM)

MDT's EPM will be responsible for coordinating and overseeing the engineering, inspection and construction of the design-build project. The EPM responsibilities may include, but are not limited to:

- Working with the MDT Design-Build Team, TRC, Contract Plans Bureau, District and other appropriate MDT offices in developing the RFQ, RFP and DCCP.
- Coordinating with the FHWA on Full Oversight projects.
- Participating in the TRC, including review of the SOQ to develop the short-list of Firms.
- Working with the Contract Plans Bureau responding to Firm inquiries.
- Participating in the pre-proposal meeting.
- Participating with the TRC in the evaluation of Technical Proposals.
- Acting as MDT's liaison with the Firm during construction of the project in

general and as MDT's person in responsible charge of the project.

- Coordinating the review of the Firm submittals to MDT during design and construction.
- Making periodic site reviews.
- Reviewing and approving periodic progress payments.
- Monitoring DBE participation.
- Monitoring EEO Contract compliance.
- Monitoring Labor Compliance.
- Ensuring MDT receives final documents as specified in the contract.
- Ensuring that proper CEI services are performed during construction.
- Working with all MDT offices to develop supplemental agreements, if applicable.
- Ensuring that the Firm's Quality Management Plan is followed.
- Ensuring that all environmental commitments/requirements are honored.
- Ensuring that appropriate documentation takes place at each step in the process.
- Furnishing the Firm an adequate supply of any MDT standard forms necessary to carry out the terms of the contract.
- Conducting performance evaluations.

The MDT EPM must rely heavily on the multi-disciplined MDT Technical Review Committee (TRC) in order to: (a) develop the RFQ, RFP and DCCP, (b) evaluate the SOQ and Technical Proposals, and (c) oversee the design, construction and CEI services of the project. The Construction Engineer, District Administrators and Bureau Chiefs should assign appropriate staff to help the EPM administer the Contract. Due to the complexity of coordinating a design-build project, the Design-Build Engineer, EPM and members of the MDT Design-Build Team must work in concert to successfully complete all elements of the contracting and administrative process required by design-build projects. Due to the additional project administrative workload generated by a design-build project, it is recommended that the EPM be assigned only the design-build project and no other construction projects.

CHAPTER FOURTEEN

MATERIALS ACCEPTANCE PROCESS FOR DESIGN-BUILD PROJECTS

14.1 GUIDELINES FROM THE MATERIALS BUREAU

A. All the materials used on the project must be accepted by MDT and must meet the requirements of the Specifications and other governing documents.

B. Refer to the Materials Manual for details on specific requirements and sub-processes in various material groups.

C. The materials are divided in four groups for acceptance purposes.

D. Firms submit details on Group 4 materials with their proposals.

E. Proposals should include information regarding cost and resources associated with the QC and QA (if included in the Contract).

F. Proposals with Group 4 materials must include the cost analysis including the immediate cost vs. long term cost savings over the design life. The Materials Bureau will review all proposals for cost saving innovative use of materials.

G. The Material Acceptance Process (MAP) covers all the process requirements of QC, QA (if included in the Contract), IA and Resolution (R).

H. Not later than 30 calendar days prior to construction commencement, the Firm will prepare and submit a complete project-specific list of material items and quantities to be used on the project as a Materials Guide Schedule (MGS) in the same format as MDT's current MT-601. Those items in MT-601 that are not to be used on the project will not be included in the MGS and conversely, items that are not in MT-601 and are intended for use on the project will be included on the MGS. The MGS will be maintained throughout the project and will reflect quantity changes in all materials previously placed and any additional materials placed. No work on activities that require testing can commence until the MGS has been reviewed and accepted by MDT.

I. Testing of materials accepted by Field Sampling and Testing will be performed immediately following completion of material placement.

J. Testing personnel will report the test results upon completion of the testing.

K. The MGS will be kept up-to-date and provided by the Firm on a monthly basis to MDT's EPM. The MGS will specify each material placed by material number and related information, total quantity placed throughout the project duration, quantity placed since the previous submittal and any additional materials identified with related quantities and testing details. These quantities will facilitate verification that minimum materials acceptance testing requirements in accordance with MT-601 are being performed.

L. At the completion of the project, the final MGS will be in the same format as the monthly reports.

M. The Firm must meet all the requirements for successful completion of the MAP.

N. The proposed MAP will include a general QC Plan. The QC Plan will include material specific information, including identifying the persons in responsible charge for various activities. See the Materials Manual for further information regarding QC Plan requirements.

O. The materials used on construction projects are divided into four groups.

14.2 Group 1: Materials Accepted By Field Sampling and Testing

a. Definition: These materials are accepted based on the test results of the samples taken from the point of use, or otherwise as stated in the Specifications.

1) These materials are listed in MT-601 or other governing documents.

2) An MGS must be created and submitted in accordance with 14.1 Guidelines herein.

b. Acceptance:

1) Acceptance is based on the Firm's QA testing (if CEI services are included in the Contract) or MDT's QA testing.

2) Firm's QC testing may be required.

3) The test results must meet the requirements specified in the Specifications and other governing documents.

c. Process:

1) Additional requirements will be applied as described in the RFP, QC/QA Plan, IA Program and the Materials Manual.

d. Contact:

1) The local District Materials Supervisor is the primary contact for more information on this group of materials.

14.3 Group 2: Fabricated Structural Steel/Miscellaneous Metal Structures

a. Definition:

1) The fabricated structural steel and miscellaneous metal structures include major steel structures such as steel bridge components and overhead cantilevered sign supports.

2) During the design development, the Firm may add any other structures to the list of Group 2 materials.

b. Acceptance:

MDT accepts these structures based on the fabricator's QC inspection, testing, and Certification, and MDT's QA and IA verification.

c. Process:

1) The Firm will notify MDT (Bridge Bureau) regarding the types and locations of structural steel and other metal structures that are planned to be on the project. Notification will occur within 60 calendar days after contract award.

2) The Firm will submit a complete list of all identified structures, location of the metal fabrication, and the anticipated fabrication schedule to MDT. The fabrication schedule will include information regarding the anticipated total duration of the fabrication units, the number of days per week the fabrication facility will be fabricating and the number of work shifts the fabricator intends to work.

3) The Firm will perform the required quality control inspection and testing and coordinate the QA (if CEI services are not part of the Contract) and IA with MDT. Any nonconformance or conflicts

between the QC, QA and IA will be resolved so that the fabrication work results in full compliance with MDT requirements.

4) The Firm reports the QA results (if CEI services are part of the Contract) of the inspections and submits the final Certification letter to the MDT EPM.

5) The MDT EPM will acknowledge receipt of the final Certification letter as a part of the certification statement in the "Project Manager's Materials Certification Letter" to the Materials Bureau.

d. Contact:

1) The Materials Bureau is the primary contact for more information regarding the QC and QA inspections and testing of this Group of Materials.

14.4 Group 3: Manufactured and Incidental Materials

a. Definition:

1) These materials are manufactured products not listed in MT-601, and

2) Any product/material that requires only approval and installation on the project.

b. Acceptance:

1) These materials will be accepted based on Manufacturer/Supplier's certification. The certification will meet the requirements of MT-601.

2) In addition to Manufacturer's certification, the Firm will provide certification warranting the placed products. The Firm will provide one certificate covering all incidental materials used within the project limits at the time of project final certification.

c. Process:

1) The Firm will submit individual certifications as the materials arrive on the project site.

2) The Acceptance/Verification personnel will, upon receipt of the certification, (1) verify the minimum requirements for test results, and (2) verify that the batch number/s listed is acceptable.

3) At the end of the project, the Firm will account for all the Certifications and provide them to the MDT EPM.

4) The MDT EPM will certify that all Certifications were received and the materials were found in compliance with the Specifications. This will be included as a certification statement in the "Project Managers Material Statement" to the Materials Bureau.

d. Contact:

1) The Materials Bureau is the primary contact for more information on the materials in this group.

14.5 Group 4: Unapproved and New Materials

a. Definition:

1) These are the materials that are not specified in MDT's references.

2) It also includes innovative use of approved materials.

b. Acceptance:

1) The Firm will obtain Materials Bureau authorization for the use and acceptance criteria of such materials prior to use.

2) The Firm will propose acceptance criteria as the design is being developed, based on the material Groups described herein.

3) The Materials Bureau will assist the Firm in developing acceptable criteria for such materials when necessary.

c. Process:

1) The Firm, during design developmental reviews, will define and obtain approval from the Materials Bureau, in which of the previously defined Groups the material is classified.

2) The process for the appropriate Group will be followed.

d. Contact:

1) The Materials Bureau is the primary contact for more information on the materials in this Group.

CHAPTER FIFTEEN

FINAL ESTIMATE GUIDELINES FOR DESIGN-BUILD PROJECTS

A. The Firm will prepare the Schedule of Values with MDT approval to correspond to the activities in the CPM schedule. This will be the basis for the monthly progress payments. MDT will provide the Firm an example invoice format.

B. The Firm will have an approved DBE Affirmative Action Plan prior to a contract being awarded.

C. When a deficiency is determined, the MDT EPM will apply a reduction in payment based on the area of deficiency at the item's approved Schedule of Value amount.

D. Monthly payments will be based on the Firm's invoice and the approved payout schedule, less any previous payments.

E. The Firm will make a request for payment by submitting an invoice no later than noon Monday after the monthly estimate cut-off date based on the amount of work performed or completed.

F. In addition to submittal of the documents required by Specifications and other governing documents, the following items will be added to the list of submittals:

1. As-built (record) drawings
2. Design plans and calculations
3. Geotechnical reports
4. Load rating of as-built structure(s)

G. Monthly progress payments will be for that portion of the work completed, determined by the MDT EPM, as compared to the total work contracted.

H. The monthly payments will be approximate only and will be subject to reduction for overpayments or increase for underpayments on preceding payments to the Firm and to correction in the subsequent estimates and the final estimate and payment.

I. The Firm and MDT EPM will maintain a file containing the approved Schedule of Values, Pay Item Summary and Certification Sheet and any documented adjustments to include: Supplemental Agreements, Work Orders, Pay Reductions or Penalties that may have occurred on project.