

DESIGN-BUILD GUIDELINES 3rd Edition









December 2022



Contents

Executive Summary1		
Introduction to the MDOT Design-Build Delivery Process	2	
Chapter 1 – Identification and Selection	4	
1.1 Call for Projects	4	
1.2 Innovative Contracting Unit Screening	4	
1.3 Innovative Contracting Committee Consideration	4	
1.4 Engineering Operations Committee Review	4	
Chapter 2 – Development	5	
2.1 Project Team Organization in Development and Procurement	5	
MDOT	6	
Core Team	7	
Other Possible Team Members	7	
2.2 Scope Refinement	8	
Establish Project Goals	8	
Refine Scope for Design-Build Contract	8	
Develop General Engineering Consultant Scope of Work	8	
Prepare the Design-Build Project Schedule	8	
Prepare the Preliminary Costs Estimates and Update Project Funding	9	
2.3 General Engineering Consultant Contracting	9	
2.4 Initial Risk Assessment	9	
2.5 Critical Development Activities	10	
Preliminary Engineering and Design	10	
Environmental Analysis and Permitting	10	
Right of Way	11	
Third-Party Agreements	11	
Railroad Agreements	11	
Utility Relocation and Coordination	11	
Geotechnical Investigation	11	
2.6 Industry Outreach	12	
Innovative Contracting Website	12	
Project Information Sheet	12	
Industry Forum/Informational Meeting	12	

Chapter 3 – Procurement		
3.1 Startup Activities	14	
Procurement Schedule	14	
Procurement Training	14	
Initial Procurement Risk Assessment	14	
Pre-qualification Categories	14	
Disadvantaged Business Enterprise Goals	15	
Stipend	15	
Confidentiality Requirements	15	
Conflict of Interest Requirements	15	
3.2 Request for Qualifications Process	15	
Request for Qualifications Document Preparation	16	
Request for Qualifications Issuance and Advertisement	16	
Statement of Qualifications Evaluation and Notice of Shortlisting	16	
3.3 Concurrent Development Activities	16	
Progress Meetings	17	
Updates to Contract Time Determination Schedule	17	
Updates to Cost Estimates	17	
General Engineering Consultant Contracting for Design Services During Construction	17	
3.4 Request for Proposal Document Preparation and Review	17	
Request for Proposal Document Preparation	18	
Document Control	18	
Writing Guidelines	18	
Design-Build Project Request for Proposal Template	19	
Request for Proposal Documents	19	
Request for Proposal Document Review and Approval	20	
Preliminary Package Review	20	
Risk Workshop	21	
Final Project Coordination Review	21	
Omission and Errors Check	21	
3.5 Final Project Turn-In and Request for Proposal Issuance	22	
3.6 Request for Proposal Advertisement Period	22	
Proposer Questions and Answers	23	
One-on-One Meetings	23	
Addenda	23	
Pre-Submittal Meetings	23	

	Alternative Technical Concepts	23
	Proposal Content and Submittal	25
	Proposal Evaluation and Selection	25
	Low Bid Evaluation and Selection	25
	Best Value Evaluation and Selection	25
	Design-Build Contract Award and Execution	26
	3.7 Stipend Agreement Execution and Payment	26
Cha	apter 4 – Implementation	27
	4.1 Design-Build Contract Documents	27
	4.2 Implementation Phase Project Management	27
	4.3 Project Team Organization in the Implementation Phase	27
	Core Team	28
	MDOT Subject Matter Experts	29
	Construction Engineering and Inspection Staff	29
	Federal Highway Administration	
	Design-Builder	
	Additional Organizational Considerations	
	4.4 Escrowed Proposal Documents Review	
	4.5 Initial Partnering Workshop	31
	4.6 Notice to Proceed	31
	4.7 Preconstruction Meeting	
	4.8 Delivery of Project	
	Meetings	
	Requests for Information	
	Deliverable Review and Management	
	At-Risk Work	
	Change Orders	
	Claims and Disputes	
	4.9 Construction Engineering & Inspection	35
	4.10 Plan Revisions and Field Changes	35
	4.11 Payments to the Design-Builder	
	4.12 Lessons Learned	

Table of Figures

Figure 1. MDOT Design-Build Process Workflow	1
Figure 2. Traditional Versus Design-Build Contractual Relationships	2
Figure 3. Sequence of Project Delivery Activities by Contract Approach	3
Figure 4. Project Development Flow	5
Figure 5. Project Team Organization in the Project Development and Procurement Phases	6
Figure 6. The Procurement Phase	14
Figure 7. Alternative Technical Concepts Process	24
Figure 8. The Implementation Phase	27
Figure 9. Project Team Organization in the Project Implementation Phase	28
Figure 10. Submittal Review Process Flow	33
Figure 11. IC Process Continuum	36

List of Acronyms

АРВ	Alternate Pavement Bidding
ATC	Alternative Technical Concepts
CA	DB Certification and Acceptance Form
CCS	Construction Contracts Section
CEI	Construction Engineering and Inspection
CFR 23	Code of Federal Regulations Title 23
СРМ	Critical Path Method
СРМ	Critical Path Method
CSD	Contract Services Division
CSRT	Central Selection Review Team
D&C	Design and Construction
DADC	Design Assistance During Construction
DB	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DSDC	Design Services During Construction
E&S	Evaluation and Selection
EEO	Equal Employment Opportunity
EOC	Engineering Operations Committee
EOR	Engineer of Record
EPD	Escrowed Proposal Documents
FHWA	Federal Highway Administration
FPC	Final Package Coordination
FUSP	Frequently Used Special Provision
GEC	General Engineering Consultant
IACR	Interstate Action Change Request
IC	Innovative Contracting
ICC	Innovative Contracting Committee
ICU	Innovative Contracting Unit

IDR	Inspection Daily Reports
ITP	Instructions to Proposers
MDOT	Michigan Department of Transportation
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OBD	Office of Business Development
OEC	Omission and Errors Check
OTS	Over-the-Shoulder
PE/PES	Preliminary Engineering/Preliminary Engineering for Structures
PIF	Public Interest Finding
PM	Project Manager
RBPIS&O	Risk Based Project Involvement Stewardship and Oversight
RFC	Released for Construction
RFI	Requests for Information
RFP	Request for Proposals
RFQ	Request for Qualifications
RID	Reference Information Documents
ROW	Right of Way
SME	Subject Matter Expert
SOQ	Statement of Qualifications
SOV	Schedule of Values
STIP	Statewide Transportation Improvement Program
TIP	Transportation Improvement Program

Executive Summary

These Design-Build (DB) Guidelines define the Michigan Department of Transportation (MDOT) process for DB project delivery. The Guidelines provide detailed procedural guidance and resources to MDOT Project Managers (PMs) and staff, enabling consistent and efficient DB project delivery while establishing transparency and a common understanding among all our agency and industry partners and others interested in MDOT's DB process. The information included in these Guidelines covers all phases of DB project delivery; however, individual projects may have unique needs or steps that are not yet identified. Comments and suggestions on improvements to the DB Guidelines are appreciated and can be emailed to MDOT's Innovative Contracting Unit (ICU) Manager.

These Guidelines are intended to be a companion to MDOT's Innovative Contracting (IC) Guide. The IC Guide provides an overview of MDOT's IC program, an explanation of each delivery model utilized by MDOT, and defines the programmatic processes common to all IC delivery models in greater detail.

The DB Guidelines are organized chronologically into five chapters according to the phases of an IC project:

Introduction. Provides an overview of the DB delivery method.

<u>Chapter 1 – Identification and Selection.</u> Summarizes MDOT's process for determining which projects are appropriate candidates to advance to the development phase using the DB delivery method.

<u>Chapter 2 – Development</u>. Defines MDOT's DB project development process and describes the key activities undertaken to develop the project prior to the start of the procurement phase.

<u>Chapter 3 – Procurement</u>. Defines the efficient, fair and openly competitive process of shortlisting qualified proposers and selecting the design-builder that provides opportunities for industry input and creativity.

<u>Chapter 4 – Implementation</u>. Defines the process for project administration, design and construction activities that take place after the DB contract has been awarded.

Figure 1 illustrates the typical MDOT DB process workflow and allows users of these DB Guidelines to navigate the phases of DB project delivery. Users can click on any phase in the process to jump to that chapter in the Guidelines.



Figure 1. MDOT Design-Build Process Workflow

Introduction to the MDOT Design-Build Delivery Process

DB is an alternative contracting method where MDOT enters into a single contract with a design-builder to design and construct a transportation facility. During the DB delivery process, MDOT, with input from industry, develops project-specific procurement and contract documents defining the performance requirements and obligations of the design-builder, while allowing flexibility to implement innovative solutions aligned with MDOT's goals and objectives for the project. Whereas design and construction activities are completed sequentially in the traditional Design-Bid-Build (DBB) delivery method, these activities overlap in DB delivery to accelerate project completion.

Figure 2 provides an illustrated comparison of traditional and DB contractual relationships.

Traditional Project Delivery



Design-Build Project Delivery



Figure 2. Traditional Versus Design-Build Contractual Relationships

The DB process offers potential benefits not achievable with traditional DBB delivery methods, including:

- A streamlined project delivery organization (see Figure 2).
- Optimized risk allocation.
- Greater and/or earlier cost certainty.
- Schedule acceleration.
- Increased collaboration between designers and contractors, leading to fewer conflicts between design and construction and resulting in fewer design-related claims.
- Increased competition.
- Increased innovation in design and construction.
- Minimized public cost and investment.
- Better leveraging of limited public funds.
- Improved life-cycle costs and/or quality.

Figure 3 shows the steps required to deliver projects according to contract type. As demonstrated in Figure 3, DB delivery provides a significant increase in contractor input and collaboration. Additionally, DB delivery offers schedule acceleration benefits due to concurrent design and construction activities in the implementation phase, as well as streamlined project delivery organization and contractor selection.



Source: Dr. Keith Molenaar, University of Colorado at Boulder

Figure 3. Sequence of Project Delivery Activities by Contract Approach

MDOT began piloting DB project delivery in 1995 and has been using this model regularly since 2008. MDOT's ICU encourages the efficient use of DB delivery to improve project outcomes and allow greater collaboration between MDOT and industry partners.

Chapter 1 – Identification and Selection

The identification and selection phase consists of the following steps:

1.1 Call for Projects

During scoping, a project is identified as a potential candidate for innovative contracting. The ICU solicits innovative contracting project candidates as part of MDOT's CFP process. Identifying potential DB project candidates early in the planning process can avoid duplication of design effort, allow additional time for due diligence activities in the development phase that reduce project risks, and increases the efficacy of the due diligence activities. Project teams are encouraged to contact ICU staff at any time to discuss project delivery options.

Although each project and circumstance is unique, appropriate DB project candidates may include:

- Projects that will benefit from an accelerated schedule by overlapping design and construction activities in the implementation phase.
- Projects that will benefit from early contractor involvement in the design phase to enhance constructability.
- Projects that will benefit from and will allow flexibility for innovative design solutions or construction means and methods.
- Projects that will benefit from designer-contractor integration and collaboration and the ability to transfer design errors and omissions risk.

Projects that may not be appropriate candidates for DB delivery may include:

- Projects that do not allow or are not conducive to flexibility in design solutions or construction means and methods.
- Projects that present significant risks that cannot be appropriately allocated within the project's development and procurement schedule.
- Projects that require MDOT's close management during final design.
- Projects that do not allow for significant MDOT staff participation throughout development, procurement and implementation phases.

1.2 Innovative Contracting Unit Screening

The Innovative Contracting (IC) PM will meet with project staff to gather information and provide guidance regarding the project's appropriateness for DB delivery. The PM and IC PM complete the Innovative Contracting Committee (ICC) application.

1.3 Innovative Contracting Committee Consideration

If a project is an appropriate candidate for innovative contracting delivery, the ICU Manager submits the ICC application to the ICC for review and approval.

1.4 Engineering Operations Committee Review

If approved by the ICC, the ICU Manager submits an agenda item for Engineering Operations Committee (EOC) consideration, review and approval.

Chapter 2 – Development

The development phase consists of all studies, preliminary engineering and due-diligence activities necessary to define the project's goals, design, technical and performance requirements, risks, costs, constructability and schedule. These activities will inform the procurement phase, providing sufficient information to engage industry with a feasible, constructible base project bid package that clearly conveys design-builder obligations while retaining flexibility for innovation.

Figure 4 illustrates the project development flow.



Figure 4. Project Development Flow

2.1 Project Team Organization in Development and Procurement

A primary project development activity is assembling the project team. Project team composition will evolve as the project progresses from development and procurement to the implementation phase, at which time the design-builder will also become part of the project team.

Team continuity is important during the various phases of the project; however, as a DB project progresses, the project team may evolve to reflect the needs of the project. For example, while construction staff members are needed for various analyses in the development phase and for establishing requirements in the procurement phase they will have a more consistent and long-term role as the project moves into construction during the implementation phase.

Figure 5 illustrates the project team's organization during the development and procurement phases.



Figure 5. Project Team Organization in the Project Development and Procurement Phases

It is critical that the PM and IC PM establish the roles and responsibilities of the project team at the beginning of each project and maintain communication and coordination with each other through all phases of the project.

MDOT

Project Manager

The PM will lead the project team on DB projects with support from the IC PM and in accordance with the DB Guidelines and other guidance as applicable. The PM will have the authority to make decisions on behalf of and with support from MDOT with minimal direction. For example, during the design review process as part of the implementation phase, the PM is expected to act independently to move the DB project forward within tight time frames provided in the request for proposal (RFP).

The Innovative Contract Unit Project Manager

The primary responsibility of the IC PM is to serve as a subject matter expert (SME) on the DB delivery process, supporting the PM through all phases of a DB project. The IC PM's role is to ensure consistency between projects and DB best practice in alignment with the DB Guidelines. Other responsibilities include reviewing candidate innovative contracting projects during the identification and selection phase, soliciting and overseeing General Engineering Consultant (GEC) services, providing quality assurance during procurement document development, assisting in design-builder submittal review and compiling lessons learned.

The IC PM will provide training for the PM and other members of the project team.

Construction Engineer

The primary responsibilities of the construction engineer in development and procurement are to provide constructability input and ensure development of enforceable construction contract language. During implementation, the construction engineer will also take the lead on construction-related issues and construction-related design-builder submittals and make payments to the design-builder.

MDOT Subject Matter Experts

The primary responsibility of MDOT SMEs is to ensure that the requirements in the RFP documents are clear, accurate and comprehensive for the required scope of work and performance of the facility. MDOT SMEs are staff members from throughout MDOT in areas of expertise including, but not limited to, Bridges and Structures, Field Services, Geometrics, Planning, Environmental, Hydraulics, Geotechnical and Real Estate. The PM and GEC must coordinate with the MDOT SMEs during the RFP development process to ensure the DB contract language addresses all project requirements and standards. Unlike DBB delivery, SMEs do not have the ability to perform iterative design reviews and make changes to design or specifications at traditional design package intervals. Once design and construction requirements are established by the SMEs in the final RFP, these are the standards by which design-builder submittals will be reviewed for conformance and thereby accepted or rejected. Comments based on SME preference, or anything not explicitly required by the DB contract, cannot be enforced.

After award, MDOT SMEs provide input to ensure design-builder submittals meet RFP and contract requirements.

Core Team

The PM will establish a core team of individuals based upon the needs of the project to develop procurement documents during the procurement phase and review and respond to design-builder submittals during the implementation phase. The core team is invited to all project meetings (internal and external), included in the review of all documents and provides input to steer the project during all phases. This team will typically consist of the PM, IC PM, construction engineer, key discipline staff or partner agency staff (as appropriate to the project) and the GEC. Additional staff can be added as necessary; however, to ensure efficiency, the core team is limited to a small group of five to six individuals who are familiar with the project scope and RFP requirements and can commit sufficient time and effort to the project.

It is critical that the core team remains engaged throughout all phases to ensure the project's goals are achieved. A well-trained, well-connected team can provide valuable project knowledge that expedites decision-making and helps interpret the background and intent of key requirements.

General Engineering Consultant

MDOT uses a GEC on DB projects. The GEC is hired as an extension of MDOT staff resource to help lead project development, including preliminary engineering and design, and procurement activities. During the implementation phase, the GEC performs design assistance during construction (DADC) services, including review and coordination of MDOT review of design-builder submittals, and document control, progress monitoring and reporting. The selected GEC is expected to have the technical expertise in all areas necessary to support MDOT in all phases of a project. Although the GEC has staff representing all key disciplines as well as support from MDOT's SMEs, the GEC reports directly to the PM and IC PM.

Section 2.3 of this document provides additional detail regarding GEC contracting.

Other Possible Team Members

Federal Highway Administration

The Michigan Division of the Federal Highway Administration (FHWA) exercises an oversight role in DB projects that are federally funded. If a DB project is anticipated to have federal funding, the PM must commence coordination with the FHWA early in the development phase to determine if a Risk Based Project Involvement Stewardship and Oversight (RBPI S&O) plan is required. The FHWA's involvement on a project is as stated in both the RBPI S&O plan and the MDOT/FHWA Stewardship and Oversight Agreement.

Code of Federal Regulations Title 23 (CFR 23) Part 636 includes many of the requirements for federally funded DB projects. If a DB project has an RBPI S&O Plan or is deemed a Major Project (defined as having a total project cost of over \$500 million), additional federal requirements apply.

Legal Counsel

Legal counsel may be required at certain stages of the project. Legal support is closely coordinated with the Michigan Department of Attorney General early in project development.

Partner Agencies and Third-Party Stakeholders

Ensuring early involvement of any impacted agencies and stakeholders is crucial to the success of a DB project. The PM actively solicits input from project stakeholders to ensure all necessary project requirements are in place to meet any commitments to these stakeholders. These stakeholders may be formally invited to be members of the project team or informally engaged in the project.

2.2 Scope Refinement

After the identification and selection phase has concluded but prior to advertising for GEC services, the IC PM initiates scope refinement. Scope refinement in the DB development Phase continues the initial scoping process, which may have been premised on a DBB delivery. Scope refinement focuses on advancing the project under a DB delivery process. The IC PM conducts a workshop for the project team to complete the tasks below.

Establish Project Goals

Establishing project goals allows MDOT to reach consensus among the project team members on MDOT's definition of success for the project so that this can be clearly conveyed to industry submitters, proposers, and the selected design-builder. Goals may include basic project requirements and performance expectations, critical project success factors, unique risks, design or construction objectives or the importance of key third parties and stakeholders. Goals may also serve as a framework for developing evaluation criteria and in the risk assessment process.

Refine Scope for Design-Build Contract

The design and construction scope developed during the initial scoping process may have been premised on a DBB delivery, so it is re-examined by the project team in a DB delivery context to develop the design-builder's scope of work. The project team will identify scope elements that may need additional schedule consideration, which may include National Environmental Policy Act (NEPA) studies, right of way (ROW) acquisition, utility conflict analysis, environmental surveys, historic impacts, geotechnical investigation and collaboration or coordination with stakeholders and other resource areas.

Develop General Engineering Consultant Scope of Work

The PM and IC PM coordinate with MDOT SMEs to develop the scope of work, using the GEC Contract Scope of Work Template that will be required from the GEC firm for development and procurement. The scope of work must define the level of effort MDOT expects from the GEC to complete all development and procurement activities.

Prepare the Design-Build Project Schedule

The PM, with assistance from the IC PM, is responsible for preparing an overall project schedule, using the DB Project Schedule Template to define key dates and milestones in the development, procurement and implementation phases. The DB project schedule is an estimate of the expected durations of all required activities, showing a logical path to award and implementation of the project. The DB project schedule is a

helpful communication tool for the project team to discuss and agree upon project timelines, and a critical planning tool to ensure that the project schedule is achievable and meets MDOT's goals. The PM will coordinate DB project schedule development with the MDOT SMEs involved in the project, encouraging adequate durations at appropriate milestones are included for key staff on critical tasks. This schedule is updated by the GEC after they have been selected.

Prepare the Preliminary Costs Estimates and Update Project Funding

The PM, with the assistance of the IC PM, prepares a preliminary project cost estimate, using the DB Project Cost Estimate Template, for the development, procurement and implementation phases of the DB project to ensure adequate funding for the project has been identified. The preliminary cost estimate should confirm funding that has been programmed or additional funding sources needed. The development and procurement phases costs will be added to the Preliminary Engineering/Preliminary Engineering for Structures (PE/PES) phase for programming and obligation in MDOT's financial system. This includes the preliminary engineering activities common to all projects in development phase, and the development of procurement documents as well as coordination and collaboration with industry during advertisement. In addition to the DB contract price, which includes design and construction costs, the implementation phase cost estimate includes MDOT and GEC project administration costs and is charged to the CON phase for programming and obligation in MDOT's financial system.

The PM monitors the DB project schedule closely to ensure obligation can occur within the project constraints. Obligation of the CON phase occurs only after the project is included in the Statewide Transportation Improvement Program (STIP) or Transportation Improvement Program (TIP), the certification and acceptance form is completed and the RFP is ready to advertise.

2.3 General Engineering Consultant Contracting

Following scope refinement, the PM and IC PM solicit proposals from consultant firms to select a GEC for the project. MDOT may select from a list of on-demand GECs using a two-tiered selection process or may select the GEC based on a separate solicitation.

Each DB project typically includes two separate contracts for the GEC work. The first GEC contract covers the development phase (including preliminary engineering services) and the procurement phase (including development of procurement documents and support through advertisement and selection of the design-builder). The second contract covers the implementation phase (including DADC).

GEC services do not typically include Construction Engineering and Inspection (CEI), which is usually procured separately from the GEC contract or performed by MDOT staff.

2.4 Initial Risk Assessment

After the GEC has been selected, an initial risk assessment workshop is conducted with key members of the project team, including MDOT SMEs, FHWA, the GEC and any other partner stakeholders as applicable. In preparation for the initial risk workshop and starting with the <u>MDOT Innovative Contracting Risk Management</u> <u>Workbook</u>, the GEC prepares a preliminary risk register, distributes it to the project team for input and compiles the team's responses in advance of the workshop. The initial risk workshop facilitates collaborative identification of risks, preliminary response and allocation strategies. The initial workshop is not intended to solve complex risk-related issues, but rather focus on a preliminary assessment, allocation and prioritization of identified risks to advance and inform project development. Risks may include technical challenges such as soils or structures, environmental issues such as permitting, or political issues such as public impacts, municipal consent, railroad

coordination and agreements or other interagency and governmental approvals. Once the risks have been identified, assessed and allocated, the RFP documents are drafted accordingly.

Risk management is a continuous process throughout the life of a DB project, involving a regular review and update of identified risks and identifying and assessing new risks. Full guidance on DB project risk management can be found in the MDOT Innovative Contracting Risk Management Workbook.

2.5 Critical Development Activities

Certain development phase activities are critical to a project's completion. As such, these activities are prioritized for early action where possible to reduce risks associated with schedule and related activities prior to RFP Issuance. Coordination and progression of these activities with the relevant MDOT SMEs should begin as soon as possible and must be reflected in the DB project schedule.

Preliminary Engineering and Design

As with any MDOT project, preliminary engineering is critical to several areas of a DB project, including supporting documentation for environmental clearance applications, identification of potential ROW impacts and utility conflicts and creating minimum requirements and/or a basic configuration for the project that meets the goals defined in scope refinement. The minimum requirements and basic configuration are included in the RFP, either in the form of contractual requirements or in schematic/design plan format as Reference Information Documents (RID). The GEC progresses the preliminary design to a level adequate to allow a feasible design and biddable RFP that meets the goals of the project while retaining flexibility for design-builder creativity and innovation where possible.

Activities with long lead times, and activities requiring significant involvement from the FHWA, such as design exceptions and Interstate Access Change Requests (IACRs), as applicable, should be identified so they may be initiated as early as practical and the schedule implications may be appropriately considered and/or accommodated.

Environmental Analysis and Permitting

In establishing the GEC scope of work and preparing the DB project schedule, the PM has discussed the project's environmental clearance status and associated timelines with MDOT's Environmental Section staff. If the project has not reached conclusion of the NEPA process, the GEC may be contracted to support MDOT's Environmental Section in completing this process within the desired time frames. This may include field surveys, studies and reports, permit applications and any other necessary tasks. MDOT commitments and mitigations stated in the environmental clearances and NEPA documents must be included in the RFP and contract documents to ensure that the design-builder understands and complies with the associated obligations. In contrast to DBB delivery, where MDOT completes full and final detailed design, preliminary engineering and design on a DB project need only be progressed to a level necessary to support environmental documentation and clearance. This allows for innovation from design-builders where possible. If a design-builder's proposed design deviates from the concept presented in the environmental clearances and NEPA documents provided by MDOT in the RFP, any resulting risk of environmental re-evaluation is borne solely by the design-builder. This risk is stated explicitly in the RFP and contract documents.

MDOT makes every effort to complete the NEPA process on DB projects prior to obligation of the implementation phase (CON phase), which occurs at RFP issuance. However, per <u>CFR 23 § 636.109</u>, if NEPA conclusion cannot be achieved prior to issuance of the RFP, the RFP will inform proposers of the general status of the NEPA process and that no commitment will be made as to any alternative under evaluation in the NEPA

process, including the no-build alternative, with language and requirements acceptable to MDOT and the FHWA. If NEPA is not completed prior to issuing the RFP, the FHWA must concur per CFR 23 § 636.109(c).

In addition to environmental clearance, the project team also identifies and begins obtaining required permits in the development phase. MDOT will obtain as many required environmental compliance permits as possible for a project prior to release of the RFP and include copies of those permits in the RID. If permits have been applied for but not issued by a regulatory agency, the application is included in the RID. MDOT's permit commitments are included as design-builder obligations in the DB Contract Book 2 Technical Requirements. The process for acquiring permits after award is defined in the RFP as appropriate.

Right of Way

Prior to requesting obligation, all ROW information, including the status of easements or acquisitions, must be included in the RFP. If the necessary ROW has not been obtained prior to requesting obligation, the PM must coordinate with MDOT Real Estate Services Section staff and FHWA to draft RFP language that is acceptable to MDOT and FHWA, and the PM is required to submit a Public Interest Finding acceptable to FHWA. See <u>Section</u> <u>3.5 of this document</u> for additional information on Public Interest Findings.

Third-Party Agreements

Issues involving third parties may arise before, during and after construction on DB projects. Third parties may include cities, townships, counties, individuals, watershed districts or other governmental and non-governmental agencies or organizations. MDOT will execute as many agreements as possible with third parties prior to issuance of the RFP. Executing these agreements earlier may allow MDOT to avoid subsequent issues such as changes in local government requirements, permitting and approval processes or application of conflicting environmental standards. For any third-party permits and approvals not obtained by MDOT prior to issuance, the RFP and contract documents will determine which party (MDOT or the design-builder) is obligated to prepare the permit documentation and which party will submit the permit application.

Railroad Agreements

Railroad agreements are a type of third-party agreement that typically require a longer lead time to finalize. Uncertainties in the participation of railroad representatives present significant risk to project schedule and cost. This may include uncertainty regarding timeliness of reviews and authorizations or willingness to accept certain design elements. For this reason, discussions with MDOT Office of Rail and railroad representatives should be initiated as early as possible in the development phase. MDOT makes every effort to secure railroad agreements prior to issuance of the RFP.

Utility Relocation and Coordination

Utility relocation and coordination can be a time-consuming process, depending on the extent of utilities located within the project corridor and the need to establish utility agreements and/or coordination clauses. MDOT conducts an initial request for utility information and prepares a summary of potential utility conflicts that will impact the project. The request for utility information and any responses from identified utilities are included in the RID. Where conflicts are anticipated, it may be desirable to relocate utilities prior to issuance of the RFP; however, in most cases, where possible it is preferred to provide coordination clauses and relocation schedule timeframes within the RFP to enable the design-builder to request utility relocations that will not conflict with the final design.

Geotechnical Investigation

MDOT establishes a geotechnical investigation plan under the guidance of the MDOT Geotechnical Services Section and Region Materials Unit on MDOT DB projects, similar to the approach used on DBB projects, prior to

drafting the RFP documents. MDOT provides documentation of the soils investigations in the RID; however, the full extent of potential investigations is not known during the DB development phase as the design will not be completed by the design-builder until the implementation phase. MDOT provides adequate geotechnical information for a design-builder to prepare a preliminary design to submit a proposal; however, it is the design-builder's responsibility to complete any additional geotechnical investigation to ensure they have all necessary geotechnical information to complete their design.

2.6 Industry Outreach

A fundamental goal of the ICU and these Guidelines is to provide transparency in the DB delivery process. Industry outreach activities are an integral function of the MDOT IC program, initiated upon delivery model approval and continuing throughout the project lifecycle, and may include any or all of the content listed below.

Innovative Contracting Website

The <u>MDOT IC website</u> is the primary tool for communicating project and programmatic information and updates within MDOT and to our agency and industry partners, the public and other interested parties. In the development and procurement phases of a DB project, regular communication with industry via the website is especially critical. At the conclusion of the identification and selection phase, the IC PM requests a project-specific webpage within the MDOT IC website. The project webpage is updated regularly to provide current project and procurement information.

Project Information Sheet

Prior to commencing procurement, the IC PM publishes a project information sheet to the project-specific webpage within the MDOT IC website, to notify potential design-builders of general project information including scope, construction and design prequalification categories, schedule, Disadvantaged Business Enterprise (DBE) goals, potential stipend amount and procurement/evaluation methods.

Industry Forum/Informational Meeting

MDOT may also conduct industry forums and informational meetings to introduce and clarify the scope, goals and schedule, solicit feedback and answer questions from industry.

Chapter 3 – Procurement

The procurement phase includes preparation and issuance of the procurement documents and concludes with selection of the design-builder and award of the DB contract. MDOT incentivizes participation of numerous highly qualified proposers with a competitive procurement environment that drives value by encouraging industry innovation and efficiency.

MDOT DB procurements typically utilize a two-step procurement process, which may include:

- Issuance of an RFQ to shortlist the most qualified proposers, as described in <u>Section 3.2 of this</u> <u>document</u>.
- Industry forums and informational meetings, as described in <u>Section 2.6 of this document</u>.
- Issuance of an "industry review draft" RFP, as described below.
- Issuance of an RFP to shortlisted proposers, defining the technical requirements of the project and obligations of the design-builder as described in <u>Section 3.4 of this document.</u>
- Award to the selected design-builder, as described in <u>Section 4.6 of this document</u>.

MDOT DB procurements typically utilize a low bid selection approach that results in an award to the proposer offering the technically responsive proposal with the lowest price.

MDOT may also utilize a best value selection approach that results in an award to the proposer whose responsive proposal is evaluated as providing the best value to MDOT. This approach is based on proposal evaluation criteria included in the RFP which quantify the technical merit, cost and schedule submitted by the proposer, with a focus on meeting and exceeding the project goals.

The use of best value selection requires approval from ICC and EOC. It is recommended that objective proposal evaluation criteria be drafted early in the development phase once a decision to utilize best value selection has been made, to allow EOC and industry representatives to consider the criteria and express any concerns.

Developing a proposal for a best value procurement requires more effort from proposers and requires greater effort from MDOT to review. Proposal development effort may be a consideration when establishing a stipend amount.

MDOT may issue an optional draft RFP for industry review to gather initial feedback on the RFP and allow proposers an early look at the project details, contract terms and conditions and technical requirements. The intent of industry review of the draft RFP is to provide MDOT with valuable feedback to clarify requirements of the RFP and resolve potential issues in the RFP as perceived by proposers.

A one-step procurement, foregoing the qualification of proposers in the RFQ process and proceeding directly to RFP phase, may be appropriate in certain circumstances and requires approval by the ICC and EOC.

Figure 6 illustrates the stages of the procurement phase.



Figure 6. The Procurement Phase

3.1 Startup Activities

Upon selection of a project for DB delivery and determination of the proposed procurement approach, MDOT initiates preparatory activities leading up to issuance of the RFQ and RFP.

Procurement Schedule

The initial DB project schedule (see <u>Section 2.2 of this document</u>) is refined by the GEC, in cooperation with the project team, to progress completed development phase activities and milestones and update procurement phase activities and milestones, including SME reviews of Book 2 sections. The PM coordinates with the MDOT SMEs responsible for each review to ensure the DB project schedule is accurate and acceptable.

DB projects have a special letting date on the <u>MDOT bid letting website</u> and do not follow the scheduled letting established for DBB projects. The special lettings benefit both MDOT and proposers by enabling each party to focus on bidding the DB projects without impacting the efforts associated with bidding and letting traditional DBB projects. The IC PM coordinates with MDOT's Bureau of Finance, Contract Services Division, Construction Contracts Section (CCS) to establish the special letting date.

Procurement Training

Typically, the IC PM and GEC prepare and facilitate a training session with the Core Team and relevant MDOT SMEs prior to developing the RFP documents and concurrent with RFQ development. The training primarily covers project and procurement goals, the procurement process and timeline, roles and responsibilities, and an introduction to the Implementation phase to provide context.

Initial Procurement Risk Assessment

As the project transitions from Development to Procurement, the GEC updates the initial risk assessment in collaboration with the core team in accordance with the MDOT Innovative Contracting Risk Management Workbook. The risk register is updated to assess the impact and probability based on information gathered in the development phase, revise existing or add any new risks as appropriate, quantify identified risks and adjust the risk cost contingency as necessary. The GEC ensures that identified risks and corresponding response is addressed in the procurement documents as appropriate.

Pre-qualification Categories

Proposers must be prequalified in the required work categories to be shortlisted and the design-builder must be pre-qualified to perform the work required in the RFP. The RFQ indicates all identified prime contractor construction prequalification categories and all identified design prequalification categories expected on a project. To determine the prime contractor prequalification categories the PM coordinates with the CCS and provide the estimated project cost and scope of work.

The RFP may require additional design pre-qualifications; however, this should be kept to a minimum to retain the integrity of the shortlisting. The construction prequalification category must be consistent with the RFQ requirement, although the prequalification limit may change based upon final cost estimates.

Disadvantaged Business Enterprise Goals

On federally funded projects, the RFP includes a DBE participation goal, defined as the percentage of work that the design-builder must sub-contract to DBEs. DBE participation is typically determined prior to issuing the RFQ. The IC PM coordinates with the Office of Business Development (OBD) to establish the project DBE participation goal.

Stipend

To encourage participation of the most qualified proposers and offset bid preparation costs, stipends may be awarded to unsuccessful proposers that submit responsive technical and price proposals in two-step DB procurements. The stipend amount is determined prior to issuance of the RFQ and shared with industry on the project information sheet. The IC PM submits the stipend payment calculation and supporting information to the ICU Manager, who requests approval of the stipend amount from the MDOT Director.

Confidentiality Requirements

To ensure confidence in the MDOT DB procurement process, some aspects of the procurement process are kept confidential until award of the DB contract unless otherwise required by law. This may include concepts or questions discussed in one-on-one meetings with MDOT or questions submitted to MDOT that include proprietary proposer information or concepts. Disclosure of such information could potentially expose a proprietary Proposer concept, thus diminishing competition and the value of the procurement to MDOT. MDOT staff participating in the procurement process will treat procurement-related information as confidential. The IC PM will communicate the need for confidentiality and the importance of discretion to the project team to ensure a competitive procurement and will advise the PM regarding the practices for maintaining, distributing and retaining procurement records.

Conflict of Interest Requirements

Participants in the procurement process, both internal and external to MDOT, are required to confirm they do not have a perceived, potential, or actual personal or organizational conflict of interest stemming from the project or any potential proposer, or to disclose any perceived, potential or actual personal or organizational conflicts of interest.

3.2 Request for Qualifications Process

In a two-step selection process, MDOT initiates procurement by issuing a request for qualifications (RFQ) document. The RFQ defines critical project success factors such as goals, scope, required design-builder qualifications, experience and key personnel. Each statement of qualifications (SOQ) submitted by a potential proposer in response to the RFQ is evaluated and scored to determine the most highly qualified submitters to be shortlisted. Only shortlisted proposers are invited to submit a proposal in response to the RFP. As few as three or as many as five teams are typically shortlisted; however, MDOT may shortlist based on its sole discretion in the best interest of the project.

Best value selection allows MDOT to evaluate and select proposals based on factors other than cost, such as technical approach and schedule. Technically complex or high-risk DB projects that would benefit from increased input from proposers regarding technical solutions and implementation approach may be appropriate for best

value selection. Low bid procurements are suitable for less complex DB projects where MDOT has determined that factors other than cost do not add significant advantages to the selection of a design-builder.

Alternate Pavement Bidding (APB) is now a standard part of DB projects meeting the APB selection criteria. The DB project must be a freeway project with a fix type of either a complete reconstruction or a major rehabilitation (unbonded concrete overlay or HMA over rubblized concrete) exceeding \$10,000,000 dollars where pavement is the controlling operation and both pavement type alternates are expected to have similar environmental, right of way, drainage and utility impacts along with similar traffic maintenance concepts.

Request for Qualifications Document Preparation

The RFQ outlines the desired qualifications of the DB teams and describes the project goals and scope in sufficient detail to allow potential teams to determine whether to pursue the project and submit an SOQ.

Starting with the DB Project RFQ Template, the RFQ is developed by the GEC and reviewed by the MDOT core team and SMEs as well as the MDOT selection team, charged with evaluating the submitted SOQs prior to issuance. The selection team typically consists of the PM, IC PM, construction engineer, and a member of the Central Selection Review Team (CSRT). The exact makeup of the selection team may vary; however, a CSRT member is required unless otherwise approved by MDOT's Contract Services Division (CSD).

The RFQ selection criteria and corresponding point values align with the goals, needs and unique aspects of a project. The evaluation criteria must enable the selection team to assess each submitter team's capabilities in a uniform, measurable and objective manner.

The RFQ is approved by the ICU Manager prior to issuance.

Request for Qualifications Issuance and Advertisement

The RFQ is issued on the IC website for a minimum of a four weeks; however, a longer advertisement period should be considered if the project is large and/or complex.

Inquiries regarding the RFQ are received by the PM via email. The questions and MDOT's responses are publicly posted on the project webpage at the MDOT IC website.

If the RFQ requires modification during the advertisement period it must be modified by addendum. The revised RFQ is placed on the project website with modifications clearly identified.

Statement of Qualifications Evaluation and Notice of Shortlisting

The PM and IC PM review the SOQs received by the submittal deadline for responsiveness to the requirements of the RFQ. Responsive SOQs are then distributed to the selection team for review. An SOQ that is non-responsive or missing required information may be rejected.

Selection team members are responsible for evaluating the qualifications of each responsive submitter. The selection team evaluates SOQs against the project goals and evaluation criteria set forth in the RFQ. The selection team meets to discuss the evaluation, and the PM drafts a score sheet for each submitter. Final score sheets are signed by each member of the selection team.

The PM and IC PM submit a notification of shortlisting results and signed score sheets to CSD for processing. The shortlisting results are posted on the project website and the score sheets are sent to each submitter.

3.3 Concurrent Development Activities

RFP document development occurs concurrently with other development phase activities. These other activities, closely coordinated by the PM, inform the content of the RFP documents.

Progress Meetings

The DB project schedule includes regular progress meetings among the members of the core team and relevant MDOT SMEs. Progress meetings cover status updates on the project and procurement, preliminary design progress, development of the RFP documents and ongoing risk mitigation measures. The GEC solicits feedback from the project team at each meeting to develop the RFP documents. The GEC also follows up with MDOT SMEs outside of these meetings to gather additional information.

The project team may review the risk register at each meeting to update as appropriate and follow up on action items. The GEC updates the register after the meeting as necessary.

Updates to Contract Time Determination Schedule

Once project scope, technical requirements, constraints and risks have been adequately progressed, the GEC prepares a realistic critical path method (CPM) contract time determination schedule for completion of the project in compliance with RFP documents. The contract time determination schedule shows all anticipated implementation phase activities, including administrative and design submittals, MDOT review timeframes and construction activities with durations in accordance with the RFP requirements. The contract time determination schedule is completed and updated using software prescribed by MDOT.

Updates to Cost Estimates

The engineer's estimate, developed by the PM or project team using estimated quantities and unit prices, serves as the initial cost estimate. However, as procurement progresses and the draft RFP is available at Final Package Coordination (FPC), there is adequate information to prepare the pro forma DB cost estimate. The GEC prepares this contractor-style cost estimate based on the necessary labor, equipment, materials and any other considerations that contractors would evaluate to prepare a bid. This provides a realistic, contractor-style estimate of the DB contract price based on the RFP scope of work, contract language, technical and schedule requirements and perceived risks as appropriate. In concert with the risk register and contract time determination schedule, the pro forma DB cost estimate may identify unintended consequences of RFP requirements that may be addressed prior to RFP issuance, as well as the potential need for any additional funding.

General Engineering Consultant Contracting for Design Services During Construction

Prior to the implementation phase, the PM contracts the GEC to perform design services during construction (DSDC), which may include, but is not limited to, attending and participating in various meetings as an extension of MDOT resources, providing technical design assistance and preparing responses to design-builder requests for information (RFIs) and other correspondence as appropriate. Using the DSDC cost estimate template, DSDC costs are determined as the RFP is developed. The final cost of the DSDC contract is determined by the anticipated level of effort to review various submittals provided by the design-builder.

3.4 Request for Proposal Document Preparation and Review

Development and advertisement of the RFP is the second step of a typical two-step procurement. The purpose of the RFP is to solicit competitive proposals from several highly qualified proposers. The RFP documents define all requirements for a responsive technical and price proposal, and for the design-builder to design and construct the project. The RFP includes the instructions to proposers (ITP), the DB contract (Book 1), the project requirements (Book 2), reference standards (Book 3) and RIDs. Books 1, 2 and 3, as well as the technical

proposal with approved alternative technical concepts (ATCs), become part of the executed DB contract following award.

Request for Proposal Document Preparation

The GEC develops the preliminary draft RFP using the DB project RFP template. The GEC works collaboratively with the core team and SMEs to develop project-specific content, customizing the RFP to suit the scope and goals of the DB project. The GEC extracts and distributes RFP sections to the appropriate MDOT and GEC authors from each technical discipline, assigns a deadline for completion and compiles the sections into a single draft RFP. Once the GEC has compiled all input from the core team and SMEs, a multi-disciplinary review meeting, or "page-turn" of the draft RFP is conducted to ensure satisfactory incorporation of all necessary requirements, specifications and reference standards prior to advertisement.

Document Control

To facilitate timely, concurrent development of RFP documents, the GEC utilizes a document control system to organize and facilitate the document development workflow. The document control system stores all RFP documents and related information in a common and secure location; monitors, records and reports completion status and the performance of quality assurance; follows a standard naming convention and maintains version control.

ICU standard practices for document control are noted within the DB project RFP template.

Writing Guidelines

Specifying project requirements on DB projects is different from MDOT's traditional approach. Instead of the highly prescriptive specifications used in DBB projects, where MDOT completes final design and prescribes construction quantities, means and methods, DB projects incorporate unique project-specific and/or performance specifications. These specifications define design-builder obligations, including design parameters and facility performance requirements, but retain flexibility wherever possible for the design-builder to implement innovative solutions consistent with MDOT's goals and objectives. This allows MDOT to transfer the risks of design and construction performance, schedule and cost, which are risks more efficiently managed by the design-builder. Overly prescriptive specifications limit innovation and may retain risk unnecessarily or unintentionally and allocate risk inefficiently.

Some guiding principles for developing DB performance specifications are included below. These best practices encourage consistency and clarity, reduce ambiguity and make administration and enforcement easier.

- **Approve/Accept:** When the terms "Approve" and "Accept" are capitalized in the contract documents, they refer specifically to actions taken by MDOT. When they are lower case, they refer to actions taken by other parties. On MDOT DB contracts, "Accept" means MDOT agrees that a certain matter or item submitted for acceptance appears to meet the contract requirements. "Approve" specifically refers to a formal determination that the matter or item submitted for approval is satisfactory for the project or condition under consideration. Approvals generally require MDOT to take on more responsibility and impose hold points into the schedule.
- **Should/Shall:** The word "shall" is the preferred word when writing requirements of the design-builder. The term "should" is ambiguous and is not appropriate for use in DB specifications.
- **Standards:** Authors should reference current standards wherever possible and avoid duplicating information already contained in referenced standards. The RFP documents may require additions, modifications or clarifications to the referenced standards. Authors should also avoid duplicating information contained elsewhere in the RFP to avoid conflicts.

RFP requirements should be written to meet the following criteria:

- Correct The requirement is technically accurate.
- Feasible The requirement is achievable and reasonable.
- Complete (whole) The requirement expresses a whole idea or statement.
- Clear The requirement is written in understandable terms and is unambiguous in identifying "who shall do what."
- Consistent The requirement is not in conflict with other requirements.
- Verifiable (auditable) The requirement can objectively be confirmed to have been met.
- Traceable The impact of changing the requirement is easily known.
- Required The requirement is determined necessary.
- Design-independent The requirement does not impose a specific solution on the design.

Design-Build Project Request for Proposal Template

MDOT has developed a DB project RFP template for use on MDOT DB projects. Much of the content is standard for all projects, but certain portions are modified for each project. For example, Book 1 includes programmatic requirements that apply to virtually all DB projects, with only minor changes needed. Book 2, by contrast, is mostly project-specific technical requirements that vary significantly based on the unique scope and goals of a project. The ICU is responsible for maintaining and providing access to the template documents and monitors all modifications, particularly those that may require FHWA approval or have significant contractual implications and require legal review. While the RFP contains language that is intended to apply program-wide, the project team must review the RFP in its entirety to identify any conflicting or unclear text.

Request for Proposal Documents

Instructions to Proposers

The purpose of the ITP is to establish the rules and procedures for the RFP stage of procurement. It sets forth requirements for proposers to prepare and submit a responsive proposal and establishes the criteria by which MDOT will objectively evaluate and select the winning proposal. The ITP contains forms that must be included as part of the proposal and become part of the DB contract. These forms allow for consistent and complete information to be collected by MDOT, documenting certain requirements and commitments of the design-builder.

The ITP typically includes:

- General information identifying project scope and goals, procurement method, DB project schedule, procurement process, proposal evaluation process, DBE and equal employment opportunity (EEO) submittal requirements.
- Proposal submittal instructions, including required technical and price proposal content and format.
- Rules of contact, conflict of interest disclosure, confidentiality, proposer questions and clarifications processes.
- ATC process.
- Stipend details and the stipend payment process, as applicable.
- Proposal forms conveying required content of the price proposal, proposer schedule, schedule of values, escrow proposal documents, stipend agreement, bonding, DBE utilization and forms related to the proposer's organization.

Book 1 – DB Contract

The purpose of the DB contract and exhibits is to define the terms and conditions between MDOT and the design-builder that govern the administration, design and construction of the project. Book 1 includes provisions

regarding payment and deduction, changes, value engineering, warranties and indemnities, exhibits listing defined terms and acronyms and requirements for EEO, DBE, wage rates and other items. Although subject to change to accommodate project-specific conditions, much of the content of Book 1 does not vary from project to project. Project-specific modifications may be necessary to accommodate certain changes in risk allocation (i.e., shared risk items). Revisions to Book 1 are referred to the ICU Manager to ensure consistency with MDOT policies and may be referred to the Department of Attorney General's Transportation Division.

Book 2 – Project Requirements

The purpose of Book 2 and attachments is to define the technical requirements and performance specifications to manage, design and construct the project. Book 2 is modified for each project's specific scope, goals and requirements. Book 2 is mainly composed of sections that address specific technical disciplines, but also contains standard programmatic administrative and project management requirements that apply to all DB projects.

Book 3 – Standards and Specifications

The purpose of Book 3 is to define the applicable standards to be followed by the design-builder for design and construction of the project.

Reference Information Documents

The purpose of the RID is to provide information that may be beneficial to proposers and the design-builder but which has not been substantiated by MDOT, including preliminary design information, studies and reports, asbuilt drawings, technical memoranda not incorporated into Book 3, sample documents and other information generated or collected during the development phase. The RID is provided for informational purposes and is not a part of the DB contract. Unless MDOT explicitly defines a requirement in the contract documents by referencing a RID or portion of a RID, the design-builder has no right to rely on the information in the RID. Although most of the content is project-specific, the RID can be divided into several sections applicable to most projects.

Request for Proposal Document Review and Approval

Prior to issuance of the RFP, MDOT conducts extensive interdisciplinary reviews with its core team, SMEs, the GEC and the Department of Attorney General's Transportation Division and other consultants as applicable. This series of internal reviews includes a preliminary package review, FPC package review, and an omission and errors check (OEC). Each level of review culminates in a page-turn, with participation by the core team, contributing MDOT SMEs and the FHWA, if identified in an RBPI S&O plan.

Reviews assess technical and editorial criteria, as well as consistency with project goals, interdisciplinary technical review of individual sections of Book 2 to identify any potential gaps, overlaps, areas where additional coordination may be needed and other issues. For example, the MDOT SME on structures might have input on the geotechnical and drainage sections and should be given an opportunity to review. A comment log is developed by the GEC to document all drafting notes, comments and action items.

Preliminary Package Review

The preliminary package review focuses on the first draft of the RFP documents and includes the items listed below.

- Draft language for all documents and sections.
- Drafts of required exhibits to each section of Book 2, and placeholders for any exhibits still in development (e.g., environmental permit).

- Drafts of the required special provisions, and unique special provisions that need to be developed and/or approved by MDOT.
- "Shared risk items" to address project risks.
- Comment log.
- Engineer's estimate.
- Draft construction schedule.

At this point, the pro forma cost estimate and contract time determination schedule have not been completed and are not discussed at the preliminary package review meeting. The engineer's cost estimate and draft construction schedule from the development phase are updated and included in the package. The cost estimate includes updated quantities and unit prices.

The package and review encompass all scope of work identified and refined in the development phase, as well as any new scope that has been identified in the procurement phase to date. Addition of scope after the preliminary package review is discouraged, as it may introduce undue risk to the project.

Finally, the page-turn is conducted to resolve comments and document action items for FPC draft development.

Risk Workshop

Following the preliminary package review and page-turn, the GEC facilitates a risk workshop in accordance with the MDOT Innovative Contracting Risk Management Workbook. Prior to FPC, the risks and corresponding response strategies are addressed in the RFP documents as appropriate.

Final Project Coordination Review

The FPC package review focuses on the second draft of the RFP documents and accompanying preliminary engineering and due diligence information. The RFP document is essentially complete at the time of the FPC package review meeting and will:

- Incorporate comments received on the preliminary package review draft of the RFP.
- Incorporate coordination of requirements between disciplines.
- Conform requirements, definitions and references between RFP documents.
- Reflect final RFP language for confirmation by the project team; and
- Include all required exhibits to Book 2 in final form.
- Include comment log.

In addition to the RFP documents, the following preliminary engineering due diligence information are included in companion with the FPC package review:

- Contract time determination schedule
- Pro forma cost estimate
- Risk management plan, risk register and the most recent quarterly risk report
- Preliminary design plans

Prior to OEC, the GEC compiles all comments received from the team and facilitates a final page-turn to resolve and document final disposition of all outstanding comments to the RFP.

Omission and Errors Check

The OEC focuses on the final draft of the RFP documents. The RFP is 100 percent complete at the time of the OEC. This is the last opportunity for the project team to review the package for completeness prior to advertisement and includes verification of the following tasks:

- All outstanding comments have been addressed in accordance with the comment log.
- All required special provisions are included in their final form and approved.

3.5 Final Project Turn-In and Request for Proposal Issuance

After OEC, the PM completes the DB certification and acceptance (CA) form and submits it with the RFP documents to the ICU Manager for approval. The PM must also ensure that the following activities have been completed, as applicable, prior to obligation of funds for the implementation phase:

- For federally funded projects that have not yet acquired all required ROW prior to obligation, a Public Interest Finding (PIF) is developed for FHWA approval. The PIF describes the remaining ROW that is anticipated to be needed, the reason it cannot be acquired prior to obligation, why acquiring ROW for the project after obligation is in the public interest and the time frames incorporated into the RFP to allow adequate time for design and ROW acquisition. The PIF is submitted for FHWA approval by MDOT's Real Estate Services Section.
- For federally funded projects that have not yet completed the NEPA process, the RFP must inform
 proposers of the general status of the NEPA process and that no commitment will be made as to any
 alternative under evaluation in the NEPA process prior to conclusion of the NEPA process, including the
 no-build alternative. The RFP must also include contract language and requirements acceptable to
 MDOT and the FHWA, as discussed in <u>Section 2.5 of this document</u>. FHWA concurrence is required to
 advertise the RFP if the NEPA process has not concluded.
- The GEC compiles all frequently used special provisions (FUSPs) in effect at the time of RFP issuance for inclusion in Book 3.

A final review of the RFP is conducted by the ICU Manager, who considers the following prior to approval for issuance:

- Required approvals from ICC and EOC.
- Required funding identified.
- Project risk workbook.
- Project cost estimate and schedule.
- Procurement and proposal evaluation approach, requirements, incentives or disincentives.
- Resolution of all comments in comment log.
- Stakeholder engagement.
- FHWA comments and concurrence, as applicable; and
- Completed CA form and any other approvals, as applicable.

Once approved, the ICU Manager submits the RFP to MDOT's Specifications & Estimates Unit for advertisement. The Specifications and Estimates Unit obligates the project funding and coordinates with CCS for project letting. The approved RFP documents are advertised through MDOT's E-Proposal system and can be viewed publicly, although only shortlisted proposers participate in the RFP phase and submit proposals.

3.6 Request for Proposal Advertisement Period

Once the RFP has been advertised, shortlisted proposers access the RFP documents on e-Proposal. Prior to proposal submission, MDOT may allow questions in response to the RFP documents and may conduct confidential one-on-one meetings. The RFP phase culminates with selection and award of the DB contract to the selected proposer. Several of the activities identified below involve handling confidential and proprietary proposer information. Confidentiality requirements described in <u>Section 3.1 of this document</u> must be observed.

Proposer Questions and Answers

A collaborative dialogue between MDOT and proposers is an important function of DB delivery. MDOT strives to provide accurate and timely responses to proposer questions regarding the RFP. The ITP prescribes the procedure, schedule and format for proposer questions. MDOT provides formal responses to any non-confidential questions received, which are made available to all shortlisted proposers. MDOT provides formal responses if a proposer asks a confidential question, though MDOT makes the determination if a question is confidential at its sole discretion. MDOT reserves the right to disclose any proposer's question it deems to be non-confidential or that identifies an error or omission, if it is in the best interest of the project. MDOT's responses to proposers' questions may be provided confidentially via email or published for all shortlisted proposers, as appropriate.

However, questions and answers do not become part of the RFP documents and are not contractual. The PM and IC PM coordinate to ensure consistent responses whenever possible between proposers and projects.

One-on-One Meetings

During the RFP phase, MDOT may conduct one-on-one meetings with shortlisted proposer teams. These confidential meetings provide proposers the opportunity to discuss the RFP and the proposer's approach to the project, including ATCs, in a confidential setting. MDOT may offer updated information regarding the project, clarifications to the RFP based on the proposer's questions and solicit the proposer's feedback and suggestions regarding the RFP.

Proposers are required to submit an agenda stating topics for discussion in advance of the one-on-one meeting as specified in the ITP so that MDOT may arrange for all appropriate staff to attend. Following the meeting, proposers are required to provide questions and comments in accordance with the ITP if a response from MDOT is desired.

Addenda

An addendum is a change to the RFP documents. It may be necessary for MDOT to issue formal addenda to the RFP in response to proposer questions, to clarify requirements, to correct errors or to provide supplemental information. The intent of the addendum process is to formally respond to questions and modify the RFP in advance of the proposal due date. The revised RFP is placed in e-Proposal, clearly identifying modifications to the RFP, and a notice to bidders is sent to alert proposers of the addenda.

Pre-Submittal Meetings

Mandatory pre-submittal meetings may be held if there are unique and/or time-sensitive circumstances that MDOT would like to communicate to proposers.

Alternative Technical Concepts

Overview

An ATC is a proposed deviation from the RFP requirements submitted by a proposer and approved by MDOT. ATCs approved by MDOT provide a solution that is equal to or better than the RFP requirements, as determined by MDOT in its sole discretion, and do not conflict with criteria agreed upon in the environmental decision making process. ATCs are treated as confidential prior to award of the DB contract. The intent of the ATC process is to encourage proposer innovation. A key function of DB delivery, the ATC process is a collaboration between MDOT and proposers working through potential proposer designs and construction concepts to meet or exceed the project goals. Approved or conditionally approved ATCs may be included in the proposal. Approved ATCs of the selected proposer are incorporated into the DB contract. Any portion of the project scope for which MDOT will not consider ATCs are defined in the RFP.

Figure 7 illustrates the ATC process.





Review Team

The review team for each ATC is limited to the core team and relevant MDOT SMEs (typically four to six people) to ensure a complete, multi-disciplinary review.

Confidentiality

The PM is responsible for communicating the confidentiality of ATCs to each reviewer.

ATC Review

The PM distributes ATCs to the review team to review and evaluate the ATC. SMEs review the ATCs at a conceptual level (versus a design-level review), to verify adequate information is present to allow for initial review by MDOT and that there is potential for an acceptable design and construction in the implementation phase. Since approved ATCs included by the selected proposer may become contractual, ATC submittals must contain all information required by the RFP to ensure a final product that is acceptable to MDOT. ATCs are reviewed and MDOT responses are provided promptly in accordance with the schedule defined in the ITP to allow continued development and design by proposers prior to submission of technical and price proposals.

ATC Meetings

The procurement schedule defined in the ITP may allow for confidential ATC-focused one-on-one meetings with proposers.

ATC Response

MDOT may approve, reject or conditionally approve the ATC, and will communicate its disposition to the proposer through a letter.

Inclusion of ATCs in the Proposal

The Proposer has the option to include an approved or conditionally approved ATC in its technical proposal. The price proposal will reflect the incorporated ATC.

Incorporation of the ATC

Prior to the execution of the contract, the selected design-builder's ATCs are incorporated by reference in the conformed contract documents as part of the technical proposal. This may include modifications to baseline specifications and standards due to the accepted ATC. MDOT will provide the ATCs of unsuccessful proposers that accept a stipend in consideration for their proprietary ATCs to the selected design-builder. Through a change order, MDOT and the design-builder may also opt to incorporate ATCs of such unsuccessful proposers, allowing the incorporation of these ATCs into the project.

Proposal Content and Submittal

A DB proposal is comprised of a technical and price proposal. The technical proposal verifies certain minimum requirements have been met and certain commitments have been made by proposers as set forth in the ITP. Price proposals include the proposed cost to perform all work as required by the RFP, typically expressed as a lump sum price for the project scope as well as pricing for certain shared risk items.

Both technical and price proposals include forms provided in the ITP, completed by proposers, as described in <u>Section 3.4 of this document</u>.

Technical proposals are submitted to the PM. Price proposals are submitted via AASHTOWare Project Bids.

Proposal Evaluation and Selection

Prior to receipt of proposals, the PM may prepare a proposal evaluation and selection (E&S) plan establishing a process and selection criteria to score proposals. The PM is also responsible for assembling an E&S team to evaluate and score proposals. It is preferable to assemble the E&S team prior to advertisement to ensure the members are familiar with the ITP and the proposal evaluation criteria. The composition of the selection team may vary depending on whether a low bid or best value procurement is pursued.

For low bid selections, E&S consists of simply verifying that proposals are responsive to the RFP requirements, followed by award to the responsive proposer with the lowest price proposal. Best value selections require a unique E&S plan that defines the E&S procedure, schedule, roles and responsibilities of reviewers and the value and relative weighting of selection criteria established in the ITP.

In preparing the E&S plan, the PM should consult with CSD, considering the time necessary for evaluation and scoring (as applicable) of technical proposals as well as the time it will take for CSRT to review and approve the results. A best value E&S process can take three weeks or longer.

Low Bid Evaluation and Selection

On low bid selections, MDOT awards the project to the responsive proposer with the lowest price proposal.

The selection team is composed of the PM and IC PM with support from CSD. The selection team reviews each technical proposal to verify that it is responsive to the requirements set forth in the ITP.

A technical proposal is considered non-responsive if it does not contain all required information or is not compliant with the requirements of the ITP. A technical proposal may not be deemed non-responsive on the basis of minor irregularities in the proposal. However, if major errors, irregularities or omissions are present in the proposal with the lowest price proposal, MDOT retains the right to disqualify the proposer and award the project to the responsive proposer with the next-lowest price proposal.

Best Value Evaluation and Selection

For best value selections, MDOT awards the project to the responsive proposer with the best value proposal, selected based on objective evaluation criteria included in the RFP that quantify the technical merit, cost and schedule submitted by the proposer, meeting or exceeding the project goals. The proposal evaluation criteria and technical proposal submittal requirements established in the ITP form the basis of the E&S plan for best value selections.

The selection team is composed of the PM, IC PM, key MDOT SMEs and partner agency representatives (as applicable), with support from CSD, and may include staff from the Region/Transportation Service Center, ICU, and CSRT. Responsiveness and pass/fail reviews are conducted by the PM, IC PM and CSD.

The selection team reviews each technical proposal to verify responsiveness to the technical proposal submittal requirements, scoring it in accordance with the E&S plan and using any forms provided in the E&S plan.

The selection team provides detailed comments to justify scores based on the evaluation criteria and the information provided in the proposal. The selection team may meet to arrive at a consensus score for each technical proposal. The PM prepares the score sheet for each technical proposal.

The price proposals are also scored and added to the technical proposal score.

The PM provides the selection team scoring results to the CSRT for review and approval, and coordinates with CSD for the posting and release of the approved results.

Design-Build Contract Award and Execution

After a low bid or best value selection has been made, the project is awarded. Execution of the DB contract requires proposer submittal and MDOT verification of various documents such as DBE engagement plan, evidence of bonding and insurance as required by the RFP, progress schedule, warranties as applicable, conformance of the final contract documents and securing FHWA concurrence on the award, as applicable. Once these activities are completed, authorized representatives for MDOT and the design-builder sign (or execute) the DB contract.

3.7 Stipend Agreement Execution and Payment

Following award of the contract, the IC PM requests CSD to process the stipend payments for the unsuccessful proposers that signed a stipend agreement, to cancel stipend agreements for unsuccessful proposers that signed a stipend waiver and to cancel the stipend agreement for the design-builder.

Chapter 4 – Implementation

Chapter 5 defines the activities following award and execution of the DB contract, when MDOT and the designbuilder initiate the implementation phase to deliver the project. The project now transitions from procurement phase to implementation phase. In DB delivery, this is also known as design and construction, or "D&C": when the collaborative efforts of MDOT and its partners are truly realized. Throughout the implementation phase the partnership between MDOT and the design-builder is governed by the DB contract in accordance with the roles and responsibilities for each party defined in the DB contract. Successful implementation ensures the parties are held accountable to deliver the project in accordance with the requirements of the DB contract. This includes transitioning the project from procurement phase by establishing protocols in accordance with the requirements of the DB contract, implementing the appropriate level of MDOT oversight and performance monitoring, ensuring terms and conditions of the agreement are met by MDOT and the design-builder, measuring design-builder progress in accordance with the accepted CPM schedule, issuing payment at completion milestones in accordance with the schedule of values and documenting lessons learned to be utilized by MDOT in improving its program.

Figure 8 shows the steps of the implementation phase.



Figure 8. The Implementation Phase

4.1 Design-Build Contract Documents

Upon execution of the DB contract, the GEC assembles the executed DB contract documents, which include:

- The latest version of Book 1, 2, and 3 from the RFP, including any addenda.
- Approved ATCs from the design-builder's technical proposal. ATCs acquired by MDOT under a stipend agreement from unsuccessful proposers may be added to the contract via change order and contract modification if agreed upon by MDOT and the design-builder, subject to the terms of the contract.
- The FUSPs and supplemental specifications in effect as of the date specified in the RFP.

The GEC then posts the executed DB contract documents on the project website and MDOT ProjectWise as directed by the IC PM.

4.2 Implementation Phase Project Management

Once the contract is executed, MDOT manages the project by administering the DB contract in partnership with the design-builder. The design-builder designs and constructs the project in accordance with the executed DB contract.

4.3 Project Team Organization in the Implementation Phase

Although the core team and key SMEs remain intact, the composition and functions of the project team evolve as the project enters the implementation phase. The PM and construction engineer take on a more prominent

role as design and construction begin, while the IC PM continues its support and oversight role but gradually becomes less involved as the DB contract is administered and the transition to implementation is complete. The ICU is available as needed to assist DB project teams at any time during implementation if issues or questions arise.

To achieve success, integration of MDOT and design-builder teams is critical. This integration is accomplished through ongoing partnering efforts throughout the implementation phase, facilitating timely decisions and resolving issues at the appropriate levels in a cooperative and expedient manner. The integration approach between MDOT and design-builder is initiated in the initial partnering workshop and may be specified by the DB contract or incorporated informally as a best practice.



Figure 9 shows the organization of the project team during this phase.

Figure 9. Project Team Organization in the Project Implementation Phase

Core Team

The core team that was organized in the development phase and key SMEs remain engaged throughout the entire project to ensure adequate understanding and expertise within the team to deliver the project successfully.

The core team receives every design-builder submittal for review and coordinates closely on all project decisions. A well-coordinated, integrated core team is critical to ensure timely and consistent decision-making throughout the implementation phase. Continuity and connectedness within the core team also ensures that the design-builder's design and construction activities are effectively integrated, and helps to integrate the MDOT and design-builder teams for greater collaboration and success.

The responsibilities of each core team member during the implementation phase are outlined below:

Project Manager

The PM leads all aspects of administration of the contract and coordination with the design-builder, integrating the project team and representing MDOT. The PM operates in close coordination with the core team to implement the project within the time frames provided in the contract documents, communicating openly with the core team throughout implementation to ensure continuity and a common understanding within the project

team. The PM has the authority to make decisions on behalf of and with support from MDOT with minimal direction. The PM is responsible for communicating and escalating issues to MDOT leadership as appropriate during implementation, as well as recommending and ensuring support for project team decisions.

Innovative Contract Unit Project Manager

The IC PM is responsible for establishing and overseeing project management protocols and project controls for the implementation phase, monitoring risk management activities, providing training materials for the project team, leading partnering discussions with the design-builder at project meetings, interpreting and explaining the DB contract language as needed, supporting the team in responding to design-builder RFIs and correspondence as they relate to DB contract interpretation. The IC PM also serves as the liaison to the Department of Attorney General's Transportation Division to provide legal opinion on contract provisions, if required. Finally, the IC PM is responsible for gathering project lessons learned from the project team and recommending procedural and programmatic improvements.

Construction Engineer

The construction engineer is responsible for providing construction-related insight and direction on submittal reviews and leads discussions concerning construction-related activities. Construction engineer review of design-builder submittals is necessary to ensure the decisions made during administration and design are consistent with the expectations of the construction engineer.

The construction Engineer leads all field activities on behalf of MDOT, communicating openly with the core team throughout implementation to ensure continuity and a common understanding within the project. The construction engineer is responsible for all aspects of construction administration, including ensuring the obligations of the design-builder are met in accordance with the DB contract; processing change orders, contract modifications, invoices, and claims; ensuring construction schedule compliance; tracking materials and ensuring material quality assurance and testing.

General Engineering Consultant

During the implementation phase, the GEC manages the document control process for MDOT and coordinates design-builder submittals and MDOT responses. The GEC retains staff with technical expertise in all disciplines relevant to the project, serving as an extension of MDOT SMEs. GEC review of submittals includes a technical review that is independent of MDOT staff, a compilation of all project team comments, and a thorough review of all comments for quality and consistency with the DB contract. The GEC reviews the design submittals concurrently with and in support of MDOT SMEs.

The GEC facilitates training with direction from the IC PM to ensure MDOT project team staff understand the DB process, roles and responsibilities, the differences from MDOT's traditional delivery design and construction processes and the terms and conditions of the DB contract including requirements related to MDOT review, comments and response.

MDOT Subject Matter Experts

MDOT SMEs ensure design-builder design submittals meet DB contract requirements relevant to their discipline. Typically, the SME that drafted the technical requirements in the development and procurement phases is best suited to review related submittals to ensure compliance. SME reviews are performed in accordance with the timeframe defined in the DB contract. MDOT SMEs attend project meetings, as requested, and review RFIs related to their discipline as necessary.

Construction Engineering and Inspection Staff

CEI is performed by MDOT, MDOT's CEI consultant or both entities. CEI staff are responsible for many of the quality assurance activities that are also provided on DBB projects. The primary difference in DB delivery is MDOT is not contractually responsible for the design or its impact on construction. As such, MDOT and its CEI consultants shall not direct the design-builder regarding design-related issues. If a design-related question or issue arises in the field, CEI staff will refer the design-builder and subcontractors to the design-builder's design manager or designee for any guidance, opinion, recommendation or direction, or for field changes and/or plan revisions. MDOT and/or consultant CEI staff may comment on any such guidance, opinion, recommendation direction, field change and/or plan revision but shall not direct the design-builder in such cases without consulting with the PM. The construction engineer provides direction if a decision on such matters is time-critical, in consultation with the PM if possible.

CEI staff may also review design-builder submittals to ensure they comply with DB contract requirements for construction and may provide additional information to inform project decisions, as requested by the construction engineer.

Federal Highway Administration

When applicable, the FHWA's specific roles are detailed in an RBPI S&O Plan. For further details, see <u>Section 2.1</u> of this document.

Design-Builder

The design-builder is the entity that enters into the contract with MDOT. This term also collectively refers to the team comprised of the prime contractor and subcontractors responsible for completing the design and construction of the project. The design-builder's design manager is considered the engineer of record (EOR) for the project. The responsibilities associated with signing and sealing design plans traditionally conferred upon the EOR, as well as the risk of errors and omissions that accompany this responsibility, are conferred upon the design-builder in DB delivery and specifically are fulfilled by the design-builder's design manager. The design-builder is responsible for developing plans and constructing the project in accordance with the DB contract and must assure all applicable standards are met.

The design-builder may be an integrated design-build company, a joint venture between contractor(s) and engineering firm(s), or may be a contractor and subcontractors. Requirements for the composition of design-builder teams are specified in the RFP.

Additional Organizational Considerations

Communications

A project communication plan is established and shared with the design-builder at the kickoff meeting (See <u>Section 4.5 of this document</u>). The core team must be included on all correspondence between the designbuilder and MDOT. MDOT staff members outside of the core team do not communicate directly with the designbuilder regarding the project except in certain circumstances as directed by the PM.

Project Website and Document Control Plan

The GEC establishes and maintains a project website for use by MDOT and the design-builder for document control and collaboration. Design-builder submittals, RFIs and correspondence are posted on the project website as well as MDOT responses. Using the MDOT DB document control plan template, the GEC develops a project-specific document control plan in accordance with the DB contract prior to the kickoff meeting that outlines document control and submittal processing procedures. The GEC facilitates a document control plan training on the use of the project website at the kickoff meeting with a focus on submittal types and requirements, roles and responsibilities and review timelines.

Implementation Training

The IC PM coordinates with the GEC to develop a training presentation to provide the project team information on processes and expectations during the implementation phase of the project. It is recommended to hold the training prior to award of the DB contract. This is of particular importance to inform construction staff of the processes related to verification of progress and payment.

4.4 Escrowed Proposal Documents Review

Escrowed proposal documents (EPDs) are design-builder bidding documents containing all information used by proposers in preparation of price proposals.

Within the specified time defined in Book 1 following project award (typically five days), the EPDs are submitted by the design-builder to MDOT. Prior to putting the documents in escrow/storage, the EPDs are jointly reviewed by the design-builder, the PM, IC PM, and the construction engineer to ensure the contents are complete and in accordance with the requirements in Book 1. Reviewers of the EPD treat the information as confidential and do not discuss any details in the EPDs outside of the review meeting. Once the documents have been reviewed and determined to be complete, the EPDs are secured in a locked storage container provided by MDOT. The design-builder typically retains the container and MDOT holds the keys.

The EPDs remain locked in storage until final acceptance of the project or as needed to assist the parties in resolving a dispute, evaluating claims or estimating costs for extra work.

4.5 Initial Partnering Workshop

A kickoff meeting occurs after award and prior to issuing the Notice to Proceed as described in <u>Section 4.6 of this</u> <u>document</u>. The purpose of the meeting is to reach a common understanding of how the project will be managed and delivered. The core team and design-builder's key personnel attend the meeting, but participation by the entire project team is encouraged. At the meeting, the core team discusses elements of the MDOT project management and document control plans to clarify the expectations, roles and responsibilities of both parties and to provide transparency. This discussion includes instruction for the submittal of deliverables via the project website and a summary of the submittal review process. The design-builder team provides an overview of its approach to design and construction and delivering released for construction (RFC) plans, including draft schedules for design submittals and construction activities. The core team provides talking points regarding various aspects of the DB contract (pre-design requirements, pre-construction requirements, etc.) to prompt further discussion with the design-builder and gain additional alignment and integration between MDOT and the design-builder.

4.6 Notice to Proceed

MDOT may consider award and/or execution of the DB contract as the first Notice to Proceed (NTP), or may condition NTP(s) on certain activities required of the design-builder, which may include:

- Escrowed proposal documents.
- Schedule of values.
- Design quality manual.
- CPM schedule.
- DBE engagement plan.
- Environmental management plan.
- A kickoff meeting, as described in <u>Section 4.5 of this document</u>.

The design-builder may commence with design submittals after the NTP has been issued.

4.7 Preconstruction Meeting

After the NTP has been issued and before construction begins, MDOT and the design-builder team meet. Similar to DBB projects, MDOT will provide an overview of construction requirements in the contract, with additional focus on requirements that are unique to DB. Such topics include but are not limited to: completion deadlines, prerequisites for start of construction, extensions of time, schedule of values (SOV), invoicing and payment, critical path method (CPM) schedule, maintenance of traffic requirements, and shop drawing approval process.

4.8 Delivery of Project

After the NTP has been issued, design and construction of the project commences with performance and progress managed in accordance with the DB contract.

Meetings

To ensure coordination between MDOT and the design-builder throughout the life of the project and completion of the work in accordance with the DB contract, regular meetings between MDOT and the design-builder are typically required as described below. This list is not exhaustive and includes meetings typically required by the contract and meetings that may be held as determined by the PM.

Progress Meetings

Frequency of progress meetings should be established at the kickoff meeting. Progress meetings should include both design and construction staff, including all members of the core team and design-builder key personnel. Discussion topics may include a review of the status of design submittals, upcoming design submittals, construction progress, utility coordination status, third-party agency coordination status and quality management.

Concept Meetings

Concept meetings occur at the frequency required by the contract documents, to confirm the scope and schedule of forthcoming design packages and the design-builder's approach to completing the design. These meetings allow the design-builder to present the approach and schedule for forthcoming design packages and provide the opportunity to ask the MDOT core team and SMEs specific questions regarding the work included. These meetings occur after the design-builder has performed its due diligence to understand the contract document requirements, and prior to the design documents associated with the relevant design packages or work items being submitted for MDOT's review.

Over-the-Shoulder Reviews

Over-the shoulder (OTS) reviews are informal examinations of design documents by MDOT during the project design process. OTS meetings mainly assess whether the requirements and design criteria of the contract documents are being followed. The reviews may include design drawings, electronic files, calculations, reports and specifications, and focus on the concept and level of detail. Holding regular OTS meetings may help expedite the review of design submittals and eliminate unnecessary resubmittals. Regular OTS meetings are encouraged. The process for OTS meetings is defined in the contract documents.

Requests for Information

Throughout the life of the project, clarifications to the contract documents or additional information may be requested by the design-builder. To ensure comprehensive project records, it is best practice to have all

communication between MDOT and the design-builder documented with an RFI process. Upon receipt of a design-builder RFI, the core team reviews and engages the project team to coordinate a timely response. The design-builder is required to submit and MDOT to respond to RFIs as defined in the contract documents.

Deliverable Review and Management

Design and administrative submittals are submitted to MDOT by the design-builder through the project website. The GEC logs, processes and distributes submittals for review by the project team.

Figure 10 shows the steps involved in the submittal review process.



Figure 10. Submittal Review Process Flow

Comments from the project team are generally limited to how the submittal does or does not conform to the contract documents. Comments may identify conflicting, incorrect or incomplete information. All MDOT review comments include reference to the governing contractual requirement. Project team comments may include non-contractual or preferential requests. These comments are reviewed by the core team to determine if they are appropriate to provide to the design-builder and assessed to determine if they may result in an MDOT-directed change, which may have project cost, schedule or risk impacts. Such preferential comments may be circulated internally but may be deleted prior to responding to the design-builder at the discretion of the PM. Preferential comments can remain but must begin with a phrase such as "recommend" or "consider" to make it clear that the comment is not a directive. MDOT or the Design-Builder may request a comment resolution meeting to discuss further, as necessary.

Comments should be concise and clearly communicate the required action for the design-builder to revise the submittal to allow MDOT acceptance. A review comment should not pose a question to the design-builder unless the intent is to follow up with a discussion, such as an OTS review. Comments that provide minimal benefit, such as line weight on plans, are not requirements for DB plans. Reviews focus on how the submittal does or does not conform to contractual requirements governing geometrics, environmental commitments, mobility, safety, ROW and drainage.

To be accepted as RFC documents, DB plans must present adequate information for the design-builder to construct the project in accordance with the contract documents and for MDOT CEI staff to inspect the work to verify conformance with contractual requirements.

MDOT typically responds with one of the following dispositions, as appropriate to the submittal and in accordance with the contract documents:

- Approved
- Accepted
- Accepted as noted
- Revise and resubmit

At-Risk Work

Any construction activities initiated prior to MDOT acceptance of the RFC package for that work is considered "At-risk work" and is done at the design-builder's sole risk. At-risk work may be allowed at MDOT's sole discretion. The design-builder notifies MDOT of its intent to perform at-risk work in accordance with the contract documents, submitting all required information to allow a decision to be made regarding the request, demonstrating conformance to the contract documents and for MDOT CEI staff to oversee the work.

Change Orders

A change order is a written amendment to the contract documents, which may result in contract modifications and may include MDOT-directed changes and resolved claims. Change orders allow for modification to the scope of work, completion deadlines, DB contract price or certain other terms and conditions of the contract documents during the implementation phase. DB Contract Book 1, Section 13 describes the requirements for initiating and processing change orders.

Claims and Disputes

The design-builder may submit a claim following the procedures outlined in Book 1 for time extensions or to increase the contract price, similar to the process followed on traditional MDOT projects. MDOT DB projects are typically fixed-price, lump-sum contracts with quantities based on the design-builder's design and a fixed

completion deadline based on the design-builder's construction approach and schedule. As such, for a designbuilder's claim to be validated and paid by MDOT, the design-builder is required to demonstrate to MDOT's satisfaction an impact to the design-builder's critical path for project completion as a result of the claim event, and any actual cost impacts resulting from the claim event.

If a design-builder claim is accepted by MDOT, the result may be an MDOT-issued change order. If the designbuilder's claim is not accepted by MDOT and there is a disagreement regarding the content or merit of the claim, MDOT or the design-builder may initiate a claim dispute resolution process defined in the DB contract documents.

4.9 Construction Engineering & Inspection

Once construction commences, CEI is required on DB projects, similar to traditional MDOT projects except in a few distinct and significant ways. CEI staff is responsible for typical quality assurance activities. Work must be inspected, material certifications received and normal field testing conducted by CEI staff.

CEI performs materials tracking through the MDOT Field Manager program; however, this is not done using the standard "live" file. Instead, a "shadow file" is set up for the tracking of materials, while the "live" file is used for payment based on the SOV/Contract Documents (see <u>Section 4.10 of this document</u>).

Another key difference with the DB delivery model is the format of plans that are used to construct and inspect the work. As noted previously, detailing practices may be different from standard MDOT plans provided that sufficient details are present for MDOT and design-builder field staff to perform testing, inspection and to verify compliance with the contract documents. The packaging and sequence of plans may also deviate from a traditional plan set due to the design-builder's use of multiple RFC packages prior to the completion of a final plan set, and the early performance of at-risk work for which final RFC plans are not yet complete or accepted. It is the design-builder's responsibility to resolve any issues that arise from any at-risk work and compile separate RFC packages into a single, comprehensive RFC package.

Finally, an important and significant difference to note is that unlike traditional project delivery, CEI staff on DB projects must not direct design-builder activities when issues or questions arise during construction or if field changes become necessary. Instead, it is the responsibility of the design-builder to research and implement design or field changes after verifying the changes with the design manager and receiving acceptance of the change by MDOT, as applicable. CEI staff document any potential field changes on inspection daily reports (IDRs) and non-conformance reports and communicate changes to the core team.

4.10 Plan Revisions and Field Changes

Changes to RFC plans are documented with a plan revision and undergo the same submittal and review process as the original design plans. Plan revisions also use the same QA/QC process as the original design, which includes acceptance by MDOT design and construction staff. An accepted plan revision results in a revised RFC that replaces the previous version.

Minor field changes may be reflected in the as-built plans without a formal plan revision if agreed to by the construction engineer.

4.11 Payments to the Design-Builder

The calculation method, process and timing of payments to the design-builder is defined in the contract documents and is based on the design-builder's schedule of values and CPM schedule. Payment is not based on

measured quantities unless specifically stated in the contract documents. Typically, the design-builder invoices MDOT for completed work on a monthly basis and is paid for all accepted work verified by MDOT CEI staff.

DB projects typically establish lump-sum items in the RFP to facilitate a bidding process via e-Proposal. DB lumpsum pay items are converted to a dollar amount by a contract modification after the project is awarded to a design-builder to enable payments to be made based upon an approved schedule of values. Payments to the design-builder are made by the construction engineer's staff from the payment and tracking "live" file.

The basis of design-builder payment is reviewed by the core team prior to approval of the basis of payment. The IC PM reviews payment to the design-builder to ensure it conforms with the accepted method and basis for payment and provide a report of findings to FHWA.

4.12 Lessons Learned

At the completion of procurement and following each construction season, the IC PM facilitates a workshop with the project team and design-builder to discuss and document lessons learned from the project. Prior to the workshop, the IC PM solicits anonymous feedback from MDOT and design-builder. Lessons learned may inform the development of other DB projects as well as MDOT's IC program.

Figure 11 illustrates the circular IC process.



Figure 11. IC Process Continuum